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ABUSIVE SUPERVISION

Abusive supervision refers to sustained displays of nonphysical forms of hostility perpetrated by supervisors against their direct reports. Examples of behavior that fall within the abusive supervision content domain include public derogation, undermining, and explosive outbursts. Key features of the construct are that abusive supervision refers to ongoing manifestations of hostility rather than discrete episodes and that abusers may or may not intend to cause harm. Hence, for example, yelling at subordinates for the purpose of eliciting greater task performance could be considered abusive. It should also be noted that abusive supervision constitutes a subjective assessment, in the sense that behavior that is perceived to be abusive in one context may not be so perceived in another context, and two subordinates could render different interpretations of the same supervisor behavior. Similar concepts that have been the focus of systematic empirical research include bullying, petty tyranny, and downward mobbing.

EPIDEMIOLOGY

According to epidemiological studies, abusive supervision is much more common than physical violence or sexual harassment; one in seven employees reports that his or her current supervisor is abusive, approximately 50% of employees can expect to have an abusive supervisor at some point in their working life, and most abusers target multiple subordinates simultaneously. Half of abusive supervisors are women, most

abusers target same-sex victims, and there are sex differences in terms of the ways in which men and women abuse their subordinates; women bullies engage in more social manipulation (i.e., rumors and insulting comments about one's personal life), and male bullies engage in more covert aggression, acts that on the surface appear rational, such as appraising targets unfairly and preventing them from expressing themselves.

OBSTACLES TO SYSTEMATIC EMPIRICAL INQUIRY

There are challenges associated with studying abusive supervision, not the least of which is the fact that researchers typically rely on subjective reports as to individuals' level of exposure. A problem with this approach to measuring abusive supervision is that some people may underreport their level of exposure because they are reluctant to admit that they have been victimized, whereas others exaggerate their supervisors' hostility. A related obstacle to conducting valid empirical research is that linking abusive supervision and important outcomes requires gathering data from abused subordinates who are willing to identify themselves. Failing that, perceived abuse cannot be linked with data collected from independent sources (e.g., observers, supervisors, archival records). A third challenge is that organizations may be hesitant to allow researchers to administer surveys on the topic. What is clear is that although abusive supervision is a low-base-rate phenomenon that is difficult to study, the research to date consistently suggests that its effects can be severe.

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CONSEQUENCES OF ABUSIVE SUPERVISION

Compared with nonabused subordinates, abused subordinates have higher quit rates, and among those who stay in the job, abusive supervision is negatively related to subordinates' job satisfaction, commitment to the organization, and trust in the supervisor, and positively related to psychological distress (i.e., depression, anxiety, and burnout) and conflict between work and family obligations. The cost per serious case of abuse in the workplace has been estimated at between \$17,000 and \$24,000 in terms of absenteeism, turnover, legal costs, and reduced productivity, and the total cost to organizations has been estimated to be more than \$23.8 billion in the United States alone.

Abusive supervision is not strongly related to bottom-line measures of productivity such as sales volume, number of units produced, and work quality. The most likely reason for this is that employees cannot easily modify these kinds of performance contributions, regardless of how they might feel about their boss. For example, assembly-line workers cannot simply stop producing when they do not like something at work, and salespeople on commission cannot stop selling to get back at their boss, at least not without hurting themselves. But research suggests that abused subordinates will retaliate against their supervisor and their organization by withholding citizenship behaviors, contributions such as being helpful and courteous, and showing initiative. Abused subordinates can express their resentment by modifying their citizenship behavior, because these contributions are to a large extent discretionary, meaning that they fall beyond the job requirements. These kinds of contributions are very important because they provide organizations with flexibility and the capacity to cope with uncertainty. Hence, organizations may be at a competitive disadvantage when a substantial percentage of subordinates withhold citizenship because their supervisors are abusive.

Although abused subordinates tend to perform fewer acts of citizenship than do nonabused subordinates, some abused subordinates will nevertheless do so. However, there are differences in the ways abused subordinates respond to their coworkers' citizenship performance. Intuitively, we would expect that employees will have more favorable attitudes toward their job when their coworkers perform more acts of citizenship. This notion is rooted in the assumption that

good citizenship makes the workplace a more attractive and comfortable environment. However, it was found that this was not the case for work groups in which the supervisor was more abusive. In those instances, employees were less satisfied when their coworkers engaged in greater citizenship behavior. Subsequent inquiry explained why this was so. In groups led by abusive supervisors, subordinates performed citizenship behaviors not out of a genuine desire to benefit the organization, but to portray themselves in a favorable light, to make their coworkers look less dedicated by comparison, and to direct their supervisors' hostility at others. Consequently, acts of citizenship may cause fellow coworkers to experience unfavorable attitudes when the supervisor is abusive.

MODERATING FACTORS

Abusive supervision does not affect all employees the same way. In three studies, it was found that the deleterious effects of abusive supervision on employees' attitudes and psychological health were more pronounced when the subordinate has less job mobility (i.e., when the subordinate is trapped in a job because he or she has few attractive alternatives to the current position), when the abuse is selective rather than distributed (i.e., when subordinates are singled out for abuse as opposed to being targeted along with others), and when the target attributes the abusive behavior to stable characteristics of the supervisor (e.g., meanness, incompetence, or indifference) rather than to characteristics of the organization (e.g., time pressures or competitive work climates).

Another study found that subordinates' personalities influenced how they responded to abusive supervision. This study suggested that abused subordinates were more likely to engage in dysfunctional forms of resistance (i.e., nonconformity to downward influence attempts that involves outright refusal and ignoring the supervisor's requests) and that this effect was more pronounced among subordinates who were dispositionally disagreeable (i.e., unconcerned about the quality of their interpersonal relationships with coworkers) and dispositionally low in conscientiousness (unconcerned about fulfilling task-related obligations). This research provides support for the idea that subordinates' personalities influence the extent to which they engage in retaliation behaviors against abusive supervisors; employees retaliate against

abusive supervisors by actively refusing to do what their supervisors want them to do, but only when they are unconcerned about the relational and task-related consequences associated with noncompliance.

ANTECEDENTS OF ABUSIVE SUPERVISION

Comparatively little research has explored the antecedents of abusive supervision. One study revealed no consistent relationships between hostile supervisor behavior and supervisor disposition (e.g., theory X beliefs, low self-esteem, and low tolerance for ambiguity), situational factors (e.g., institutionalized norms, power, and stressors), or their interactions. A more promising line of inquiry has taken a victim-precipitation perspective, the notion that some individuals may become at risk of being victimized by eliciting or provoking the hostility of potential perpetrators and that perpetrator and situational factors contribute more strongly to the occurrence of abusive supervision when a vulnerable target is available. The study in question found that supervisors who experienced procedural injustice (i.e., decision makers using unfair procedures during the process of rendering allocation decisions) were more abusive when they had a high negative-affectivity subordinate, one who was dispositionally inclined to experience high levels of distressing emotions and who was likely to be perceived as weak, vulnerable, and ripe for exploitation. An implication of this finding is that supervisors inclined to hostility choose targets strategically, focusing their abuse on subordinates who appear to be “good” targets. This work also suggests that perpetrators may express their hostility against targets other than the source of their frustration (i.e., subordinates who are not responsible for the injustices supervisors experience).

COPING WITH ABUSIVE SUPERVISION

Is there anything abused subordinates can do to cope with their supervisors’ hostility? Abused subordinates use two general kinds of coping strategies, which may be labeled *avoidant coping* (physical and psychological withdrawal, maintaining physical distance, not coming to work, and reliance on drugs and alcohol) and *active coping* (directly communicating injustices to the supervisor). Research suggests that abused subordinates are more likely to use avoidant coping

than active coping but that the use of active coping is a more effective strategy; in a 6-month longitudinal study, it was found that the relationship between abusive supervision measured at Time 1 and psychological distress (i.e., burnout, anxiety, and depression) measured at Time 2 was stronger when subordinates used avoidant coping and weaker when subordinates used active coping. That is, active coping buffered the stressful effects of abusive supervision and avoidant coping exacerbated those effects.

CONCLUDING COMMENTS

Given the significant costs that abusive supervision can have for organizations and their members, organizations would be well-advised to take it seriously. This involves a two-pronged effort focusing on both (a) prevention and (b) management of abuse when it does occur. Organizations can prevent the occurrence of abusive supervision by fostering a culture of civility that is incompatible with abusive behavior. This can be accomplished by implementing 360-degree feedback programs and training employees and managers to develop the skills needed to provide and to openly receive constructive feedback. Where abuse occurs, organizations can manage its effects by developing disciplinary procedures for those who violate the norms for acceptable interpersonal behavior, encouraging victims and witnesses to come forward, and sending the message that those claims will be taken seriously. The evidence suggesting that direct coping produces more favorable outcomes than avoidant coping means that it may be fruitful to encourage rank-and-file employees to bring abusive behavior to the attention of higher authorities. In addition, managers should be trained to spot some of the markers for abusive behavior, such as withdrawal behaviors, low morale, and distrust.

—Bennett J. Tepper

See also Leadership and Supervision; Workplace Incivility

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ACADEMY OF MANAGEMENT

The Academy of Management is the oldest and largest scholarly professional management association in the world. Founded in 1936 by professors Charles L. Jamison and William N. Mitchell, the academy was formed to create and exchange knowledge about the discipline of management. Broadly defined, this diverse field ranges from the study of organizational processes, structures, and behaviors to the examination of environmental, cultural, industrial, and economic factors that affect organizations and their employees.

Located at Pace University and the Lubin School of Business in New York, the Academy of Management is a member-driven association led by a 16-member board of governors, elected by voting members of the academy. Committees and task forces are appointed by the president of the academy to carry out services and conduct projects for the association.

The Academy of Management has 24 professional divisions and interest groups, and members belong to a minimum of 2 of these groups. The divisions with the most (i.e., more than 2,500) active members include Organizational Behavior; Business Policy and Strategy; Organization and Management Theory; Human Resources; Organizational Development and Change; and International Management. Liaisons

communicate between the board and the academy's committees, task forces, divisions, and interest groups.

MEMBERSHIP

The Academy of Management comprises more than 15,700 members from 90 countries. Its membership includes researchers from colleges, universities, and research organizations, as well as practitioners who work in businesses, government agencies, and not-for-profit organizations. Although there are no requirements to become a member, those interested in joining the academy must apply to one of four membership categories: (a) academic (e.g., researcher, teacher); (b) executive (e.g., management, consultant); (c) student; and (d) emeritus (i.e., member for at least 10 years prior to retirement). A majority of the membership is in the academic category.

MISSION

The mission of the Academy of Management is to enhance the profession of management by advancing the scholarship and enriching the professional development of its members. The academy is also dedicated to shaping management research and education. Several core values guide the achievement of this mission: (a) to conduct and share high-quality research, teaching, and practical applications of management; (b) to promote and encourage ethical conduct in activities pertaining to management research, teaching, and practice; (c) to foster an environment that respects diverse points of view; (d) to encourage members to share their knowledge of management and new developments in the field with members located in different institutions and countries; and (e) to build opportunities for professional collaboration and networking to advance the field.

FUNCTIONS

The Academy of Management sponsors a number of activities in pursuit of its mission. Each year, the academy holds an annual meeting, which is attended by more than 6,000 people. This meeting provides a setting in which to share research and expertise in all disciplines of management via invited papers, competitive paper sessions, panel discussions, symposia, workshops, eminent speakers, and special sessions for doctoral students.

In addition, the Academy of Management publishes a variety of management-related periodicals. Among these publications are four scholarly journals: (a) *Academy of Management Learning and Education*, (b) *Academy of Management Journal*, (c) *Academy of Management Review*, and (d) *Academy of Management Executive*. The Academy of Management also publishes a newsletter and a best papers proceedings CD from its annual meeting. Each division within the academy disseminates newsletters for its members, as well.

In terms of electronic communications, the Academy of Management hosts a wide variety of listservs, in which interested parties can post or view messages about the full spectrum of management topics. Several online discussion boards are also hosted by the academy.

Another program offered by the academy is a career development and job placement service. Job interviews and career growth workshops are conducted at the conference, and a searchable database system is offered for organizations to post positions and view applicant credentials, and for potential applicants to search for available positions. Professional development opportunities are also available through forums on special topics considered timely and important to members of the academy. Further, in recognition of contributions to the field, the Academy of Management sponsors a number of professional awards for notable achievement.

—Jennifer L. Burnfield

See also American Psychological Association, Association for Psychological Science; Society for Industrial and Organizational Psychology

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Academy of Management Web site. Retrieved February 28, 2006, from <http://www.aomonline.org/>

ACTION THEORY

Action theory represents a general model of work-related cognition and behavior with implications for a wide range of topics in industrial/organizational psychology. Inspired by Lewin's field theory, American cybernetic models, and Russian and Polish

approaches, German work psychologists initiated the development of action theory in the late 1960s. As the core concept of the theory, action is conceived of as goal-directed behavior. Actions are behavioral units oriented toward their own distinct goals, whereas operations (e.g., movement patterns) are subordinate action components. As anticipatory cognitive structures, goals guide the action process, because they function as relatively invariant set points for the interpretation of feedback. Action theory explains both the sequential ordering and the hierarchical structuring of action.

THE ACTION SEQUENCE

Action theory differentiates five phases of the action sequence: (a) goal development and choosing between competing goals; (b) orientation (i.e., collecting relevant information about the task and the conditions in one's work environment) and prognosis of future events; (c) plan development and selection; (d) execution of the plan and monitoring; and (e) the processing of feedback, which in turn influences the development of subsequent goals. These action steps are not always taken in the same order (e.g., initial plans may be refined during action execution). The action sequence allows for an analysis of the interface between the objective work environment and subjective task representations, because employees' specific redefinitions of tasks presented by the organization (e.g., to operate a machine) determine their individual goals and plans (e.g., whether and how to take action when the machine breaks down).

FOUR LEVELS OF ACTION REGULATION

From a structural point of view, actions are organized hierarchically, because higher-order goals are broken down into subgoals, and higher levels of conscious intellectual regulation are superordinate to lower levels of automatic operations. Recent versions of action theory distinguish four levels of action regulation, ordered from lowest to highest:

1. *Sensorimotor level*. Stereotyped and automatic movement sequences are organized without conscious attention.
2. *Level of flexible action patterns*. Ready-made action schemata that do not require conscious representation are tailored to situationally defined parameters.

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3. *Intellectual level.* New actions in a complex environment are consciously regulated.
4. *Heuristic level.* Metacognitive strategies such as general problem-solving approaches are pursued either consciously or automatically.

THE OPERATIVE IMAGE SYSTEM

One's accumulated knowledge of the relationships between specific conditions, actions, and results is stored in the so-called operative image system. This system reflects the cognitive base for action regulation and entails long-term representations of schemata or strategies applicable to action regulation at all four levels (e.g., movement-oriented schemata to be regulated at the sensorimotor level, and strategies to be implemented at the intellectual level). Originally, cyclical test-operate-test-exit (TOTE) units, which imply that action is taken until there is congruity between the current state and a criterion, were considered the basic units of action regulation. To reconcile this classic discrepancy reduction approach with the notion of discrepancy creation, action theorists have emphasized the role of goals as desired end states and the impact of active approaches on the environment.

APPLICATIONS OF ACTION THEORY

Action theory has implications for several domains, including stress, training, job analysis, work design, error management, emotion regulation, competence development, and personality enhancement. Action theorists emphasize socialization processes by considering malleable facets of personality, motivation, and cognitive ability as dependent variables that may be affected by work action. For example, work environments encouraging forward thinking induce action styles such as planfulness (i.e., the detailed development and persistent implementation of long-range plans). New ideas on error management and the function of errors in the learning and training process were also derived from action theory. Research examining why so-called superworkers produce superior results without spending more time at work revealed that they engage more frequently in planning and have better operative image systems, reflected in greater knowledge of error frequencies, the signals indicating errors, and the duration and efficiency of different strategies of dealing with errors.

Conceptualizing stress as a disturbance of action regulation, action theory offers a theoretically grounded stressor taxonomy, composed of three categories: (a) regulation obstacles (i.e., interruptions and regulation difficulties such as poor visibility or lack of information); (b) regulation uncertainties (e.g., role ambiguity); and (c) overtaxing regulations (e.g., time pressure). Multiple job analysis tools have been developed based on action theory. These tools typically provide a structured assessment of regulatory requirements and difficulties (e.g., the degree to which the work requires a conscious development and coordination of new plans). The function of emotions for action regulation, particularly in service work, has also been analyzed within an action theory context. Emotions enable people to continue with the action process despite barriers and difficulties. Examples are the motivation derived from pride in anticipation of goal attainment and the role of negative affect in facilitating an objective assessment of environmental barriers.

THE VALUE OF ACTION THEORY

As an integrative metatheory, action theory illuminates the implications of specific cognitive and social psychological theories for industrial/organizational issues. For example, studies based on the theories of action-state orientation and self-discrimination revealed that distractible state-oriented individuals are less likely to efficiently translate intentions into action and more likely to falsely redefine external demands as their own goals. Action theory also helps explain the impact of societal transformations on work activities. Longitudinal research based on action theory demonstrated that increases in the levels of complexity and control experienced by East German employees after the country's reunification enhanced their personal initiative (i.e., organizationally functional forms of self-started, proactive, and persistent behavior).

In conclusion, action theory distinguishes itself from most micro industrial/organizational models because of its scope, its versatility, its theoretical foundation in cognitive science, its applicability to various facets of everyday work behavior, and its simultaneous consideration of objective environments, internal mental operations, and observable behavioral outcomes. By bridging the gaps between the environment and cognition (e.g., via task redefinitions in the action sequence) and between cognition and action (e.g., via plans as starting points for

action), action theory integrates cognitivist and behavioral approaches. Action theory has been described as a way of thinking that leads to a sharper understanding of how our cognitive apparatus is used and shaped in the workplace and in relation to the world we inhabit.

—Michael Frese and Johannes Rank

See also Goal-Setting Theory; History of Industrial-Organizational Psychology in Europe and the United Kingdom; Job Performance Models; Performance Feedback

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ADVERSE IMPACT/DISPARATE TREATMENT/DISCRIMINATION AT WORK

The phrase *to discriminate* has two interpretations: (a) to display prejudice toward members of a group through unjustified negative actions, and (b) to meaningfully differentiate between people on the basis of their characteristics. Discrimination of the second form involves the ability to ascertain the presence and degree of characteristics that distinguish one person from another. For example, a classical music critic should *discriminate* among pianists on the basis of technique and interpretation. This interpretation holds that it is meaningful to differentiate an exceptional

performer from an average performer on the basis of relevant factors. In contrast, discrimination of the first form invokes notions of preference and social injustice. Meaningful differentiation is decidedly absent as people are distinguished based on demographic, nonrelevant factors. Because individuals differ on the basis of many characteristics, organizations must regularly discriminate between individuals when hiring, allocating resources, and rewarding to effectively manage a workforce. When organizations differentiate individuals based on job-relevant or organization-relevant factors, this discrimination is meaningful and warranted. When organizations instead differentiate individuals on the basis of stereotypes and allow that differentiation to influence decision making, the organization has engaged in workplace discrimination.

PERCEPTUAL FORCES BEHIND DISCRIMINATION

The approximately 80,000 complaints filed annually with the Equal Employment Opportunity Commission (EEOC) indicate that employment discrimination is common. Sex and racial biases influence performance appraisals and promotion decisions. Black and Hispanic applicants tend to receive less favorable evaluations during interviews. Interpersonal discrimination—avoiding, distancing, and excluding members of a group—regularly limits minority group members' access to developmental mentors and networks and interferes with workplace productivity. Further, reports continue to document the presence of a “glass ceiling” that blocks women and racial minorities from gaining leadership positions in organizations.

The perceptual processes theorized to produce discriminatory behavior explain part of why discrimination at work persists. For individuals, discrimination originates with the need to sort people into personally meaningful categories as a means of efficiently processing the myriad perceptual stimuli encountered each day. This social categorization is often based on whether a person is perceived by the individual to be similar or different, and it is facilitated by stereotypic beliefs that a person categorized within a specific group possesses certain traits purely because he or she is a member of that group. For example, a female candidate for a management-level position may be passed over for promotion if the stereotype held by evaluators leads them to assume that she will become emotional when under stress. As illustrated, the categorization

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process influences how individuals evaluate and feel about other people. Persons categorized as members of one's own group invoke more favorable reactions, whereas persons categorized as members of another group invoke less favorable responses.

However, the tendency to categorize others does not necessarily translate into discriminatory actions. Various individual and contextual variables, such as the social composition of the workplace, the salience of group membership, and the presence of organizational and local norms, will either facilitate or impede the emergence of discriminatory behavior.

EMPLOYMENT DISCRIMINATION LAW

The legal environment also plays an important role in managing the occurrence of discriminatory behaviors. Federal, state, and municipal statutes, as well as various constitutional amendments and executive orders, afford individuals rights and protection in the event that they are discriminated against in an employment setting or are involved in any way in an employment discrimination suit. The three primary pieces of federal legislation responsible for regulating discrimination at work are the Civil Rights Act, the Americans With Disabilities Act, and the Age Discrimination in Employment Act.

The Civil Rights Act

The Civil Rights Act (Title VII, 1964, and as amended in 1978 and 1991) prohibits organizations with 15 or more employees from discriminating against individuals on the basis of race (e.g., Caucasian, African, and Asian), ethnicity (e.g., Hispanic), color of skin, national origin (e.g., Mexican), sex (and pregnancy or pregnancy-related medical conditions), and religion in all aspects of employment (e.g., hiring, compensation, training, performance management, discharge). The act defined a *protected group* as a class of individuals who are similar on one of these bases. However, protected group membership is context-specific. For example, a male applicant for an accountant position may not be considered a minority group member in that context, but he would likely be considered a protected group member if he applied for a flight attendant position. Thus, the appropriateness of identifying certain individuals as minorities depends on the demographic makeup of the applicant pool, current jobholders, and the relevant labor market.

Title VII explicitly allowed for discriminating between individuals on the basis of a job-related, meaningful reason or in response to a bona fide seniority system. The act also required organizations to provide reasonable accommodation for employees to engage in religious practices, unless doing so would pose an undue hardship. The act created the EEOC, the federal agency charged with enforcing the provisions of employment discrimination legislation. As amended, the act banned the adjustment of assessment scores, whether gathered for purposes of promotion, training, or selection, on the basis of protected class status; lessened the impact of a mixed-motive defense for organizations wherein legitimate reasons in justification of a discriminatory action are rendered in conjunction with unlawful reasons; and limited the ability of individuals to allege reverse discrimination in the context of judicially approved affirmative action plans.

The Americans With Disabilities Act

The Americans With Disabilities Act (Title I, 1990) prohibits organizations with 15 or more employees from discriminating against disabled individuals, individuals who have a record of a disability, and individuals perceived to be disabled in all aspects of employment. Disabled individuals are defined as those persons who suffer from a physical or mental impairment that is not correctable and substantially limits at least one major life activity, such as thinking or standing. For example, a legally blind individual who requires the assistance of a seeing-eye dog would be considered disabled, but a legally blind individual whose vision can be corrected by wearing glasses would not. Essentially, the verification of a disability must go beyond a medical diagnosis to consider how that condition affects an individual's daily life.

Organizations are required to provide reasonable accommodation to disabled individuals who are otherwise qualified to perform the essential (i.e., most integral or critical) functions of the job. This may mean, for example, adjusting break times so that a diabetic may stop work to conduct necessary insulin tests. An accommodation that would involve excessive expense relative to an organization's resources, dramatically alter the job or business in question, violate current organization systems or policies (e.g., seniority systems), or represent a direct threat to the health and safety of other workers may be viewed as an undue hardship for the organization and hence deemed

unreasonable. Thus, the reasonableness of a given accommodation is individual-, organization-, job-, and context-specific. Although the disabled individual is initially responsible for requesting accommodation, the organization and the individual are encouraged to work together to identify possible accommodations.

The Age Discrimination in Employment Act

The Age Discrimination in Employment Act (1967) prohibits organizations with 20 or more employees from discriminating against individuals age 40 and older in all aspects of employment. Similar to Title VII, the act explicitly allowed for discriminating between individuals in the presence of a rational, job-related reason. In addition, the act identified a series of policy exemptions wherein an age requirement would be viewed as lawful. These include (a) organization policies that identify a mandatory retirement age of 65 for bona fide executives, (b) state or local statutes that establish a mandatory retirement age for police officers and firefighters, and (c) various age restrictions in the commercial airline industry. The act also prohibits age-based discrimination even when the individuals involved are both within the age-based protected class; for example, an individual who is 60 can allege discrimination in favor of an individual who is 45.

TYPES OF EMPLOYMENT DISCRIMINATION

When these laws are violated, an individual may seek legal redress by filing a claim of discrimination with the EEOC. Assuming the claim has merit, the EEOC will pursue conciliation with the offending organization to settle the dispute. If attempts at conciliation fail, the suit will proceed to the court system. The overwhelming majority of complaints are resolved before reaching federal court. Complaints that do reach a courtroom proceed through a series of phases in which the burden of proof is shifted back and forth between the plaintiff (the individual allegedly discriminated against) and the organization. The process through which that burden is met depends on the type of discrimination alleged.

Disparate Treatment

Disparate treatment occurs when an individual suffers intentional discrimination on the basis of his or

her membership in a protected group. For example, after September 11, 2001, the EEOC experienced an increase in the number of complaints filed by Arab Americans and Muslims who experienced harassment or discharge allegedly on the basis of their national origin or religion. Proving that the organization had intent or motive to discriminate is a central aspect of a disparate treatment lawsuit. Because intent can rarely be known, disparate treatment must often be inferred on the basis of circumstantial evidence. To establish a prima facie case of discrimination, the plaintiff must prove that he or she was differentially treated because of membership in a protected group. This may be accomplished by demonstrating that members of a specific protected group consistently received disproportionately unfavorable actions.

Under a pattern-and-practice claim, this may be accomplished by demonstrating that members of a specific protected group consistently received disproportionately unfavorable actions. Under the McDonnell Douglas/Burdine framework, this may be accomplished by showing that the plaintiff was adversely treated relative to an individual of a different group who was otherwise similarly situated in terms of qualifications and job-related circumstances.

In response, the organization must provide a legitimate, nondiscriminatory reason for its actions. The organization may argue that the plaintiff did not have the necessary job-related qualifications or display the expected level of performance. In a case of disability discrimination, the organization may argue that the requested accommodation was unreasonable. Or the organization may defend the action by stating that the decision was based on a bona fide occupational qualification (BFOQ). Through BFOQs, organizations may overtly exclude individuals on the basis of sex, age, religion, or national origin when such exclusion is required for business survival and/or public and personal safety. A BFOQ assumes that most individuals within a given protected group will be unable to execute a central job requirement and that failure to do so will risk the health of the organization and the broader public. For example, air traffic controllers may not be older than age 49. In the event that the organization successfully puts forth an acceptable justification, the plaintiff may establish that the proffered reason is merely a pretext and that discrimination was the true reason behind the action.

Adverse (Disparate) Impact

Adverse (disparate) impact is discrimination that occurs when members of a protected group are systematically excluded based on an employment policy or practice that is neutral on its face. Disparate impact lawsuits do not require proof of intent. Instead, to establish a prima facie case, the plaintiff must provide statistical evidence that a particular minority group is being adversely affected by a specific employment practice. This evidence may come in three different forms:

1. Documenting that pass rates for a decision-making hurdle do not fulfill the *four-fifths rule*. This EEOC rule of thumb states that if the pass rate of a minority group for a particular hurdle is less than 80% of the pass rate for the group with the highest pass rate, the comparative rates are different enough to warrant a conclusion of adverse impact. For example, in *Griggs v. Duke Power Co.* (1971), the plaintiff provided evidence that the organization requirement to complete a cognitive ability test as part of the selection process had a pass rate for White applicants of 58% (the highest pass rate) relative to a pass rate for Black applicants of 6%. The pass rate of the minority group was 10% of the majority group rate, and thus far below the 80% criterion.

2. Providing evidence of a *restricted policy* whereby individuals are excluded on the basis of a required characteristic that is associated with membership in a protected group. For example, instituting a minimum weight requirement of 130 pounds for a given position will disproportionately exclude females, in that females as a population weigh proportionately less than males.

3. Conducting a *workforce utilization analysis* comparing the percentage of minority group members within an organization and within a job to the percentage of minority group members in the relevant labor force for this organization and this job. If protected group members are being consistently screened out, they should be underrepresented in the organization relative to their availability in the labor market.

In response to statistical evidence documenting a disparity, the organization must prove that the employment practice is consistent with business necessity and/or is necessary for the safe operation of

the business. In most cases, this amounts to demonstrating that inferences drawn based on the employment practice are valid in that the practice allows the organization to meaningfully differentiate among individuals on the basis of job-relevant knowledge, skills, or abilities. Should the organization be successful in offering evidence of business necessity, the plaintiff may argue for the substitution of an employment practice that is equally relevant to the job but less discriminatory.

—Jill E. Ellingson

See also Americans With Disabilities Act; Bona Fide Occupational Qualifications; Civil Rights Act of 1964, Civil Rights Act of 1991

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AFFECTIVE EVENTS THEORY

Affective events theory (AET) is a theory of *affect* (the broader term for emotional experiences, including emotion and mood) in the workplace. In addition to focusing on affect, it encompasses cognitions, behavior, attitudes, and other crucial psychological constructs to explain job behavior and performance. The theory primarily builds on the already established cognitive appraisal models and has gathered support from many areas of study in the field of emotions to create a more encompassing theory of work behavior.

Affective events theory proposes that there are two paths to job behaviors, both of which are at least partially influenced by affective reactions to events at work. However, cognitive processes play an essential role in the creation of these reactions. The theory builds on past theoretical successes while also adding

a few new elements (in particular, the notion of time is essential to the model, as well as a more detailed explanation of emotion in the workplace) in explaining job behavior.

ASSUMPTIONS OF AET

Affective events theory makes several assumptions about the workplace and the constructs that describe people's reactions to events that happen there. The first is that job satisfaction is different from affect. Nevertheless, AET also assumes that affect contributes to job satisfaction and can be used to help predict job performance. Related to that, AET assumes that affect influences performance, typically in a detrimental way because emotion is assumed to draw resources from other areas, such as cognitive processing, motivation, and attention, among others.

Another major assumption in the AET framework is that events happen over time, which changes affect continuously. Those events influence a person's immediate affective state but also vary over time as new events arise. Some events are likely to create positive reactions, others negative, and the degree of intensity will also vary from event to event. Because affect is continuously changing within an individual, its influence on behavior is also continuously changing.

THE STRUCTURE OF AET

Affective events theory proposes the following model for predicting workplace behavior. Work environment features (such as office features) precede work events (such as a meeting), and those work events cause affective reactions. Dispositions influence the causal transition from work events to affective reactions, as well as the affective reactions themselves. Those affective reactions then influence affect-driven behaviors, as well as work attitudes. Work attitudes are also influenced by the work environment. Work attitudes in turn influence judgment-driven behaviors.

From that model, one can see that AET proposes two different paths to behavior, both of which are preceded by affective reactions. Affect-driven behaviors stem directly from affective reactions to events in the workplace. Judgment-driven behaviors, on the other hand, are arrived at by a longer route, going from affective reactions to work attitudes (which are also influenced by work environment features) and then to

behavior. However, the starting point for AET is the event. Within AET, an *event* is defined as a change in the environmental circumstances that one is currently experiencing. That change then elicits affect, which then can influence behavior directly (affect-driven behavior) or go through job attitudes to influence behavior indirectly (judgment-driven behavior).

Affect-driven behavior is an almost instantaneous reaction to an event. In many cases, affect-driven responses happen almost immediately after an event occurs. An example might be when, after being yelled at by the boss, an employee quits his or her job without any thought in the heat of the moment. Judgment-driven behaviors, on the other hand, go through a cognitive evaluation via job attitudes. This is a longer process and is usually more deliberate. Referring back to the example, if the employee did not quit immediately but went back to his or her desk and thought briefly about the other components of the job, such as his or her coworkers and the job tasks, and then factored those considerations into his or her decision and reinterpreted the situation, the result would be a judgment-driven behavior. This process might or might not lead the person to quit. The resulting behaviors of affect-driven and judgment-driven processes may not be different, but the decision process is. As the terms themselves imply, affect-driven behavior is primarily influenced by immediate emotional reactions to an event and is typically regarded as a single-step process, whereas judgment-driven behavior is influenced by both emotion and cognition and is regarded as a two-step process that involves a reinterpretation of the original event and the emotion associated with it.

APPRAISAL OF EVENTS LEADING TO BEHAVIORS

Cognitive appraisal theories argue that people strive to make meaning of work events. The meaning of the events then sets the stage for emotional reactions to the event. There are many theories on how people appraise meaning, but the general idea is that every situation has a meaning underlying the event and those meanings are arrived at by a person's interpretations of the situation. Different appraisals of situations lead to different emotions and then behaviors among individuals. Individuals emphasize different appraisal processes when assigning meaning to an event, and that is why individuals can have different emotional reactions to the same situation.

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The process of appraising is often regarded as a two-step model. The first step, usually termed *primary appraisal*, includes several mechanisms, but the basic idea is how much an event is congruent or incongruent with one's goals, attitudes, values, and so forth. If an event is seen as congruent, it is assigned a positive value, and if incongruent, the event is viewed negatively. The primary appraisal mechanisms are concerned with whether a stimulus has to do with a person's well-being, which leads to a basic assignment of "good" and "bad" labels. In many instances, the primary appraisals assign enough meaning to the phenomenon to elicit an affective response. Examples of these affective responses can be positive emotions, such as love and relief, but also include negative emotions, such as fright and anxiety. A fuller example with workplace behavior consequences might be one's computer freezing up, which might lead one to hit it out of frustration via primary appraisal, as only a "bad" label has been placed on the event and the reaction is immediate without cognitive factors contributing to the behavior.

Secondary appraisals consist of more cognitively driven processes, such as future expectations or memory, in addition to the primary appraisal. Many emotions occur only when secondary appraisals take place in conjunction with the primary appraisal. An example of a negative emotion that requires both stages is anger. A positive emotion that requires the secondary stage of appraisal is happiness. In both cases (anger and happiness), the emotion is targeted at a specific situation and not a general affective response, as is the case with primary appraisals. In other words, secondary appraisals lead to the assignment of more complex meaning to the event; no longer is the situation just "good" or "bad." Once that greater meaning is assigned to an event, a discrete emotion then emerges that influences one's behavior in conjunction with current job attitudes. So in the example of a computer freezing up, instead of hitting it immediately in a pure affective reaction, the person would pause for a brief moment and the event would be evaluated in two stages, first if the event is good or bad via primary appraisal, and then adding other information to deal with the situation via secondary appraisal. Affective events theory proposes that if job attitudes are positive, one might not hit the computer and would instead take the time to call a technician for help. If attitudes are negative, one might still just hit the computer.

The secondary appraisal process that leads to judgment-driven behavior is more deliberative and requires individuals to take more time (although it could be only a few seconds) to assign the value as compared with primary appraisals and affect-driven behavior. Primary appraisals that lead to affect-driven behaviors are not completely cognition-free, although they are more automatic reactions. However, if the strength of the initial appraisal and the ensuing emotional reaction is robust enough, the primary appraisal and the affect-driven response can last for some time.

For every event, the possible responses of an individual to a given stimuli may initially seem endless, but once a person appraises the situation, the behavior choices become narrowed down based on the person's affective reactions. To date, there is little research on what types of behavior result from the different paths. However, by definition, affect-driven behaviors should be more impulsive and less controlled than judgment-driven behaviors, which consider more factors before a behavior is pursued. Therefore, affect-driven behaviors should disrupt job performance because of their potentially more abrasive social nature, as well as their ability to draw cognitive resources. Judgment-driven behaviors also should reduce job performance, because they reduce time spent on job tasks as well as draw mental resources away from those tasks.

SUMMARY

Affective events theory is a theory of how events in the workplace (in particular, those events that change a person's affect) influence behaviors at work over time. Affect then influences behavior in two possible ways, the first being a direct cause of affect-driven behavior, which is an almost automatic emotional response to an event. The second way behavior is influenced by affect is through its influences on cognitions and attitudes (in addition to the initial affective response), which in turn cause judgment-driven behavior; this is regarded as a more deliberate response to an event or series of events.

—Brian Francis Redmond

See also Affective Traits; Emotions; Job Satisfaction; Judgment and Decision-Making Process; Mood

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AFFECTIVE TRAITS**THE CONCEPT OF AFFECTIVE TRAITS**

Trait affect is defined as a tendency to respond to specific classes of stimuli in a predetermined, affect-based manner. Therefore, an affective trait is considered a relatively stable characteristic of personality. There are two general bipolar dimensions of affective responding: trait positive affect (TPA) and trait negative affect (TNA). High TPA is characterized by the tendency to experience positively activated emotions in general, such as excitement, high energy, joy, enthusiasm, and exhilaration. Persons with low TPA have a general tendency to be lethargic, apathetic, and listless, but they do not necessarily experience negative affect. High TNA is defined as the tendency to experience feelings of anger, guilt, fear, annoyance, and nervousness. Low TNA is the other pole of the TNA dimension, characterized by being placid, calm, and contented. The two dimensions, TPA and TNA, are conceptualized as orthogonal or at least separable dimensions, and they show zero to moderate negative correlations with each other. This implies that it is

possible to be simultaneously high or low in both TPA and TNA, high in TPA and low in TNA, and vice versa. Combinations between the extremes are possible, too. The term *affective traits* refers to a person's average level or typical amount of a given emotion, whereas *affective states* are more temporal, situation-bound experiences of moods and emotions.

Both TPA and TNA can be interpreted as the diagonal coordinates in a circumplex model of affect that is built on the orthogonal dimensions of activation and pleasantness. High TPA in this model is a combination of high activation and high pleasantness, and high TNA is a combination of high activation and high unpleasantness.

Whereas TPA has been shown to be robustly related with extraversion, TNA has been similarly linked with neuroticism, two personality factors from the five-factor model of personality (Big Five), although the fit is not perfect. As an explanation, Timothy A. Judge and Randy J. Larsen have developed a model for integrating affect with personality, referring to these relationships. They present evidence that certain personality traits dispose people to be more or less reactive to hedonic stimuli, and they demonstrate that other personality traits indirectly dispose people to modulate their emotional reactions. Extraversion and neuroticism are considered to represent differential sensitivity to typical TPA and TNA stimuli. High-neuroticism individuals are mainly motivated to avoid punishment (negative stimuli), whereas high-extraversion individuals are mainly motivated to gain rewards (positive stimuli).

Affective traits are genuinely individual-level concepts. In a group work context, individual affective traits may combine into a group-level affective tone that in turn is related to experiences and behaviors in the work group.

MEASUREMENT OF AFFECTIVE TRAITS

Several instruments are available for measuring affective traits. The instrument that is most often used is the Positive and Negative Affect Schedule (PANAS), developed by David Watson and his coworkers. It comprises two 10-item scales, one for assessing positive and one for assessing negative affect. The items refer to the high-activation aspect of negative and positive affectivity, respectively. Because the PANAS scales lack low-activation markers of negative and positive

affect, they sample only a limited part of the affect circumplex. The PANAS shows good reliability and high discriminant validity with low intercorrelations between the positive and negative affectivity scales.

In addition to direct measures of affective traits such as the PANAS, researchers use personality measures, particularly neuroticism and extraversion scales, for assessing TNA and TPA, respectively.

AFFECTIVE TRAITS AND JOB SATISFACTION

Affective dispositions influence the extent to which people are satisfied with their jobs. A recent meta-analysis conducted by Carl J. Thoresen and his associates extracted an estimated mean population correlation of $\rho = .33$ between TPA and job satisfaction and of $\rho = -.37$ between TNA and job satisfaction. Those correlations indicate a rather modest but nevertheless substantial relationship between trait affectivity and job satisfaction. There is also evidence from longitudinal studies for a predictive value of TPA and TNA for several aspects of job satisfaction up to 2 years later, as well as correlations of dispositional affect in younger years with job satisfaction in older years.

The underlying processes through which trait affectivity influences job satisfaction are not well understood. Most studies concerned with trait affectivity and job satisfaction are correlation studies and do not allow one to test for causality. Research has concentrated on TNA rather than TPA. Because high-TNA individuals are more sensitive to negative stimuli, they are likely to react more negatively when experiencing negative job events, which consequently lowers job satisfaction. Furthermore, it is possible that high-TNA individuals have a higher threshold for positive stimuli and therefore react with a lower magnitude to positive events. They may experience the effects of positive mood-inducing events to a lower extent or for shorter periods of time than do low-TNA individuals. There is some evidence for the assumption that TPA represents reward-signal sensitivity and TNA represents punishment-signal sensitivity. For example, TPA is related to pay satisfaction (i.e., a salient reward), but TNA is not. Additionally, TNA individuals may dwell on their failures and those of others, thus causing negative interpersonal interactions with their peers and superiors and lower job satisfaction.

AFFECTIVE TRAITS AND JOB PERFORMANCE

Potential relationships between affective traits and job performance have been discussed in the context of the *happy-productive worker hypothesis* and the *power of being positive*. By drawing on expectancy theory, some researchers have argued that individuals high on TPA should show higher task performance because of their positive expectations about the relationship between effort and performance and between performance and positive outcomes. In addition, it has been suggested that TPA should lead to higher goals and more persistence in the face of obstacles. Moreover, researchers have proposed that TPA is associated with extra-role and citizenship behaviors, whereas TNA impedes supportive social interactions.

Although there are many studies on the relationship between trait affect and job satisfaction, far fewer empirical studies have examined the relationship between affective traits and job performance. Studies that used rather broad well-being measures as indicators for affective traits found positive relationships between an individual's tendency to experience and show positive affect at work and supervisory rating of job performance, also when using longitudinal designs. Managers experiencing higher levels of well-being and positive affect showed higher decision-making accuracy, higher interpersonal performance, and higher managerial performance. In contrast, most studies that used the PANAS to assess trait affect failed to find significant bivariate relationships between TNA or TPA and task performance. Trait affect has been shown to be empirically related to extra-role performance at the individual level (e.g., coworker support and work facilitation) and to prosocial behavior and cooperativeness at the group level.

It has been suggested that individual core self-evaluations play an important role for organizational behavior. Core self-evaluations comprise self-esteem, generalized self-efficacy, emotional stability (i.e., low neuroticism), and locus of control. Although these core self-evaluations are not affective traits in a narrow sense, findings on the relationship between emotional stability and job performance are relevant here, because the emotional stability construct largely overlaps with TNA. Meta-analytical evidence suggests that emotional stability as an aspect of core self-evaluations shows a weak positive correlation with job performance.

In addition, meta-analyses on the relationship between personality factors and job performance shed some light on the relationship between affective traits and job performance. Neuroticism shows a negative relationship with various facets of job performance, with most true-score correlations not exceeding $\rho = -.20$. Extraversion is positively related to job performance, with most true-score correlations staying in the range between $\rho = .10$ and $\rho = .20$.

AFFECTIVE TRAITS AND THE STRESSOR-STRAIN RELATIONSHIP

Affective traits, particularly TNA, are related to perceptions of job stressors and strains, with individuals high on TNA reporting higher levels of job stressors and strains. These relationships imply that the observed correlation between self-reported job stressors and strains may be partially caused by TNA. Therefore, it has been suggested that researchers should statistically control for TNA when analyzing relationships between self-reported job stressors and strain. However, this view has been challenged in a lively debate in which it has been argued that TNA plays a substantive role in the stressor-stain relationship.

CONCLUSION

There is broad empirical evidence that affective traits are related to job satisfaction. However, the processes underlying this relationship need further research attention. Although well-being measures were found to be related to job performance, the empirical relationships between affective traits and related personality concepts, on the one hand, and task performance, on the other hand, are weak. Affective traits, however, seem to be more relevant for contextual performance. Therefore, one might assume that group or organizational performance benefits more from TPA than does individual job performance.

—Sabine Sonnentag and Jennifer L. Sparr

See also Emotions; Job Satisfaction; Mood; Stress, Coping and Management

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AFFIRMATIVE ACTION

Affirmative action has been one of the most controversial public policies of the past 40 years. A conceptual definition of *affirmative action* is any measure, beyond a simple termination of discriminatory practice, adopted to correct for past or present discrimination or to prevent discrimination from recurring in the future. In practice, organizational affirmative action programs (AAPs) can and do encompass a multitude of actions. These actions are shaped by federal, state, and local laws and regulations. Although some educational institutions apply affirmative action to student admissions and many countries have corresponding laws and regulations, this entry is limited to workplace affirmative action in the United States.

LEGAL ISSUES

Affirmative action law in the United States is jointly determined by the Constitution, legislative acts, executive orders, and court decisions. It is complex, incomplete, and open to revision. The Office of Federal Contract Compliance Programs is responsible for developing and enforcing most AAPs, although the Equal Opportunity Employment Commission (EEOC) enforces AAPs in the federal sector.

A distinction exists between so-called set-aside AAPs and organization-specific AAPs. *Set-aside AAPs* exist when a public organization (e.g., a municipality or federal agency) is required to set a goal for directing a certain percentage of its budget to qualified firms—typically those owned by members of an underrepresented group.

In contrast, *organization-specific AAPs* are created for one of three reasons. First, some organizations are required by a court order or an EEOC consent decree to establish an AAP to compensate for illegal discrimination. These AAPs are relatively rare. Second, many organizations establish AAPs to satisfy regulatory requirements. Specifically, the Rehabilitation Act of 1973 and the Vietnam Era Veterans' Readjustment Assistance Act of 1974 require certain federal contractors to take affirmative action to employ individuals with disabilities and certain veterans, respectively. Most important, Executive Order 11246, signed by President Lyndon Johnson in 1965 and subsequently amended, requires federal contractors to take affirmative action to eliminate discrimination on the basis of race, color, religion, sex, or national origin. Along the same lines, state and local laws and regulations may require organizations to take affirmative action to improve the employment opportunities of various groups. Third, some organizations establish AAPs on a fully voluntary basis.

Precisely which organizations are required to establish AAPs and which actions are required, permitted, or forbidden varies with the legal basis for the AAP. Furthermore, actions of state and federal governments are limited by the U.S. Constitution, whereas actions of firms in the private sector are constrained by state and federal legislation (e.g., the Civil Rights Acts of 1964 and 1991). The following brief and incomplete description focuses on affirmative action as required by Executive Order 11246, because that is the primary source of AAPs in the United States and is the basis of much of the controversy.

Organizations with annual federal contracts of at least \$10,000 are required to take affirmative action to eliminate discrimination on the basis of race, color, religion, sex, or national origin. They must establish nondiscrimination policies and communicate those policies to employees and applicants. Organizations with at least 50 employees and contracts above \$50,000 are further required to perform and report the results of utilization analyses in which they compare the gender and racial distributions of their workforce to the

relevant labor markets. The relevant labor market for any position includes only those individuals who are qualified for that position and who reside in the recruitment area. If the utilization analysis reveals that all groups are reasonably represented, no further actions are required. If the utilization analysis reveals that any group defined by gender, race, or ethnicity is underrepresented, the firm must establish flexible goals to eliminate the underutilization and must make a good faith effort (i.e., take affirmative actions) to meet those goals. Utilization analyses are not required for other protected dimensions (i.e., disability, veteran status, religion), so it is impossible to determine whether underrepresentation exists along these dimensions.

An important question is which actions are permitted when underutilization is revealed. Federal regulations strongly emphasize nonpreferential actions such as the elimination of barriers and the use of targeted recruitment or training. Because these approaches may fail to eliminate substantial underrepresentation, some organizations may want to take stronger actions. In so doing, the firm must not violate the constraints established by the Constitution and antidiscrimination law. It is clearly illegal to use quotas or to give preferences to unqualified members of the underrepresented group (e.g., through race norming of the selection test). Furthermore, Supreme Court decisions have determined that any AAP that gives a positive weight to racial minority status is subject to "strict scrutiny." Such an AAP must be remedial, narrowly tailored, and temporary; must not trammel the rights of others; and must further a compelling governmental interest. Note that the final requirement can be satisfied only within the public sector. Although it has been suggested that private-sector organizations might use the economic value of diversity to justify positive weighting of racial minority status, it is not clear that such an argument would be approved by the Supreme Court. Although positive weighting of gender requires only intermediate scrutiny rather than strict scrutiny, it would still be a risky approach.

EMPIRICAL RESEARCH

As mentioned previously, affirmative action is a controversial public policy. The debate regarding whether it should be eliminated, perpetuated, or expanded is complex. For example, philosophical arguments have been offered regarding the appropriateness of using race-conscious approaches to attain a race-blind

society. These arguments tend to focus on race-based affirmative action and occasionally gender-based plans; they rarely mention policies that target veterans or individuals with disabilities. These debates also focus on preferential forms of affirmative action rather than the more common, and legal, nonpreferential forms. Empirical research, in contrast, has focused on the consequences of affirmative action and on predictors of attitudes toward affirmative action.

CONSEQUENCES OF AFFIRMATIVE ACTION

For Organizations

A logical analysis shows that affirmative action could either help or hurt organizational performance, depending on details of the AAP and on the procedures used by the organization in the absence of affirmative action. Positive effects should occur if the AAP increases the organization's access to the labor market (e.g., through intensive recruitment) or decreases discrimination against women or racial or ethnic minorities. Negative effects should occur if the organization uses a preferential AAP that supplants a nondiscriminatory procedure. In addition, organizations must bear the costs of administering AAPs. Consistent with the logical uncertainty, empirical research has failed to demonstrate any substantial effect of affirmative action on organizational performance.

For Target Groups

A different line of research has assessed the economic impact of affirmative action on the targeted groups. Affirmative action appears to have improved employment outcomes of targeted groups, but the effects have varied in complex ways depending on factors such as the targeted group, geographic region, time period, and type of position. For example, affirmative action had a substantial positive impact on African Americans in the South between 1965 and 1975, presumably because that time and place offered a substantial opportunity for improvement. On the other hand, affirmative action had virtually little or no effect during the 1980s, perhaps because the Reagan administration decreased support for the regulatory agencies and substantially revised those agencies' policies and procedures. Little or no research exists on the effects of affirmative action on employment of individuals with disabilities or veterans. Because

organizations are not required to report employment statistics of these groups, such effects would be difficult to document.

There is also some evidence that affirmative action may lead to stigmatization of individuals who belong to the AAP target group. The logic is consistent with the discounting principle of attribution theory. When targeted individuals are selected in the context of an AAP, others are uncertain about whether their selection was because of their performance or the AAP. In the absence of affirmative action, this uncertainty disappears and the individual is assumed competent. Research reveals such stigmatization when observers believe or are told that the AAP involves preferences. It can be eliminated or greatly reduced by providing compelling evidence that the AAP is nonpreferential or that the selected individual is fully qualified or has performed well.

A related stream of research deals with self-stigmatization by target group members. According to the logic outlined above, members of AAP target groups may doubt their own competence and consequently lose confidence and interest in the job. Although this effect has been observed, almost all supportive evidence has come from laboratory research in which White female college students are explicitly told that they have been preferentially selected on the basis of their gender. There is little evidence for this effect among racial or ethnic minorities, and the effect is absent or much smaller when participants are given clear evidence of their competence or are told their selection was based in part on merit.

For White Males

A final question concerns the impact of affirmative action on White males. Although there are many reports of *backlash*—opposition by White males based in part on the belief that they have been hurt by affirmative action—there is surprisingly little research on this question. Logically, the effect should be negative if affirmative action reverses traditional biases that favor White males or if preferential forms of affirmative action replace nondiscriminatory procedures. The limited research that exists reveals such a negative effect. Of course, this assumes a “fixed pie” situation; if implementation of an AAP enhances organizational performance because of the increased diversity, that increased performance may help all organization members.

Attitudes

Perhaps the largest body of empirical research on affirmative action has dealt with public attitudes toward the policy. This work has assessed the effects of structural predictors, perceiver variables, and psychological mediators of the effects.

The structural predictor that has received the most attention is AAP strength—the weight given by the AAP to demographic characteristics. Specifically, the public strongly supports AAPs that require only the elimination of discrimination. Support decreases somewhat for AAPs that are designed to enhance target group opportunities—for example, by requiring targeted recruitment. There is a further drop in support if the AAP requires selection of underrepresented group members when their qualifications are equivalent to those of other applicants. Note that such an AAP would rarely if ever pass legal muster. Finally, there is strong opposition to AAPs that require preferential selection of underrepresented group members even when their qualifications are inferior to those of other applicants. Although such an AAP would be illegal, many scholars who study attitudes toward affirmative action attitudes have described it in those terms, and many people believe preferences are common. Indeed, although most research on AAP strength has involved manipulation of the AAP, research on public beliefs reveals corresponding effects, so that individuals who believe affirmative action merely requires the elimination of discrimination have more positive attitudes than those who believe it involves preferences.

The only other structural predictor that has received enough attention to merit conclusions is the identity of the target group. It appears that attitudes, at least of White respondents, are more negative when the AAP is described as targeting African Americans or minorities than when it is said to target women or individuals with disabilities.

The two perceiver variables that have received the most attention are respondent race and gender. In general, African Americans report the strongest support for affirmative action and Whites the strongest opposition, with Hispanics and Asians reporting intermediate levels of support. However, this race effect is moderated by AAP strength, increasing in size as the AAP gives greater weight to demographic status. The effect of gender on attitudes is much smaller, but in general, women report more support than do men.

Attitudes are also associated with several opinion variables. Most significantly, opposition increases with the respondent's racial prejudice and sexism. In addition, those who subscribe to a conservative political ideology or who identify with the Republican Party report greater opposition than do those who are politically liberal or who identify with the Democratic Party. Opposition also increases with the level of the respondent's *social dominance orientation*—an individual difference variable that represents a general opposition to equality and support for group-based dominance. Finally, support for affirmative action is associated with the belief that the target group experiences discrimination and thus that affirmative action is needed.

Research on psychological mediators finds that support for affirmative action is positively associated with anticipated positive effects of the AAP on the respondent's personal self-interest and on the respondent's demographic group. But the strongest association of all is with perceived fairness of the AAP—people support AAPs they consider fair and oppose those they consider unfair. As this would suggest, providing a justification increases support for affirmative action, but only if the justification refers to the value of diversity or the need to make up for past discrimination; simply citing underrepresentation typically decreases support instead of increasing it.

—David Albert Kravitz

See also Adverse Impact/Disparate Treatment/Discrimination at Work; Attitudes and Beliefs; Banding; Civil Rights Act of 1964, Civil Rights Act of 1991; Diversity in the Workplace; Race Norming; Recruitment; Sexual Discrimination; Uniform Guidelines on Employee Selection Procedures

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AGE DISCRIMINATION IN EMPLOYMENT ACT

The Age Discrimination in Employment Act (ADEA) of 1967 (amended in 1986) is a U.S. federal law that prohibits discrimination in employment against individuals who are at least 40 years old. It was enacted by the Congress to promote the employment of older people based on their ability and to prevent intentional and nonintentional forms of age discrimination. The act applies to private, public, and foreign companies with more than 20 workers located in the United States, as well as to unions and employment agencies.

PROHIBITED PRACTICES

The ADEA makes it unlawful to discriminate against a person because of his or her age “with respect to any term, condition, or privilege of employment.” That prohibition applies to such things as hiring, firing, job assignments, promotions, training opportunities, discipline, and employee compensation. The ADEA covers individuals age 40 and above; a worker who is 39 years old at the time of the alleged discrimination is not entitled to ADEA protection. The ADEA also prohibits employer discrimination *among* older workers. For example, an employer cannot hire a 50-year-old over a 60-year-old simply because of age.

Although the ADEA restricts the use of age by employers, it allows age to be taken into account in some situations. For example, in recognition of the

fact that benefits costs may be higher for older workers, the ADEA allows employers to provide different benefits to older and younger workers if the amount spent on benefits received by older and younger workers is the same. The ADEA also recognizes several general defenses that may provide a legal justification for policies or practices that adversely affect older workers, as discussed in the following section.

ESTABLISHING AND DEFENDING ADEA CLAIMS

Violations of the ADEA may be established using either the disparate treatment or disparate impact theories of discrimination. The legal defenses that are relevant and potentially available to an employer depend on which theory of discrimination the plaintiff relies on.

Disparate Treatment

The disparate treatment theory of age discrimination, or *intentional* age discrimination, requires plaintiffs (job applicants or employees) to prove that the employer used age as a factor in an employment decision or action. Examples include the refusal to hire older workers based on stereotypes about their limited capabilities and excluding older workers from certain types of training.

In cases where it is established that the employer has a policy or practice that treats individuals differently based on age, the employer must prove that the age standard it used is a *bona fide occupational qualification* (BFOQ) for the job in question to avoid a finding of illegal discrimination. The BFOQ defense is narrowly construed and difficult to establish. The employer must prove that age is directly related to the ability to perform an important aspect of the job that goes to the essence of the employer’s business. It is not enough to merely show that younger workers tend to perform better on the job; it must be shown that substantially all persons over the age limit cannot successfully perform the job, or that it is highly impractical to assess the relevant ability on an individual basis. Age-based BFOQs are most commonly supported in jobs directly involving public transportation or safety, for which there is credible evidence that abilities essential to the job diminish significantly with age.

In the more typical case, where there is not an explicit age-based policy or practice and the employer denies that age played any role in the challenged

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employment action, the plaintiff must make an initial showing of intentional age discrimination using either *direct* evidence (e.g., help-wanted advertising indicating age preferences, disparaging age-related comments) or *circumstantial* evidence. To establish a *prima facie* case of disparate treatment using circumstantial evidence in a refusal-to-hire case, the plaintiff must show that (a) she or he is a member of the protected age class; (b) she or he was qualified for the position in question; (c) she or he was denied the position; and (d) someone significantly younger, with similar or lesser qualifications, received the position she or he was denied.

If the plaintiff establishes the foregoing, the employer must rebut the circumstantial evidence of intentional discrimination by producing evidence that it had a legitimate, nondiscriminatory explanation for its action (e.g., poor job performance, good faith belief that someone else was more qualified). If the employer is able to provide such a reason, then the burden shifts back to the plaintiff to show that the reason offered by the defendant is a pretext for discrimination.

Disparate Impact

Disparate impact age discrimination claims involve employer policies or practices that appear neutral on their face but that have a substantially greater negative impact on older individuals when put into effect. For example, in several cases, the employer's use of what appeared to be age-neutral physical fitness requirements in hiring decisions were found to have a substantially greater impact in screening out older employees.

Even if a plaintiff meets his or her burden of identifying a specific employer policy or practice that adversely affects older workers, the employer may still prevail if it can show that its policy or practice involves a *reasonable factor other than age* (RFOA). The RFOA defense, unique to the ADEA, requires the employer to demonstrate that there is a good or rational business reason for the employer policy or practice. The RFOA defense requires a standard of justification that is significantly lower than the BFOQ defense (i.e., an RFOA is much easier to establish) and somewhat higher than the legitimate nondiscriminatory reason showing that will rebut a circumstantial *prima facie* case of disparate treatment. Evidence that the challenged policy or practice is related to job

performance would be sufficient, but it may not be necessary. For example, in a 2005 ruling (*Smith v. City of Jackson, Mississippi*), the Supreme Court held that the employer's perceived need to offer junior police officers salaries that were competitive in the job market was an RFOA that justified an employer policy that adversely affected older officers.

REMEDIES FOR ADEA VIOLATIONS

A range of remedies are potentially available to successful plaintiffs in ADEA cases, including reinstatement to their old job, employment, back pay, front pay, promotion, and court costs. In addition, if it is shown that the employer knew that its actions violated the ADEA or showed reckless disregard for whether its actions violated the act, then the court has discretion to award liquidated damages equal to double the amount the plaintiff is otherwise owed. Noncompensatory damages (e.g., pain and suffering) are not available.

IMPACT OF THE ADEA

Without question, the ADEA has increased U.S. employers' awareness of and sensitivity to the use of job applicant and employee age in employment decisions. Some provisions of the ADEA have had a direct and manifest impact on employer practices. For example, the 1986 amendment to the ADEA has eliminated the use of once common age-based mandatory retirement policies for all but a relatively narrow group of employees (high-level executives and employees in selected occupations in which age is a BFOQ). The continued dramatic growth in the number of lawsuits alleging ADEA claims suggests that older workers have also become more aware and less tolerant of age-based employment discrimination. Research investigating the impact of the ADEA suggests that although evidence of differential treatment based on age can still be found in the American workplace, overall, the ADEA has had a positive impact on the employment prospects of older workers. More specifically, empirical evidence indicates that the ADEA helped boost the employment levels of older workers, particularly those aged 60 and over.

—Mark V. Roehling and Lisa M. Finkelstein

See also Adverse Impact/Disparate Treatment/Discrimination at Work

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AMERICAN PSYCHOLOGICAL ASSOCIATION, ASSOCIATION FOR PSYCHOLOGICAL SCIENCE

The two primary professional psychological associations in the United States are the American Psychological Association (APA) and the Association for Psychological Science (APS; formerly called the American Psychological Society).

AMERICAN PSYCHOLOGICAL ASSOCIATION (APA)

Description of APA

The American Psychological Association was founded in 1892 as a scientific and professional membership organization for the field of psychology in the United States. Headquartered in Washington, D.C., APA comprises 53 divisions, covering the spectrum of psychological specialties (e.g., clinical, experimental, developmental, educational, personality, and social). The association is a corporation governed by a six-member board of directors and a council of representatives. Many of the organization's tasks are carried out by boards and committees.

APA Membership

With more than 150,000 members, APA is the largest psychological association in the world. Membership categories include (a) member (i.e.,

doctorate in psychology from an accredited institution); (b) student affiliate (programs for graduate, undergraduate, and high school students); (c) teacher affiliate (community college or high school teachers); (d) international affiliate (psychologists who live outside the United States and Canada); and (e) fellow (elected status; members who have demonstrated unusual and outstanding contributions or performance in psychology on a national level).

Mission of APA

The mission of APA is to advance psychology as a science and profession and as a means of promoting health, education, and human welfare. Five mechanisms are used to accomplish this mission: (a) broadly and liberally encouraging all of the psychological disciplines (specialty areas); (b) promoting psychological research and improving the methods and manner in which these studies are conducted; (c) improving the qualifications and value of psychologists by maintaining high standards for professional conduct, ethics, education, and achievement; (d) maintaining the utmost standards for professional ethics and conduct of members of APA; and (e) increasing and spreading knowledge of psychology through a variety of methods (e.g., meetings, publications, networking, and discussions).

Functions of APA

The association sponsors services to advance the education and practice of psychology, including continuing education workshops, an annual convention, and an awards program. Publications of APA include a monthly news magazine (*Monitor on Psychology*); specialized newsletters; division newsletters; hundreds of books; more than 40 journals; videos; practice-related pamphlets; and the largest online research database for psychological information in the world (PsycINFO, PsycARTICLES). A major function of APA is to advise decision makers in Congress on a diverse range of legislative and regulatory issues (e.g., aging, crime, terrorism, substance abuse).

ASSOCIATION FOR PSYCHOLOGICAL SCIENCE

Formation of APS in Relation to APA

During the 1970s, many members of APA grew discontented with the association's primary focus on

issues pertaining to clinical practice (e.g., health care). This focus led many members to believe that their needs and interests as scientific and academic psychologists were not being met. Proposals submitted to make APA the primary association for scientific psychologists were not approved by the membership. Consequently, in August 1988, the American Psychological Society (APS) was formed to advance psychology as a scientifically oriented discipline. In January of 2006, APS officially changed its name to the Association for Psychological Science to better reflect its core mission and values.

Description of APS

The Association for Psychological Science is a national nonprofit membership organization governed by an 11-member board of directors, representing different fields of psychology. In contrast to APA, APS is not divided into specialty areas; rather, it considers the scientific field of psychology as a whole.

APS Membership

There are more than 14,000 members of APS, including academics, researchers, clinicians, teachers, and administrators. Membership types include (a) member (i.e., doctoral degree in psychology or a related field, or sustained contributions to scientific psychology); (b) retired; and (c) student affiliate (graduate, undergraduate). The association also offers other categories of membership, which have reduced membership rates (e.g., first-year PhD, postdoctorates).

Mission of APS

The mission of APS is to promote, protect, and advance the interests of scientifically oriented psychology in research, application, teaching, and the improvement of human welfare.

Functions of APS

The association publishes a newsletter and three journals: *Psychological Science*, *Current Directions in Psychological Science*, and *Psychological Science in the Public Interest*. Each year, APS sponsors a professional conference. In addition, APS honors particularly notable contributors to the field by awarding them fellow status and through specific achievement

awards. Further, APS has been actively involved in obtaining legislative and federal support for scientific psychological research (e.g., increasing visibility for health and behavioral research within agencies such as the National Institutes of Health).

—Jennifer L. Burnfield

See also Academy of Management; Society for Industrial and Organizational Psychology

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AMERICANS WITH DISABILITIES ACT

In 1990, Congress passed the Americans With Disabilities Act (ADA) to provide equal protection under the law to disabled citizens, who are not identified in the Civil Rights Acts of 1964 or 1991 as a protected group. The ADA covered various aspects of daily life for the disabled, which are addressed under the following titles:

Title I: Employment

Title II: Public Services

Title III: Public Accommodations

Title IV: Telecommunications

Title V: Miscellaneous Provisions

This entry considers only Title I, on employment.

Title I of the ADA was intended to strengthen the existing Rehabilitation Act (RA) of 1973 by making language more specific and by including private-sector

employers under the previous umbrella of the RA. It provided standards for enforcement of the law and charged government with the responsibility for enforcement. The ADA is administered by three different agencies: the Department of Justice, for public-sector employees; the Equal Employment Opportunity Commission (EEOC), for private-sector employees; and the Department of Transportation, for nonfederal sectors affecting commerce. Although originally covering only employers with 25 or more employees, the act was amended in 1994 to apply to all businesses with 15 or more employees.

Statistics from the EEOC demonstrate that the rights of the disabled are being increasingly defended through litigation. In 1992, ADA claims represented less than 2% of all claims filed with EEOC. From 1993 through 2003, these claims have averaged approximately 20% of all claims filed with EEOC. To put this figure in context, the respective figure for claims alleging discrimination on the basis of race or color is 36%; on the basis of sex, 31%; and on the basis of age, 21%. In the year 2003 alone, ADA claims filed through EEOC resulted in total benefits to disabled claimants of \$45.3 million. An ADA claim typically consists of an individual's assertion that he or she is disabled, had the necessary qualifications for the job in question, and was denied an accommodation that would have made it possible to successfully perform the job, or at least the essential functions of that job. The issues of accommodations and essential function are discussed below.

Although race, sex, and age are relatively clear attributes allowing for a simple determination of who is covered, the disability statute is not so easily applied. Since the passage of ADA, the U.S. Supreme Court has heard 11 cases involving it, many of them dealing exactly with issues related to who is covered by the act. The determination of who is a member of the class of disabled depends on several statutory definitions. A person may be classified as disabled if (a) he or she has a current mental or physical impairment that limits a major life activity, (b) can demonstrate a history of such an impairment, or (c) can show that he or she is being treated as if he or she has, or is perceived to have, such an impairment. But for an individual's claim to be covered by the ADA, it is not sufficient to simply demonstrate that he or she has an impairment. This impairment must be shown to substantially limit a major life activity. Major life activities include obvious categories such as self-care,

walking, talking, seeing, hearing, and breathing. But often, the category is not so obvious, and the individual may claim that the limited life activity is actually that of working. When this is the case, the claimant must show not merely that he or she is unable to perform a single job but that he or she cannot perform successfully in a broad range of jobs as a result of the disability. An example from a court case provides an example of the requirement. An individual with a fear of heights is not seen as substantially limited simply because he or she cannot work on the upper floors of a building, because a wide variety of other jobs are available from other employers that do not require employees to work in high locations.

In addition to showing that they are disabled using any of the definitions above, claimants must also demonstrate that they are qualified. It is not sufficient for claimants simply to show that they *possess* the knowledge, skills, or abilities needed to do the job. Rather, to meet this requirement, a claimant must show that he or she has the knowledge, skills, and abilities to *perform* essential job functions and can successfully perform those essential functions with or without a reasonable accommodation. Both of these conditions must be met before the court will consider any claims of discrimination on the part of the employer. If the person is not considered disabled (with the added qualification that the disability substantially limits a major life activity) or does not possess the necessary qualifications to perform essential functions of the job, then the case is dismissed.

In a general sense, essential functions define why the job exists. For example, the essential functions of a bus or train driver are to guide a vehicle on a prescribed route within a fixed period of time and to pick up and discharge passengers. Essential functions of a firefighter are to suppress fires while protecting lives and property. Essential functions are usually identified through the completion of a job analysis or the examination of a job description that resulted from a job analysis. Since 1990, many job analyses have identified certain functions as essential to comply with ADA requirements. Various courts have ruled that to meet the burden of showing that one can perform the essential functions of a job, a claimant must show that he or she can perform *all* of the essential functions with or without an accommodation, not merely some of them. This logic also affects the very definition of what a job is. Claimants have often argued that they could perform a job if some of the essential functions

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were moved to other jobs. Courts have held that the employer is not required to redefine a job for purposes of accommodating a disabled applicant or employee. On the other hand, the employer cannot exclude a disabled applicant or employee from a job because the disabled individual cannot perform a *nonessential* function. As an example, a recent amputee who had been a former patrol officer could ask to be placed on desk duty in a police precinct. The department might argue that even desk officers may be required to respond to outside events in an emergency; however, if it could be shown that no such emergency had ever occurred, then the hypothetical essential function of the desk-duty officer to respond to outside emergencies would be seen as nonessential.

Drug and alcohol abuse occupy special status in ADA. Only rehabilitated drug abusers are protected; individuals currently using illegal substances (e.g., heroin, cocaine, marijuana) are not. The act permits drug testing of employees, including former addicts, provided these tests are reasonable. In this context, *reasonable* means an articulated policy that is nondiscriminatory. For example, a drug testing policy specifying that testing will occur after a workplace accident or as part of a return-to-work determination after an injury would be seen as nondiscriminatory. In contrast to those using illegal drugs, those who might be defined as current alcoholics may be covered by the ADA and may request accommodations. However, alcohol abusers are held to the same standard as any other employee with regard to not consuming alcohol at the work site and not being under the influence of alcohol when reporting to work. In these instances, alcoholism is not protected as a disability. Nevertheless, an employer may not take adverse employment action against an alcoholic employee because of the consumption of alcohol during nonwork hours unless the consumption has resulted in behavior (e.g., DUI or assault on coworkers during nonwork interactions) that would have led to dismissal or suspension for any other employee who engaged in similar activities. Appropriate accommodations for alcoholic employees might include (a) making sure the employee knows about available counseling, (b) asking the employee to make a commitment to rehabilitation, understanding that failure to honor this commitment might result in termination, (c) establishing a ladder of progressive discipline (e.g., verbal warning → written warning → suspension → termination) for those who continue to drink while in an outpatient

treatment program, and (d) providing the opportunity for inpatient treatment if outpatient treatment is unsuccessful.

Those individuals diagnosed with AIDS and other infectious diseases are also protected by ADA, to the extent that the condition does not pose a direct threat to the health and safety of other individuals. As examples, an HIV-positive surgical nurse who refuses to transfer to a nonsurgical area is not protected by the ADA from involuntary reassignment or termination. In contrast, a hospital clerical worker who is HIV-positive cannot be excluded from that position as a result of some general and nonspecific fear that the disease might be transmitted to patients or coworkers. These examples help to demonstrate the more general principle of context. Diabetics and epileptics might function fine in certain job contexts (e.g., routine office work) yet be considered threats to the health and safety of others in other contexts (e.g., jobs involving the use of heavy machinery or working in sensitive positions in air traffic control or nuclear power).

The reasonable accommodation requirement of ADA is unique. It means that the employer may be required to make modifications of the application process, the work environment, and/or the way in which the job functions are performed. It is assumed that there will be a dialogue between the employer and the disabled applicant or employee that will identify what might be considered a reasonable accommodation for the disabled individual. As an example, individuals who are visually impaired may request an oral assessment or someone to read test questions and possible answers to them. Such individuals, if hired, may request a modified work environment to offer protection from moving equipment. Finally, they may request various technical devices (e.g., voice recognition equipment, high-power lighting, or magnification) to enable successful completion of essential job functions. Such accommodations must be reasonable and entail looking at various characteristics of the employing organization, including the cost of the accommodation, the financial resources available for such an accommodation, and the effect of such an accommodation on the overall capability of the organization to conduct business.

The ADA also has practical implications for the application and employment process. Individuals may not be asked to disclose information about a disability (other than a request by that individual for an accommodation in the application process) until *after* an offer

of employment has been made. This is to prevent individuals from being unfairly discriminated against as a result of a covered disability during the employment screening process. The most obvious point at which to run afoul of this protection is the preemployment physical. Although it is permissible to give a preemployment physical to any individual (including disabled applicants), it cannot be administered *before* a conditional offer of employment has been given to successful applicants. A conditional offer is one that is contingent on passing a physical examination. Further, such physicals must be administered to all applicants, not simply to those who appear to be disabled or who have asked for an accommodation. Even at early stages of the application process—before a conditional offer of employment is made—an employer is permitted to ask individuals if they think that they can perform essential functions that are described to them. Asking applicants to undergo testing for illegal drug and alcohol use as part of the application process does not violate the provisions of the ADA.

W. F. Cascio, in 2005, suggested several ways in which employers may embrace the spirit of ADA. These include the following:

- Making the workplace more accessible to individuals with various physical impairments by installing ramps for individuals in wheelchairs or with visual impairments and installing TTY (teletypewriter) and voice amplifiers for individuals with hearing impairments. Newly designed keyboards and computers have been developed for quadriplegics and individuals with cerebral palsy.
- Creating a position within the equal employment opportunity domain of an organization for an individual who would focus on disability issues. Such a position would include responsibility for the orientation and socialization of newly hired disabled workers. This orientation would include the supervisors and coworkers of the disabled employee.
- Educating senior managers in disability issues and gaining commitment to recruit, select, and accommodate individuals with disabilities when necessary.
- Analyzing jobs with the specific aim of identifying tasks and functions for which various disabilities are not an impediment to successful performance.
- Describing successful accommodation experiences to the employees within the organization as well as to those outside of the organization.

The ADA is a complex statute that is still evolving. It was written in a way that encouraged cooperation

and dialogue between an employer and a disabled applicant or employee. The courts look favorably on evidence of good faith efforts by both parties to work out a reasonable accommodation where possible. It is best for neither the applicant/employee nor the employer to forget the importance of this dialogue in an eventual judicial decision, should such a decision become necessary.

—Frank J. Landy

See also Civil Rights Act of 1964, Civil Rights Act of 1991; Drug and Alcohol Testing

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APPLICANT/TEST-TAKER REACTIONS

The term *applicant reactions* is used to refer to an applicant's affect, attitudes, and cognitions toward a selection process. Applicant reaction models suggest that reactions are very complex and involve perceptions of multiple aspects of specific tests and the testing process in general. Stephen Gilliland was one of the first researchers to put forth a theoretical model of applicant reactions, and this model has guided much of this research over the past decade. Gilliland's model is based on theories of organizational justice. Organizational justice is concerned with the fairness of the distribution of organizational outcomes (outcome fairness) and the fairness of procedures used to distribute these outcomes (procedural justice). Gilliland adapted the basic principles of organizational justice to provide a comprehensive model of how applicants perceive and react to selection procedures. This model has received considerable support.

Gilliland's model suggests that selection systems and tests are viewed favorably by applicants

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(i.e., are considered fair) to the extent they comply with or violate procedural and distributive justice rules. These procedural and distributive justice rules are standards that applicants hold for how they expect to be treated and how selection procedures should be administered and used. These justice rules determine perceptions of process and outcome fairness, such that when the rules are satisfied, the selection process and outcome are perceived as fair, but when they are violated, the selection process and outcome are perceived as unfair. As will be discussed, applicant perceptions of the fairness of a selection process can influence a number of important individual and organizational outcomes. It should be noted that according to Gilliland's model, justice rules would not directly relate to applicant intentions or behavior, but would do so indirectly through process fairness perceptions. For example, perceived job relatedness is an example of a procedural justice rule. *Perceived job relatedness* refers to the extent to which the applicant perceives that the content of a test reflects the content of the job (e.g., the knowledge, skills, and abilities required by the job). Perceived job relatedness has been recognized as the most important procedural justice rule because it consistently influences fairness perceptions and, through fairness perceptions, test performance.

Over the years, several researchers have modified and expanded Gilliland's original applicant reactions model to include a number of additional antecedents and moderator variables. For example, Ann-Marie Ryan and Robert Ployhart revised the Gilliland model and included an applicant's affective and cognitive states during the selection processes, as well as general perceptions about testing and selection, as important in understanding antecedents and consequences of applicant reactions.

JUSTICE RULES

In applicant reaction models, procedural and distributive justice rules are important antecedents of fairness perceptions. Although a number of procedural and distributive justice rules exist, Gilliland specified 10 procedural and 3 distributive justice rules, and these have received research attention:

Procedural Justice Rules

1. *Job-relatedness*. The extent to which a test appears to measure content relevant for the job

2. *Opportunity to perform*. The extent to which applicants perceive that the test or test process allows them the opportunity to express themselves prior to a selection decision
3. *Reconsideration opportunity*. The opportunity to challenge or modify the decision-making process
4. *Consistency of administration*. The extent to which selection procedures are used consistently across applicants
5. *Feedback*. The extent to which applicants receive timely and informative feedback
6. *Selection information*. The extent to which applicants are informed how the test and selection procedures will be used and why they are used
7. *Honesty*. The extent to which recruiters and test administrators are truthful and honest in their communication with applicants
8. *Interpersonal effectiveness of administrator*. The extent to which applicants are treated with respect and warmth from the test administrator
9. *Two-way communication*. The extent to which applicants have the opportunity to offer input and to have their views on the selection process considered
10. *Propriety of questions*. The extent to which questions on tests are appropriate and not offensive

Distributive Justice Rules

1. *Equity*. The extent to which applicants perceive that the outcome of the selection process (whether they are hired or not) is based on competence or merit
2. *Equality*. The extent to which applicants, regardless of knowledge, skills, and abilities, have an equal chance of being hired for the job
3. *Needs*. The extent to which job offers are distributed on the basis of individual needs (e.g., preferential treatment for a subgroup)

CONSEQUENCES OF APPLICANT REACTIONS

Applicant reactions toward selection procedures have been found to affect a number of important outcomes, both directly and indirectly. It has been shown that when applicants react positively toward a test, they are more likely to accept a job offer from the company, recommend the company to others, reapply for a job with the company, and perform well once they are employed by the company. It has also been suggested

that negative applicant reactions may result in a greater number of employment lawsuits and a decreased probability an applicant will buy the company's products in the future.

One of the most important consequences of applicant reactions is the effect reactions have on applicant test performance. However, this research has almost exclusively examined the effects of applicant reactions on cognitive ability test performance and has neglected the effects of reactions on other test measures. This research has shown that when applicants react favorably to a cognitive ability test, they are more likely to perform well on the test, although the effects are modest.

REACTIONS TOWARD DIFFERENT SELECTION MEASURES

Initial applicant reactions research focused on comparing reactions to different types of measures. For example, research suggests that reactions toward assessment centers and work simulations tend to be more favorable than paper-and-pencil tests (e.g., cognitive ability measures). The reasoning is that assessment centers and work simulations appear to be more job-related and therefore result in more favorable reactions on the part of the test taker. Further, research suggests that personality measures tend to be perceived less favorably than other types of selection measures.

Although tests seem to differ in the reactions they evoke, research suggests that reactions toward tests can be altered in several ways. For example, research has shown that making a test more job-related will result in more favorable applicant reactions. That is, by ensuring that the content of the test (regardless of test type) reflects the content of the job, one can increase the likelihood that applicants will respond favorably to the test. Further, research suggests that providing an explanation for why the test is used can make reactions toward the test more favorable, as can making selection decisions in a timely manner.

TEST-TAKING MOTIVATION

Test-taking motivation is an important component in all applicant reactions models. One of the most important and researched outcomes of applicant reactions is test performance, and research has clearly shown that test-taking motivation partially mediates

the relationship between applicant reactions and test performance. It has been found that when applicants have favorable reactions toward a test or testing process, they perform better on the tests.

More recently, researchers have sought to determine precisely how motivation mediates the relationship between applicant reactions and test performance by considering the multidimensional nature of motivation. Based on an established theory of motivation, VIE (valence-instrumentality-expectancy) theory, a multidimensional measure of test-taking motivation has been developed. The three components of VIE theory are defined as follows. *Valence* is the desirability or attractiveness of an outcome. *Instrumentality* is the belief that a behavior will lead to a specified outcome. *Expectancy* is the subjective probability that effort will lead to a specified outcome. In a testing context, *valence* refers to the value one places on getting the job for which one is taking the test, *instrumentality* is the belief that good test performance will lead to one getting the job, and *expectancy* is the expectation that one will do well on the test if one puts effort into doing well. Early results suggest that these three dimensions of test-taking motivation are distinct, as they demonstrate different relationships with test performance and applicant reactions.

PRE- AND POSTTEST REACTIONS

Some research has examined both pre- and posttest reactions and how time of measurement influences relationships. Pretest reaction measures are administered before the applicant takes the test or takes part in the selection process in question. Posttest reaction measures are administered after the applicant has taken the test or been through the selection process. Research generally finds that responses to pre- and posttest reaction measures are similar but not identical. Therefore, researchers have tried to understand precisely why pre- and posttest measures are sometimes different.

In particular, the self-serving bias may explain how applicants respond to posttest reactions and motivation. Specifically, if applicants have already taken a test, their perceptions of how they performed may influence their reported test reactions and test-taking motivation. Those who believe they did poorly on the test may be inclined to blame the test and report that they have negative test reactions or indicate that they did not even try to do well on the test (i.e., they report

low test-taking motivation). Attributing one's negative performance to lack of effort or to a problematic test may help protect one's self-esteem. Given these findings, it is important for researchers to be aware that pre- and posttest reaction measures may result in different outcomes.

RACE DIFFERENCES IN APPLICANT REACTIONS

Racial differences in applicant reactions exist, with Blacks and Hispanics being more likely to have negative reactions than White individuals. It is believed that these race differences in applicant reactions may contribute to race differences in test performance. In particular, it is well documented that White individuals, on average, score substantially higher on cognitive ability tests than Black and Hispanic individuals. It is believed that differences in applicant reactions may contribute to the differences between how Whites and minorities perform on cognitive ability tests. Therefore, considerable research has focused on how applicant reactions may affect the race–test performance relationship. Research has shown that race predicts test reactions, test reactions predict test-taking motivation, and test-taking motivation influences test performance. Thus, race differences on tests may be larger when minority reactions are negative because minorities will have lower test-taking motivation and hence lower test performance. Although research shows that reactions indirectly account for significant variance in race–test performance relationships, applicant reactions do not account for the majority of race differences in test performance.

PRACTICAL IMPLICATIONS OF APPLICANT REACTIONS RESEARCH

As noted earlier, applicant reactions have a number of important consequences. Therefore, test administrators and human resource professionals would be wise to make applicant reactions to selection procedures as favorable as possible. This is especially true when an organization is trying to meet diversity goals. Research suggests that minorities tend to have less favorable reactions toward selection procedures than majority group members. Therefore, minorities will be more likely to self-select out of the selection process or even be less inclined to take a job if one were offered. Research also suggests that the more qualified job

applicants are likely to be most influenced by how they perceive the selection process. Thus, ensuring that selection procedures are viewed favorably by applicants may have the added benefits of increasing minority representation in the selection process and retaining the most qualified job applicants.

To increase the chances that tests are perceived favorably by applicants, organizations can ensure the tests they use are job-related, provide explanations for why the test is being used (e.g., the test administrator can provide information about the validity of the measure), explain how the selection process will proceed (e.g., clearly explain the stages of the selection process), provide feedback to applicants in a timely manner, and treat applicants consistently and with respect throughout the selection process. Doing so may result in more favorable reactions.

—Lynn A. McFarland

See also Individual Differences; Organizational Justice

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ARMY ALPHA/ARMY BETA

The United States entered World War I late in the conflict and faced the problem of turning large numbers of often poorly educated draftees into an effective army in a short period of time. The American Psychological Association volunteered its services to the war effort, and a committee, headed by Robert Yerkes and including psychologists such as Arthur Otis and Lewis Terman, was assigned the task of developing a practical method of measuring the intellectual level of individuals in large groups. Their efforts led to the development of two tests, Army Alpha and Army Beta. Army Alpha was a written test that could be administered to large groups of recruits and that provided a rough measure of general intelligence. Army Beta, a nonverbal test designed for illiterates and for recruits who spoke little or no English, could also be administered to groups and used simple pictorial and nonverbal instructions.

Army Alpha was made up of 212 true–false and multiple-choice items, divided into eight subscales: (a) oral directions, which assessed the ability to follow simple directions; (b) arithmetical problems; (c) practical judgment problems; (d) synonym–antonym items; (e) disarranged sentences, which required subjects to rearrange fragments into complete sequences; (f) number series completion, which required examinees to infer and complete patterns in series of numbers; (g) analogies; and (h) information, a general knowledge subtest. The most basic purposes of Army Alpha were to determine whether recruits could read English and to help in assigning new soldiers to tasks and training that were consistent with their abilities. Several of the scales and test formats developed by Yerkes and his colleagues for Army Alpha are forerunners of tests still in use today.

Many draftees were unable to respond to written tests, because of their limited literacy or their limited command of English; Army Beta was developed to assess the abilities of these examinees. The instructions

for the Beta test were given in pantomime, using pictures and other symbolic material to help orient examinees to the tasks that made up this test. Army Beta included seven subscales: (a) maze, which required looking at a graphic maze and identifying the path to be taken; (b) cube analysis, which required counting cubes in the picture; (c) X-O series, which required reading symbol series to identify patterns; (d) digit symbol, which required matching digits and symbols; (e) number checking, which required scanning and matching graphic symbols in numeric forms; (f) picture completion, which required examinees to identify features required to complete a partial picture; and (g) geometrical construction, which required examinees to manipulate forms to complete a geometrical pattern.

ADMINISTRATION AND USE OF ARMY ALPHA AND ARMY BETA

The Army Alpha and Army Beta were administered to more than 1.5 million examinees. Scoring guidelines were developed with the aim of making Army Alpha and Army Beta roughly comparable. Scores on both tests were sorted into eight order categories (A, B, C+, C, C–, D, D–, E). Those with the lowest letter grade were generally considered unfit for service. Examinees receiving grades of D or D– were recommended for assignment to simple duties, working under close supervision. Examinees with scores in the middle of the test score distribution were recommended for normal soldier duties, whereas men receiving higher scores were recommended for training as noncommissioned officers and for officer training.

Army Alpha and Army Beta were perceived as useful at the time they were introduced. These tests provided at least a rough classification of men, which was of considerable utility in making the large number of selection decisions necessary at that time. The apparent success of the army's group tests did not go unnoticed in business circles and educational settings. Soon after the war, the demand arose for similar tests in civilian settings; by the mid- to late 1920s, intelligence testing was widespread, particularly in schools.

CONTROVERSY OVER ARMY ALPHA AND ARMY BETA

The use of psychological tests to make high-stakes decisions about large numbers of individuals was controversial at the time these tests were developed, and

Army Alpha and Army Beta continue to be sources of controversy. First, many of the psychologists who developed these tests were extreme proponents of hereditarian points of view and often were enthusiastic supporters of the eugenics movement. Yerkes and his colleagues used Army Alpha and Army Beta data to argue against immigration and racial mixing, claiming that the addition of intellectually inferior races and groups to the American melting pot was responsible for what they regarded as low levels of intelligence in the American population. Psychologists involved in the development of Army Alpha and Army Beta played a prominent role in supporting legislation after World War I that greatly curtailed immigration.

Second, serious doubts were raised about the validity and the utility of both tests, particularly Army Beta. Despite efforts to train test administrators, Army Beta could be a particularly intimidating and confusing experience, and it is unclear whether this test provided useful information. More generally, evidence that Army Alpha and Army Beta actually contributed to the success of the army in assimilating and training the vast group who were tested is thin. In part, the problem lies with the fact that the United States entered the war so late that the success or failure of this test was simply hard to gauge. Army Alpha and Army Beta were a tremendous administrative success—they allowed the army to quickly process huge numbers of recruits. However, this set of recruits barely had time to receive training and were mustered out of the army shortly after the conclusion of the war. The hypothesis that the use of these tests led to better decisions than would have been made using more traditional (largely subjective) methods of classification simply could not be tested during World War I. The documented validity and utility of successors to Army Alpha and Army Beta suggest that these tests were likely to make a real contribution, but definitive data about the impact of these tests does not exist.

Finally, controversy over Army Alpha and Army Beta reflected broader controversy over the value (if any) of psychological testing in general and intelligence testing in particular. Early proponents of psychological testing sometimes made extravagant claims about the value and the importance of these tests, and there was a substantial backlash against the more sweeping claims about the importance, validity, and implications of tests like Army Alpha and Army Beta.

—Kevin R. Murphy

See also Cognitive Ability Tests; Individual Differences; Selection Strategies

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ASSESSMENT CENTER

The *assessment center* is a skills-evaluation process that has been used historically in selection and placement decision making, in employee skill development, and more broadly in career development and organizational succession planning. The process was initially developed in the 1930s by the German military for the primary purpose of officer selection. The methodology was adopted, based on familiarity with the German model, shortly thereafter by the British military for similar purposes, and subsequently by the Australian and Canadian militaries.

The assessment center process was first used in the United States by the Office of Strategic Services (OSS) during the middle to late years of America's involvement in World War II (1943 to 1945), to help in the selection of operatives for spy missions. The personality theorist Henry Murray had earlier developed and applied a multiple assessment methodology in a research project aimed at better understanding personality. Subsequently, Murray participated fully in the creation and implementation of the OSS assessment center, which also borrowed heavily from the earlier German and British efforts. For a variety of reasons, including Murray's strong influence, the three-day OSS assessment process was centered on measuring relatively holistic personality variables, rather than job-specific competencies.

The first publicized business application of the assessment center methodology took place at AT&T in the mid-1950s, in what was called the Management Progress Study, conceived and led by Douglas Bray.

The classical AT&T assessment center became the prototype of the many business applications that were to follow. The AT&T process was built directly on the OSS model, but with heavier emphasis on exercises comprising situational, job-sample tests to assess job-related competencies than on the assessment of holistic personality variables.

The AT&T process was aimed at aiding in the selection and development of managers for the company. Several hundred candidates were assessed in groups of 12 in a three-and-a-half-day process, spread over a four-year period. Initially, a set of characteristics of successful managers, or what we would now call *management competencies*, was identified based on literature review and the judgment of AT&T internal subject matter experts. Note that no explicit job analysis was done to identify these characteristics of successful managers. Then a series of activities was created that would allow the assessors to rate participants in each identified skill area. Activities included a series of in-basket activities (still a standard feature of management assessment centers), leaderless group discussions (also a centerpiece of the methodology), and a variety of individual and group problem-solving situations. The issues dealt with were selected to be realistic ones for the job of manager in the organization. In addition to such high-fidelity job-related activities, several projective and structured personality inventories were given, participants were interviewed extensively, and each was required to write an autobiographical essay. The assessors were largely a mix of consultants and psychologists, with some involvement of AT&T incumbent managers, as well.

Since the foundational AT&T study, the assessment center methodology has been refined, researched, and applied internationally and domestically, in a wide variety of work settings, prominently including government work (especially police and fire departments), service industries, and industrial settings. These subsequent applications of the assessment center methodology still draw on many of the core features of the seminal AT&T program.

So widespread has the methodology become that specific and detailed structural, ethical, and professional guidelines have been established by an organization called the International Task Force on Assessment Center Guidelines. In the most current version of those guidelines (the first were codified in 1975), 10 essential elements of the assessment center methodology, which must be present for a process to

be considered an assessment center, are identified, as follows:

1. *Job analysis.* Required to establish the critical, relevant, observable performance elements and competency categories to be assessed. Competency-modeling procedures may be substituted for classical job analysis. The point is to establish through rigorous methods the observable behaviors and competencies to be assessed.
2. *Behavioral classification.* Behaviors demonstrated by participants must be classified and categorized into dimensions, skills, competencies, abilities, and so forth.
3. *Assessment techniques.* Must be designed to reveal performance relative to the key dimensions and competencies that are critical in the performance of the job.
4. *Multiple assessments.* A mix of techniques must be selected to allow behaviors revealing of the critical competencies to be observed and assessed.
5. *Simulations.* The techniques employed must include job-related simulations, although the assessment center overall need not be limited to job-related simulations. Although relatively low-fidelity simulations may be adequate for some purposes, especially early-career selection programs for nonmanagement jobs, high-fidelity simulations are preferred, especially for developmental (not only or mainly selection) programs for experienced, high-level incumbents. Acceptable simulations require that the assessee actually demonstrate behaviors, not merely select from a list of multiple-choice options or state intended actions.
6. *Assessors.* Multiple assessors observe and assess each participant, with a typical ratio of 1:2. Assessors should not be immediate supervisors of a participant. Diversity (functional, ethnic, organizational level, gender) in the pool of assessors is considered highly desirable.
7. *Assessor training.* Assessors must demonstrate competence in their role, based on targeted assessor training prior to using those skills. Typically, assessors should receive two days of training for each day of the assessment process itself.
8. *Recording behavior.* Assessors may not rely solely on memory but must document through notes, behavioral/competency checklists, video recording, or some similar method that allows later review.

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9. *Reports.* It is expected that assessors draft preliminary reports, based on their records of the behavior of assessees.
10. *Data integration.* Assessors are required to pool their observations through some accepted methodology, such that final reports represent the integration of all relevant data.

The assessment center process sometimes runs for only a day, or even less, but more commonly is a multiday affair, with the period of two to five consecutive days being common. Assesseees are always put through the process in groups (the typical size being 6 to 12 participants in a center, assessed by three to six assessors, although there are exceptions to these dimensions). Assessors, usually higher-level managers in the company, sometimes aided by psychologists or other consultants, typically do not know the participants they are assessing. However, there is some recent evidence to suggest that center ratings may have higher criterion-related validity when in fact the assessors are familiar with the participants they are assessing.

Some applications of the methodology aim mainly or exclusively at selection. When that is the case, it is common for participants to receive feedback that includes only or mainly the final hiring recommendation and to be given the rationale for that recommendation only on request. When the primary goal is development, however, and whenever the assesseees are current members of the organization, participants are typically given much more detailed feedback, usually including the final feedback report. Indeed, where assessment centers are part of a broader career-planning and/or succession-planning process, it is common for the feedback shared with the participant to be highly detailed and for extensive developmental planning and coaching to be included as a key element in the overall assessment process.

Although the focus of the assessment center is mainly on profiling the competencies of the individual, there are numerous collateral benefits. A well-designed center gives candidates a kind of realistic job preview. Also, when an organization has assessed a number of internal candidates, the organization can get a valuable perspective on where general skill strengths and deficits are by averaging across the individual profiles. Thus, for example, if most internal candidates score poorly on the competency of delegation, and the company in question has legitimately determined that such skills are indeed important in the

role being assessed, such data can be used to support training and development programs and other relevant skill-building processes in the organization. Such a finding could also affect the company's recruiting and hiring strategies. Similarly, longer-range succession planning is supported by having assessment data on a pool of incumbent employees who have the core skills necessary for higher-level jobs. In general terms, assessment centers can provide a level of information that is valuable to the organization, beyond the skills and developmental needs of individual candidates.

Since the introduction of the assessment center concept into business in the 1950s, the methodology has been employed by thousands of organizations. Recent estimates indicate that assessment centers in one form or another are used regularly by as many as 2,000 companies in the United States, and perhaps as many as 70% of large organizations in the United Kingdom. They are widespread in industry in other parts of Europe, as well. Additionally, they are particularly likely to be used by public-sector organizations such as local police and fire departments.

There is a huge base of research on the assessment center methodology. Despite some flexibility and variability in how the methodology is applied (e.g., number and kinds of activities, duration of the center, level of training of assessors, and even the extent to which the guidelines are adhered to), the data generally support the conclusion that assessment center scores show very good criterion-related validity in predicting job performance in the role being assessed. On average, meta-analyses across many studies show criterion-related validity estimates for a broad range of indicators of performance in the +.35 to +.45 range, and often higher for certain submeasures or for composite measures. Also, assessment center results have shown reasonable validity generalization across different jobs within broad job families. It is also often noted that compared with other selection and development approaches, the assessment center methodology has very high face or content validity, as judged by candidates, assessors, and other subject matter experts alike. Thus, the level of participant acceptance of the process is typically high. Further, it is widely claimed that compared with other selection processes, assessment centers are fair. In general, they are found not to discriminate against women, minorities, or other groups protected by the Equal Employment Opportunity Commission. In short, they are so popular because they work and are legally defensible. (Note, though,

that there is some recent evidence that older candidates may be rated generally lower than younger candidates, suggesting the possibility of age bias.)

Primary criticisms of the assessment center methodology center on complexity and cost. Developing and running an effective high-fidelity assessment center is time-consuming and expensive, to the extent that unless it is going to be run many times, it may be cost prohibitive for an organization to develop one. Even if it is to be run multiple times, each session is time-consuming and expensive in itself, requiring training time for assessors and a significant time commitment for assessors, participants, role players, administrators, and so on during the session. Thus, the methodology is used more by large organizations that have large numbers of managers and potential managers, and where the costs of a poor selection or career development decision are great. In such cases, again, the assessment center methodology is widely supported as a valuable selection and development tool.

The lack of construct validity has also been identified as a criticism of the assessment center methodology. It has been found in terms of convergent and especially discriminant validity; there is sometimes little consistency between a participant's scores on a given competency from one exercise to another, and within a given exercise, scores on different dimensions are often highly correlated. Recent research aims at determining why assessment centers are so effective in terms of their ability to predict job success, despite the lack of demonstrated construct validity.

One current trend of note is the growing use of technology as an aid to the assessment process. Thus, there is increasing use of video recording of participants' performance during the session, allowing later review by assessors and enhancing the feedback opportunities for participants, including self-feedback. Also, there is increasing use of the computer as an aid in integrating scores across different assessors. Additionally, as communications technology has become more widespread in the workplace, there is less reliance on paper-and-pencil activities and increased use of tools such as voice mail and e-mail as the more ecologically valid in-basket of today's workplace.

There is an increase in the integration of various forms of 360-degree feedback processes (usually abbreviated compared with conventional stand-alone 360s) into the assessment center feedback package, such that those familiar with the work of the assessee contribute to a richer overall feedback experience for participants.

Another growing trend is toward more integrated total or continuous simulations, rather than a bits-and-pieces, stop-start approach that takes each exercise as a discrete event. Participants in continuous simulations are assigned a role, with relevant background information about that role, including a set of role players with whom they may interact in the course of the center. Participants and role players then stay in role for the duration of the session.

To combat the high cost and time investment of the classical assessment center, there is also a developing trend toward what is being called *ongoing assessment*, for career developmental purposes. In this application, internal candidates may meet briefly with assessors at mutually convenient times to do more or less standard assessment center exercises. Rather than conducting the assessment intensively over a period of a few days, it may be spread over several weeks in and around other work responsibilities, thus being accomplished in a less labor-intensive and costly format.

The methodology is now being increasingly extended beyond the traditional target group of managers and potential managers to include candidates for positions such as members of self-directed work teams. Indeed, the need to qualify people for such expanded roles (including leadership roles in the flexible, high-performance workplace) has become a primary impetus for the application of the methodology.

From its earliest applications in the organizational setting, the assessment center has grown to be a major tool for selection, promotion, and development of critical organizational talent around the world. Researchers continue vigorous programs to determine why assessment centers work to the extent they do and how they can be made more effective.

—John Kello

See also Assessment Center Methods; Leadership Development

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ASSESSMENT CENTER METHODS

The assessment center is a methodology used to select, promote, and develop people, usually managers, in an organization. From the earliest efforts in the 1930s and 1940s in the military, aimed at selecting officers and key operatives for highly sensitive missions, to the first systematic application in the organizational setting in the 1950s, the assessment center has become a familiar tool for skills evaluation.

A defining feature of the assessment center methodology is that it comprises a battery of tests. Further, the tests must represent a multiplicity of types. No single instrument or single type of instrument is sufficient to qualify a skills assessment process as an assessment center, by that name, according to the International Task Force on Assessment Center Guidelines.

The earliest iterations of the assessment center methodology focused to a significant extent on individual-differences assessment. The American military application, for the selection of spy operatives in World War II, was influenced strongly by the work of Harvard psychologist and noted personality theorist Henry Murray and included a good deal of personality profiling. It is still common today for personality assessment to be incorporated into an overall battery of assessment center instruments. With the development of the five-factor model of personality, the NEO tests have become an increasingly familiar part of the overall assessment center process. There are recent data suggesting that scores on the conscientiousness and extraversion scales, in particular, may generally

correlate with overall assessment center scores. At any rate, especially where the focus is more on development and less on near-term selection, personality feedback is commonly part of the assessment process.

Tests of general cognitive ability are also sometimes included as a collateral part of the assessment center process. Much like personality tests, cognitive abilities tests represent a source of additional feedback to the assessee, as well as potential predictors of future work success. Cognitive ability scores do correlate significantly with overall assessment center scores, which in turn are broadly predictive of job success.

Interviews are another familiar support tool of the assessment center methodology. The interviews may be very general, unstructured ones, aimed at identifying the assessee's background, interests, career goals, and so forth. Or they may be more structured, even situational, in which case they may form integral parts of the assessment process. A typical situational interview would describe a scenario of the sort an incumbent might experience at work—say, problems with an upset customer, a conflict between sales and operations, or an employee not following safety procedures. After specifying the situation in detail, interviewers would ask the assessee how he or she would handle the situation. The assessee's answers would then be rated in terms of the underlying competencies being assessed (e.g., relationship management, communication, problem solving).

Beyond personality or intelligence assessment and interviews, the heart of the assessment center methodology is a series of individual and group activities in which candidates, working individually or in various groupings, handle work-related problems and issues. Many of these individual and group exercises were pioneered in the earliest applications of the methodology and continue to be centerpieces of the assessment center process. Included in this mix of classical methods are the venerable in-basket, leaderless group discussions, and role plays.

The in-basket is sometimes considered *the* defining tool of the assessment center methodology. The basic idea of the in-basket is that participants are assigned a role, namely the role for which they are being assessed, and are given the kinds of memos, reports, notes, and other communications that an incumbent in the role being assessed might receive in her or his in-basket on a given day. The participants must then act on the in-basket information in the way they would in the

real world, prioritizing issues, writing reply memos, gathering information, calling meetings, and so on. It is common for the in-basket exercise to be timed. When possible, participants might subsequently be interviewed after the exercise, to better understand the rationale for their responses to in-basket items.

The in-basket provides opportunities to observe how the participant prioritizes and plans, solves problems and makes decisions, and communicates and coordinates with key resources, for example, all of which are common competencies of the managerial role. In-basket activities can be considered a kind of multidimensional work sample test, to the extent that the role being assessed requires just such handling of incoming communications.

One benefit of the in-basket method is that it typically includes some documented output by the participant. The written recommendation, or market analysis, or meeting agenda, or reply memo is a piece of data that assessors can review and reflect on offline at their leisure, assisting them in the skills evaluation process.

Today, managers spend quite a bit less time than in the past handling memos in paper form and a much greater amount of time in e-mail, voice mail, and cell phone communication. It is increasingly common for the methodology of high-fidelity assessment centers to reflect current technology. Thus, participants' workspace in a modern assessment center may include a desktop computer, through which they can receive and send e-mails, and a phone/voice mail system, through which they can communicate with others. The availability of such technology greatly increases the fidelity of the work setting in the assessment center but also greatly increases the workload on the assessors who have to keep track of such rapid communication via multimedia for several participants.

The leaderless group discussion is also a familiar classical feature of the assessment center methodology. Typically, participants are given an issue to discuss and make recommendations about. As the title suggests, no member of the group is formally designated as leader. They may be told, for example, that they are all regional sales managers for XYZ Corp., which is facing a declining market, new competition, and quality problems in production. They are then asked to meet and fully discuss the issues and make a recommendation to the vice president/general manager on how to address the problems. They will have been given sufficient information (e.g., through

in-basket communications) for them to think strategically about the problems. In some cases, individual participants are given different information, or different perspectives on the issue at hand, such that disagreement and conflict are more likely in the discussion.

In the course of the leaderless group discussion, participants gravitate to roles in which they are comfortable. Usually, someone will structure the meeting approach, someone will keep notes, some bring organized proposals, some brainstorm well, some show skill at developing others' ideas, and some participate little. The format provides an excellent opportunity for assessors to see a whole range of competencies related to communication, influence, collaboration, resolving disagreements, problem solving, relationship management, and the like. To the extent that the contemporary environment of work puts a premium on joint, collaborative work and the ability to cooperate and compromise as well as provide direction, this tool gives assessors a snapshot of candidates' interactive skills and general approach to teamwork. The leaderless group discussion has been called the *projective test of leadership*. If the scenario is realistic and engaging, participants can get caught up in the issue and reveal much about their real approach to collaborative work. One caution is that strong individual personalities can shift the dynamics of a leaderless group such that it is hard to get a valid view of each individual's approach. For example, one extremely competitive participant can cause others to become more aggressive, or for that matter more compliant, than they normally would be. Assessors must be alert to such artifacts.

In the role-play method, participants are given a role and a scenario to act on with a role player/assessor, whose role is also specified. At the appointed time, the assessee and the role player interact as assessors observe and make notes. For example, a participant may be in the role of a supervisor in a team-based production environment whose crew has been complaining about how the previous shift leaves a mess that they have to clean up before they can start running production. They have asked her to talk with the peer supervisor of the off-going shift (played by the role player). The role player is provided with specific guidelines as to how to act and the kinds of themes to weave into the role play (e.g., be a bit defensive—express thoughts such as “I don't tell *you* how to run *your* shift!”). He is further directed to act realistically

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to that role and to base further responses on the approach the assessee takes to the problem. Finally, he is asked to keep in mind that the point of the role play, as with all of the exercises of the center, is to provide a realistic forum in which to see the participant's skill level on key competencies, so he should give the participant ample opportunity to show active listening skills, project empathy, be results oriented, and so on.

Beyond the classic "big three," additional exercises that are often found in assessment centers include structured meetings, presentations, and written analyses. In a structured meeting, the participant's role is specified. Thus the participant might be a sales manager leading a meeting with his three sales reps around a given market issue. An example of a presentation might be a 10-minute overview of plant status by a plant manager, given to his boss (role player), or a sales presentation given by a sales manager to a national client (role player). Written analyses might include completing a budget or doing a cost justification for the purchase of a major piece of equipment. Again, as always, such exercises are anchored in the competencies that are being assessed.

Finally, it is normal for some self-assessment (and at times 360-degree feedback) to be included in the overall assessment center process. Early iterations of the methodology had participants write autobiographical statements. More recent applications may directly call for self-assessment, such as "On a five-point scale, rate your ability in the area of delegation . . . what are your specific strengths in this area . . . what are your specific developmental needs in this area?" Or activities may be built into other exercises that precipitate such self-assessment indirectly. Thus, an in-basket memo from the boss might ask the participant to list what he or she sees as the critical competencies of the job in question and to self-assess and identify personal training and development needs in these skill areas.

A major methodological question centers on the level of fidelity of the simulations in the assessment center. Especially if the goal of the process is to select nonmanagerial employees from a pool of outside applicants, it is common for the center to be brief (1 day or less) and relatively low-fidelity. Thus activities might be more generic (e.g., a leaderless group discussion about how to motivate employees) than detailed and specific to the role (a leaderless group discussion about changes to a specific incentive bonus plan, based on information given in the in-basket). With internal candidates, and especially for managerial

positions, it is common for the process to be longer (on the order of 2 to 5 days), more detailed, and higher-fidelity. Also, under the latter circumstances it is common for the various exercises of the assessment process to be integrated rather than discrete. That is, candidates will be given highly detailed information about their role at the outset of the process. Thus, if they are in the role of a plant manager in a manufacturing environment, they will be given specifications such as a personal work history (how long they have been in that role, where they worked before), the parameters of their plant, organizational charts, detailed information on their division and company, recent history of their plant, background on their employees, and key challenges facing their plant. Then from the time the center begins until it is concluded, they stay in that role. All the issues that come up are consistent with the information they have been given. They role play with key individuals who have been identified in the initial information they have received (e.g., their boss, their sales counterpart, key direct-report employees, the union president). Such an integrated total simulation approach, if well designed, is typically seen by participants as having especially high face validity.

Modern technology is not only used to increase the fidelity of the work simulation for participants. It is also used as a powerful aid to the assessor in the roles of observer, role player, behavior analyzer, and report writer. For example, it is increasingly common for assessors to videotape group discussions, role-play interactions, presentations, and so on. Then the tapes can be reviewed later for more detailed and thorough analysis. Additionally, the videos can be incorporated directly into the feedback process, potentially enriching the experience for the participant. Technology can also be used for the delivery of some elements of the assessment process, including personality profiles or cognitive-abilities assessments, online.

In general, given the complexity and cost of assessment centers, there is constant pressure to simplify and shorten assessment centers without sacrificing fidelity and predictiveness. Thus, there is some movement toward the use of online situational interviews in which participants choose a multiple-choice response as their output. Such an item can be taken by an individual quickly and automatically scored and integrated with other scores. In a similar vein, there is a move toward a less formalized overall approach to assessment centers, in which the assessment is done

with internal candidates, typically individually, in brief interactions over a longer period of time, still using assessment center tools such as in-basket activities and role plays. One distinct advantage of such ongoing assessment is that it can be done when the company has fewer than the usual 6 to 12 candidates but needs to assess competencies in a couple of key individuals now. Such truncated methods can be built to have good criterion-related validity, even though they are not fully consistent with the guidelines of the International Task Force on Assessment Centers. In the contemporary organizational climate of change, it is expected that such variations on the core methods of the assessment center will be increasingly common.

—John Kello

See also Assessment Center

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ATTITUDES AND BELIEFS

Attitudes are the positive or negative evaluations made about people, issues, or objects. For example, in an organizational setting, employees might hold attitudes toward their employer or coworkers, toward workplace issues or regulations, and toward the job itself.

Attitudes form a central foundation of the way that individuals think about and come to understand the world around them; consequently, they influence and are influenced by people's beliefs and cognitions. Much research has focused on the structure and measurement of attitudes, as well as their relation to affect, beliefs, and behavior. A central question that has been raised with regard to attitudes is whether they are accurate predictors of behavior. Understanding processes of attitude formation and change has also been a dominant avenue of research.

ATTITUDE STRUCTURE

Attitudes are based on cognitive, affective, and behavioral information. Beliefs provide the cognitive basis of an attitude. A *belief* is the cognitive information that one has about an attitude object. For example, a workplace attitude might be based on beliefs, or cognitions, about one's job. The *affective basis* of an attitude refers to the emotional response that one has toward the attitude object—for example, the affect that one feels toward one's job. The *behavioral basis* of an attitude refers to actions that are taken with regard to the attitude object, such as job-related behaviors that reflect one's attitude toward work. An attitude might be based on any combination of these three components. For certain attitudes, components can be evaluatively inconsistent with one another. For example, a person with an emotionally grueling job might experience negative affect toward his or her work but at the same time hold positive cognitions by believing that the job is important and useful. This leads to attitudinal ambivalence, which is described as a state of holding *both* positive and negative evaluations of the same attitude object.

The issue of attitudinal ambivalence has received recent attention, reflected in the debate over whether attitude structure is bipolar or bivariate. Evaluative processes have been traditionally conceptualized as bipolar. According to a bipolar model of attitudes, people's attitudes can range from very negative (and not at all positive) to very positive (and not at all negative). This conceptualization implies that negativity and positivity are reciprocal, opposing forces; consequently, the more positive one's attitude is, the less negative it will be, and vice versa. One limitation of this conceptualization is that it precludes the possibility of attitude ambivalence. To address this issue, an alternative conceptualization of attitude structure has

emerged in which attitudes are viewed as bivariate rather than bipolar. The bivariate perspective suggests that positivity and negativity are separable attitudinal substrates, rather than opposite ends of the same continuum; further, each can be separately activated and exert an independent influence on behavior.

ATTITUDE FORMATION

Attitudes form through a variety of processes. Many attitudes are developed through direct experience with an attitude object or learned through processes of operant and classical conditioning. A growing body of evidence suggests that attitudes may also have a genetic basis.

Direct experience. Attitudes may form through direct experience with a person, issue, or object. Direct interaction with the attitude object contributes to the formation of a positive or negative evaluation. Attitudes formed through direct experience are strong predictors of future behavior.

Classical conditioning. When a positive or negative stimulus is paired repeatedly with an initially neutral attitude object, attitude formation through classical conditioning may occur. When this occurs, the evaluation paired with the neutral stimulus eventually becomes associated with the attitude object itself. Attitude formation through this process often occurs at an unconscious level.

Operant conditioning. Attitudes are formed through operant conditioning when an attitude object becomes associated with a positive or negative consequence. Specifically, when behavior toward an attitude object is reinforced, a positive attitude toward the attitude object will form. When behavior toward an attitude object is punished or associated with negative consequences, an unfavorable attitude will form.

Genetic determinants of attitudes. Identical twins (even when raised in separate environments) show a higher correlation in their attitudes than fraternal twins, providing evidence for a genetic basis of attitudes. This is likely because of the influence of genetics on temperament and personality, which in turn influence attitudes. Attitudes that have a genetic basis appear to be more difficult to alter and exert a stronger influence on behavior.

IMPLICIT AND EXPLICIT ATTITUDES

A distinction has been made between *implicit* and *explicit* attitudes. An explicit attitude is one that a

person is consciously aware of and can report, for example, on a self-report measure. A large volume of research has focused on understanding and assessing explicit attitudes. However, recent attention has turned to the existence of implicit attitudes, attitudes that are involuntary, uncontrollable, and, in some cases, not accessible at a conscious level. Although implicit attitudes are not consciously accessed, they are found to still exert influence on behavior. Take, for example, a person who holds sexist attitudes in the workplace but is not consciously aware of holding these attitudes. These are implicit attitudes, which could exert influence on this person's workplace behavior with regard to female employees. The relationship between implicit and explicit attitudes, along with their influence on behavior, is a topic of ongoing investigation among attitude researchers. With regard to attitude measurement, implicit and explicit attitudes may require different methods of assessment. Because people are not able to directly access and report implicit attitudes, traditional means of attitude measurement may be less effective, indicating a need for more indirect methods of assessment.

ATTITUDE MEASUREMENT

Attitudes are frequently assessed through self-report measures. Three common scale methodologies used to assess attitudes are the Thurstone scale, Likert scale, and semantic differential. A Thurstone scale is developed by having individuals rank order opinion statements about a particular attitude object according to their favorableness. A subset of items representing a wide range of opinions is then selected and used to assess attitudes. A Likert scale consists of a series of items for which people indicate the strength of their agreement with each statement (e.g., "I enjoy my job") on a rating scale that encompasses low to high levels of agreement. The semantic differential assesses attitudes by providing opposing adjective pairs (e.g., good–bad; foolish–wise) on which the individual rates a specific attitude object.

Although there are advantages to measuring attitudes through direct self-report measures, such as availability, speed, and ease of use, there are also limitations associated with their use. For example, many existing self-report measures make the implicit assumption that attitudes are bipolar (rather than bivariate) and, therefore, may not detect levels of attitudinal ambivalence. Further, when individuals are

asked to report attitudes on controversial topics, they may be less likely to report their true evaluations and instead report responses that they perceive to be socially desirable. Similarly, if attitudes are not consciously accessible, as in the case of implicit attitudes, individuals may not be able to accurately report them on these measures. To overcome these concerns, researchers can use indirect methods of attitude measurement, such as unobtrusive behavioral measures, physiological measures, or techniques, such as the Implicit Association Test, that are designed for assessing implicit attitudes.

DO ATTITUDES PREDICT BEHAVIORS?

The question of whether attitudes guide and predict behavior is an issue that has been central to the study of attitudes. Several critical challenges to the commonsense assumption that attitudes determine behavior emerged in the 1930s and 1940s, as numerous studies indicated little or no relationship between attitudes and behaviors. Consequently, by the 1960s there was a call by many researchers to abandon the study of the attitude. Since then, researchers have reexamined the attitude–behavior link and articulated particular conditions under which attitudes will be likely to guide behavior. Attitudes that are accessible, specific, strong, or formed through direct experience are found to exert stronger influences on behavior. Additionally, the theory of reasoned action, developed by Icek Ajzen and Martin Fishbein, and the theory of planned behavior, developed by Ajzen, provide models of how attitudes can guide deliberative behavior through their influence on intentions.

PERSUASION

Persuasion refers to an active attempt made to change another person's attitude toward some issue, object, or person. Seminal studies conducted during the 1940s by Carl Hovland and his research group at Yale University led to the development of the message learning approach, which became a primary template for persuasion research. The message learning approach suggests that persuasion occurs through a sequence of stages including attention, comprehension, yielding, and retention of a message. It asserts that persuasion is influenced by characteristics related to the source of the message, the nature of the audience (or message recipients), and qualities of the message itself.

In the 1980s, dual-process models, such as Shelly Chaiken's heuristic-systematic model and the elaboration likelihood model, developed by Richard Petty and John Cacioppo, emerged as dominant models of persuasion. These models suggest that persuasion can result from two types of message processing: thoughtful processing of the arguments contained in a message, or less effortful processing of cues or heuristics pertaining to the message. Whether one engages in more or less effortful processing depends on one's ability or motivation to elaborate on the message. Although attitude change can occur through either process, persuasion that results from more elaborative processing of a message has been found to be more persistent, resistant to counterpersuasion, and predictive of future behavior.

—Jennifer L. Welbourne

See also Measurement Scales; Theory of Reasoned Action/Theory of Planned Behavior

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ATTRACTION–SELECTION–ATTRITION MODEL

The discipline of organizational behavior focuses on the study of organizations and the people who populate them. Generally and historically, the field has been largely divided into those who study the attributes of organizations and their markets (macro

40 Attraction–Selection–Attrition Model

organizational behavior) and those who study the attributes of people in organizations (micro organizational behavior). Typically, macro approaches have focused on explaining organizational performance and draw their intellectual heritage from sociology and economics, whereas micro approaches have focused on explaining and predicting individual behavior and performance and draw their heritage from psychology. Although the recent history of organizational behavior has seen attempts to integrate these two paradigms, the micro and macro distinction has led to a scholarly division with two largely non-overlapping, independent literatures. As a consequence, there is little cross-fertilization of ideas across micro and macro perspectives and little attempt to understand the processes that translate the characteristics and behavior of people to the performance of their organizations. In his 1985 presidential address to the Society of Industrial and Organizational Psychology, Benjamin Schneider noted this distinction in the literature and offered an attempt to bridge the micro and macro distinctions. In its most basic form, his model, the attraction–selection–attrition (or ASA) model, postulates that it is the characteristics of people in an organization that partially (if not largely) determine the organizational attributes typically studied by macro researchers.

OVERVIEW

The ASA model delineates a framework for understanding organizational behavior that integrates both individual (micro) and organizational (macro) perspectives by explaining macro organizational attributes with micro person characteristics. The framework proposes that the outcome of three interrelated dynamic processes, attraction–selection–attrition, determines the kinds of people in an organization, which consequently defines an organization, its structures, its processes, and, ultimately, its culture.

At the core of the ASA model are the goals of the organization originally articulated (implicitly or explicitly) by the founder. Organizational goals, and the processes, structures, and culture that emerge to facilitate attainment of these goals, are suggested to be reflections of the particular characteristics (i.e., personality) of the founder and those of his or her early colleagues. Schneider suggests that founders are faced with a variety of decisions to make regarding whom to hire, how to compensate employees, how to structure

reporting relationships, and even what industries or markets to enter. The decisions made are influenced by the underlying values, motives, and dispositions of the founder. So, for example, the ASA model would postulate that the cultural differences between Apple Computer and Microsoft had their origins in the personality differences of their founders, Steve Jobs and Bill Gates. As Apple Computer and Microsoft grew, the policies and procedures established were a reflection of their founders' early influence, and over time these policies and procedures created a culture that is somewhat unique for each company. So, the genesis of an organization's culture can be traced to the initial decisions made by founders and the unique imprint they put on their organizations. This, too, is the beginning of the ASA cycle.

The ASA cycle begins with the *attraction* process, which concerns the fact that people's preferences for particular organizations are based on some estimate of the fit or congruence of their own personal characteristics (personality, values, and motives) with the attributes of the organization they are evaluating. That is, people find organizations differentially attractive as a function of their implicit judgments of the congruence between those organizations' goals (and structures, processes, and culture as manifestations of those goals) and their own personalities. For example, an IT engineer may choose to work for Apple Computer, as opposed to Microsoft, because she or he sees the company as innovative and flexible, which conforms to the engineer's own values of creativity and independence. Ample research evidence suggests that job applicants make assessments of fit when choosing among employment alternatives.

The next step in the ASA cycle refers to the formal and informal *selection* procedures used by organizations in the recruitment and hiring of people with the attributes the organization desires. Many organizations explicitly use fit as a criterion in the hiring process. Based on ample research demonstrating that fit to an organization's culture has implications for employee job satisfaction, turnover, and absenteeism, this criterion seems justified. The greater the degree of misfit, the more likely an employee will be to experience dissatisfaction with the job, be absent, and quit. Research also suggests that fit assessments affect hiring procedures not intended to assess fit. For example, research suggests that assessment center ratings and interviewer judgments are influenced by conscious or unconscious evaluations of applicant fit.

Finally, the *attrition* process refers to the idea that people will leave an organization they do not fit. The turnover literature is quite clear about the fact that people who do not fit an organization will tend to leave it. Of course, economics and job market prospects moderate the extent to which people leave an organization they do not fit. In summary, ASA proposes that three processes—attraction, selection, and attrition—result in organizations containing people with distinct personalities, and it is these distinct personalities that are responsible for the unique structures, processes, and cultures that characterize organizations. Organizational and personal characteristics are self-reinforcing. The characteristics of people in an organization determine the policies and practices, which, in turn, determine the people who are attracted to and remain with the organization.

IMPLICATIONS FOR ORGANIZATIONS

As an outcome of the ASA model, Schneider and colleagues postulated that organizations will become increasingly homogeneous over time. In other words, they will come to be populated by people of a similar personality profile. To assess this hypothesis, Schneider and colleagues examined the personality profiles of approximately 13,000 managers from 142 organizations in the United States. The organizations in their sample represented a broad cross section of industries. Consistent with the homogeneity hypothesis, their results suggested that managers were more similar to managers in their own organization than they were to managers in the other organizations. This remained true when you looked within an industry. That is, even within an industry, managers were more similar to others in their organization than they were to managers in other organizations within their same industry.

Although we previously indicated that there are positive consequences of good fit for people and organizations (regarding satisfaction, commitment, and turnover), the ASA model suggests that the outcome good fit could be detrimental to the long-term viability of an organization, particularly if an organization experiences volatility in its market. The primary negative consequences of good fit or homogeneity are the potential inability for an organization to sense changes in its environment and adapt to those changes and the demise of competitiveness through easily predictable decision making. There is limited research on the consequences of homogeneity for organizational

effectiveness, and the predictions made by the ASA model are complex. For example, the ASA model would predict that during the initial founding and early history of an organization, homogeneity breeds the commitment that is needed to retain people and grow the enterprise. Only after an organization matures and the market becomes more complex and turbulent does homogeneity produce negative consequences. Research does indicate that as the average tenure of the senior managers increases, the fit between the organization's strategy and demands of the business environment decreases. Although not a direct test of the negative consequences of homogeneity, this finding is consistent with the logic of the hypothesis. Additionally, research in social psychology on the effects of homogeneity on group problem solving supports the notion that groups engaged in creative problem-solving tasks do better if they are heterogeneous. The conflict that is created by different perspectives is important in these ill-defined problem-solving situations—situations analogous to the strategic decisions made by top managers. As this research implies, the ASA model predicts that the negative consequences of homogeneity may only manifest themselves at the upper levels of the organizational hierarchy (where managers are faced with strategic decisions). Elsewhere the positive benefits of homogeneity may outweigh the costs.

IMPLICATIONS FOR ORGANIZATIONAL BEHAVIOR THEORY

The ASA model provides an example of multilevel organization theory. Specifically, the psychological attributes of people (in the collective) are hypothesized to be the antecedents of important organizational characteristics. In this way, the ASA model offers a bridge between the micro and macro perspectives. Additionally, the ASA model provides insight into a long-standing argument within psychology—the person–situation debate. This debate seeks to determine which set of attributes (those related to the person, or the situation/environment) are the primary predictors of behavior. The ASA model suggests that the attributes of people shape their environments. The two sets of attributes are not mutually exclusive; rather, they are mutually determined. You cannot separate people from the situation.

—D. Brent Smith

See also Employee Selection; Organizational Development; Person–Environment Fit; Prescreening Assessment Methods for Personnel Selection; Recruitment; Selection Strategies

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AUTOMATION/ADVANCED MANUFACTURING TECHNOLOGY/COMPUTER-BASED INTEGRATED TECHNOLOGY

Automation usually refers to the replacement of human work by machines. The word was first used by the Ford Motor Company in the 1940s to describe automatic handling and machine-feeding devices in their manufacturing processes. *Advanced manufacturing technology* (AMT) is a special instance of automation and usually refers to computer-based manufacturing technologies and support systems. Examples include computerized numerically controlled machine tools, computer-aided design, and computer-supported production control systems. There will be few, if any, manufacturing companies in the developed world that have not undertaken some investment in AMT.

Computer-based integrated technology (CIT) refers to higher levels of integration and comprises systems that cut across organizational functions. For example, enterprise resource planning (ERP) systems include a centralized database and sets of integrated software modules designed to manage all aspects of

an organization's work processes, including production control, customer billing, and human resources. Estimating the uptake of CIT is difficult. However, a survey in Australia, Japan, and the United Kingdom, published in 2002, found that approximately 33% to 40% of larger manufacturing companies (employing more than 250 people) were significant users of CIT. The same survey in Switzerland reported substantial use in around 60% of companies. The findings are similar for ERP systems. By the late 1990s, it was estimated that around 40% of large U.S. companies and 60% of small ones had deployed ERP systems. By 2004, the worldwide market for ERP systems was estimated to be around \$79 billion per annum.

Over the last decade, there has also been growing investment in systems to integrate activities between organizations, a good example being e-business systems that allow electronic ordering and billing through a supply chain and on the part of customers. By the year 2000 it was estimated that around 20% to 25% of companies in the United States, Canada, Europe, and Australia were trading online, although the proportional value of goods traded online was much lower (less than 10%). It is almost certainly the case that these amounts have grown and will continue to grow.

MOTIVES AND IMPACTS

Such investments are usually undertaken for a mix of motives. Machines may do the work more cheaply, more quickly, to a higher quality, with more repeatability, with reduced errors, and with reduced lead times. For these reasons, many companies have become enthusiastic adopters of such new technologies. They are also mindful that if they don't innovate, their competitors might, thereby gaining a significant advantage in the marketplace. This can feed so-called fads and fashions, often vigorously supported by an active community of suppliers of equipment and expertise, including consultants.

Unsurprisingly, such changes are also often accompanied by fears on the part of employees. Will the adoption of new technology lead to reduced headcount and thereby redundancy? Will the remaining jobs become deskilled, with previously skilled employees being reduced to unskilled labor?

It is certainly the case that the trend to automation can reduce headcount. To give a specific example, the city of Sheffield in the United Kingdom, famous for

its high-quality steel, produces the same amount as it ever did in its postwar prime, but now with 10% of the earlier workforce.

But at the same time, the development of computers and their increasing application to different domains has spawned whole new industries, thereby creating many new jobs. New organizations have grown up around the development, provision, marketing, and support of computer hardware and software, project management, knowledge management, computer simulations, software games and entertainment, and communications, to name just some—all enabled by the onset of sophisticated computerization.

Concerns over deskilling are equally complicated to assess in practice. Whereas some organizations have used computer-based operations to deskill their operators—for example, by turning them into machine minders—many others have upskilled their operations by asking their machine operators to write and edit computer programs and to solve complex machine problems. Also, as previously implied, at a more macro level, the onset of computerization has led to the creation of many new highly skilled professions.

The process is further complicated by the onset of globalization. Computer-based information and communications technologies now make it possible to move work around the world. A topical example is provided by the widespread use of customer call centers based in India. This may be to the benefit of the Indian economy, but it may not be perceived that way by employees in the developed world who see their jobs as being exported to regions where labor costs are significantly lower.

Three generalizations seem appropriate. First, such periods of change may be genuinely uncomfortable and threatening for the individuals concerned. It may be no real consolation in losing one's job to be told it is an inevitable long-term structural shift in the nature of the global economy. Second, such changes are likely to be easier to manage and endure during periods of economic growth rather than decline. A buoyant labor market certainly helps. And third, this is one of the reasons why most leading commentators in developed economies see their economic future in the development of highly skilled, high value-added, and highly innovative work, areas where education and skills are at a premium and where competition in a global economy is not solely dependent on the cost of labor.

EFFECTIVENESS AND THE ROLE OF INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY

The foregoing description gives the impression of inevitability and, although difficult perhaps for some individuals in the short term, of benign and effective progress. However, the position on the ground is a good deal more complex. Let us look now at some of the data on the effectiveness of such new technologies.

The data from economic analyses, surveys, case studies, and expert panels is consistently disappointing. Turning first to ERP systems, many are scrapped (estimates vary between 20% and 50%), and overall failure rates are high (again, estimates vary, at around 60% to 90%). Indeed, it is now commonplace for economists to bemoan the lack of impact of investments in IT (information technology) on overall productivity over time.

The best estimate is probably that up to 20% of investments are true successes, genuinely meeting their goals; around 40% are partial successes, meeting some of their goals but by no means all; and around 40% are complete failures.

So, why are such investments often so disappointing, and what can be done about it? Many industrial/organizational psychologists have worked in this domain, most notably perhaps under the general banner of sociotechnical thinking. Their central proposition is that work systems comprise both technical and social systems and that companies cannot change one without affecting the other—it is the nature of systems that they are intrinsically interconnected. It follows that technical change requires active consideration to changes in working practices and processes, job designs and work organization, employee skills and competencies, training and education, human-computer interfaces, and the management of change. These are major issues, and the evidence is that many organizations focus too much on the technology, pay too little regard to the social, and fail to adopt an integrated systems perspective.

Several attempts have been made at formulating good practice guidelines, of which the following are representative:

- Senior managers should ensure that new technology investments meet the needs of the business. Senior managers should ask, “Why are we doing this? What benefit do we gain? Does it further our strategy?”
- Any technical change will require changes in business processes, working practices, job design, and

the like. Senior managers need to ensure that changes in all these areas are an intrinsic part of the project—a systems view is needed.

- Senior users in the business need to have some ownership of, and influence over, the nature of the changes they require. Changes in systems that are *pulled into* a business are usually much more successful than changes that are *pushed into* a business. Beware projects that seem just to be about IT and that are being pushed hard by the IT department.
- Any project team needs to include all the requisite skills and expertise, including the human and organizational issues.
- The users (or recipients) of any change program need to be actively involved. This should be all the way from the design of the new way of working through to evaluation of the effectiveness of the changes.
- There is a need to educate all those involved in what the changes mean, why they are being undertaken, what benefits accrue, and what actions are necessary to achieve success. At the same time, training is needed on the operational and more detailed aspects of the changes.
- Where such changes are undertaken, organizations need to learn as they go, to be pragmatic, and, where possible, to undertake changes in manageable chunks.
- Evaluation against objectives using benchmark measures is a prerequisite for learning. Internal and external benchmarking can provide excellent opportunities for improvement.
- All the above require the commitment of resources, in particular time, effort, money, and expertise. They also require a different mind-set on the nature of change, one that adopts a systems orientation and views technology as a necessary but not sufficient predictor of success.

These guidelines may seem relatively unsurprising to students of industrial/organizational psychology.

But there continues to be evidence that such standards are ignored in practice. Perhaps the interesting question is, “Why is it that informational technology failures persist?” There is massive potential here for industrial/organizational psychologists to make a substantial contribution, but it is likely that this will best be achieved by working with other disciplines (including technical and operational specialists) and with organizations facing some very practical problems. It is certainly true that we need to bridge the divides between disciplines and between academia and practice.

—Chris Clegg

See also Computer Assessment; Human–Computer Interaction; Simulation, Computer Approach

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AUTONOMY

See EMPOWERMENT