DISSERTATION

COWORKER REACTIONS TO A PARTNER WITH A PHYSICAL DISABILITY

Submitted by

Marjorie L. Randall

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WE HEREBY RECOMMEND THAT THE DISSERTATION PREPARED UNDER OUR SUPERVISION BY MARJORIE L. RANDALL TITLED COWORKER REACTIONS TO A PARTNER WITH A PHYSICAL DISABILITY BE ACCEPTED AS FULFILLING IN PART REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY.

Committee on Graduate Work

[redacted]

Adviser

[redacted]

Department Head

ABSTRACT OF DISSERTATION

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The purpose of this study was to examine the relative impact of a task partner's physical disability, performance, and interpersonal behavior on the other partner's evaluations of and willingness to collaborate with that individual on a subsequent task. Participants were 198 students paired with a female confederate in one of eight combinations of conditions: nondisabled/ disabled (paraplegic), success/failure, pleasant/unpleasant. Each participant/confederate pair completed a set of tasks, after which participants were asked to evaluate their partner and indicate how much they wanted to work with her again on a subsequent task. In general, participants did not respond the same way to the interpersonal behavior of a disabled confederate as they did with a nondisabled partner.

Four theoretical models (kindness, social desirability, response amplification, reversed responses) were tested; none of these was supported. Contrary to findings of previous research, predicted affective response to disability was not found; rather, the findings support the notion of disability having a cognitive effect and moderating other variables' impact on evaluations and work-related decisons. Implications and suggestions for future research are discussed.

Marjorie L. Randall
Psychology Department
Colorado State University
Fort Collins, CO 80523
Fall, 1998

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Introduction

It is often noted that prejudice is most resistant to change in the most intimate social realms. While many people advocate social change and equal opportunity for disadvantaged groups, they may still be uncomfortable in or even avoid close interpersonal interactions with members of these groups. Legislation in the United States has outlawed many institutional forms of discrimination toward individuals with disabilities, as it has institutional forms of racism. Businesses must take steps to ensure that customers with disabilities have access to their facilities; employers must make personnel decisions based on what individuals can do, rather than what they cannot. But legislation alone may not eliminate all barriers.

Many of us are aware of terms and attitudes that are "politically correct." Most of us were raised to be "good" people, with the norms of kindness and social responsibility deeply ingrained. But what happens when the views we espouse are put to the test? It is comparatively easy to support progressive social policy, equal rights, and humanitarian treatment for stigmatized individuals, such as those with disabilities. But do we truly feel comfortable in close interactions with them, as in a work setting? And what happens if such a person causes us harm or impedes our efforts? These questions are at the heart of the present study.

How much discomfort, discrimination, and problematic behavior among nondisabled persons are due to general prejudice against or discomfort around individuals with disabilities? How much is a result of concern for one's own direct outcomes? To what extent does the norm to be kind still influence people's behavior when their own outcomes are at stake? And what influence does the interpersonal behavior of the

individual with a disability have on important outcomes? While these questions are important, the literature does not provide clear answers.

The purpose of the present study is to test several competing models of responses to a task partner with a physical disability. By manipulating apparent disability, performance level, and interpersonal behavior, this study examined the following: (a) whether evaluations of a physically disabled partner are more favorable than a nondisabled partner exhibiting the same level of performance, (b) whether a physically disabled partner exhibiting negative interpersonal behavior is evaluated more favorably than a nondisabled partner exhibiting the same behavior, and (c) assess nondisabled subjects' willingness to work cooperatively in a second task with the partner with a disability.

In this section, I shall review the results of survey research emphasizing the need for effective utilization of qualified employees with disabilities, and psychological research pointing out the potential attitudinal barriers to such a goal. I will discuss implications of attitudes toward persons with disabilities for a variety of personnel decisions and processes, and review research on relevant psychological phenomena, leading up to our hypotheses.

Importance of Understanding Psychosocial Issues Surrounding Persons with Disabilities

Legal consequences for employers. The Americans with Disabilities Act (ADA) of 1990 has been called the most significant piece of civil rights legislation since the 1964 Civil Rights Act. Title I of the ADA (1990), the title pertaining to employment, prohibits unfair discrimination in the workplace on the basis of disability. The law requires that organizations provide equal employment opportunities to qualified individuals with disabilities. It does not suggest that employers lower their performance standards, nor does it suggest any kind of a quota system. Rather, it seeks to focus an employer's attention on (a) what skills are needed in a job, and (b) what a given individual can do,

rather than what he or she cannot. Failure to comply with the law could result in costly litigation.

This change in employment law has many implications for organizations. Many firms will have a greater number of individuals with disabilities participating in their workplace than ever before. As the number of employees with disabilities increases, it behooves an employer to consider all the pertinent issues and take action on them in order to ensure the effective functioning of the organization.

Other costs to employers. In addition to the potential legal costs associated with discrimination against qualified individuals with disabilities, an organization may incur other, less obvious costs. It has been projected (Rauch, 1989) that by the year 2000, the labor force will be increasing at a slower rate than at any time since the 1930's (this assumes, of course, that we can adequately predict long-range growth and immigration patterns). As a consequence of this trend, it will be critical for employers to seek qualified employees from previously underutilized labor pools. To overlook such individuals would result in opportunity costs and losing potentially valuable human resources to competitors. At the same time, forecasts of the nature of work in the years ahead project an increase in the level of skill needed to perform well. Ironically, the skill level of entry-level workers is dropping. Even now, organizations often find it difficult to recruit new entry-level employees and have found it necessary to train those hired on basic skills such as writing and mathematics (Hamilton, 1988). It is increasingly important for organizations to recognize and properly develop skills in all members of the labor pool, including those with disabilities.

Current Employment Status of Persons with Disabilities

Despite the obvious costs associated with the mismatch of employer needs and the available skills in a shrinking workforce, employers often overlook or underutilize qualified candidates from other nontraditional labor pools. A 1986 Harris Poll, surveying working-age persons with disabilities (Harris & Associates, 1986), found that 78 percent

of those surveyed wanted to work, yet 66 percent of the respondents were unemployed. In this poll, 42 percent of disabled men were reported to be in the labor force, and only 24 percent of the women. It appears that unemployment is high among persons with disabilities. Certainly, some individuals have impairments so severe that they would not be able to work, but even this could not account for these striking numbers. There is good evidence that many people may have skills and abilities not being appropriately utilized.

Of individuals with disabilities who are employed, many are in positions that have skill or ability requirements well below their capacities. Many persons with disabilities work in the secondary labor market, as in seasonal or temporary functions (Dunn, 1981), with lower levels of pay, job security, and promotion than they would otherwise have. Johnson and Lambrinos (1985) reported the average wages earned by workers with disabilities is 16 percent lower than the wages of other workers. Clearly, many would benefit from a more favorable employment situation.

It is apparent that individuals with disabilities represent a resource overlooked by many employers. Yet a number of studies conducted among companies employing persons with disabilities have found that such employees are rated at least as highly and often more highly than their nondisabled counterparts in such areas as productivity (Bureau of National Affairs, 1980), performance (Bureau of National Affairs, 1980; Harris & Associates, 1995), and innovation (Bressler & Lacy, 1980). It appears from these studies that once someone with a disability is hired, there is a good chance that he or she will perform at least as well as any other. In addition, given that employees with disabilities tend to show longer average tenure than their nondisabled counterparts (Bressler & Lacy, 1980), it is clearly in a firm's best interest to invest in these employees, and to address the issues affecting them in the workplace.

Employers must comply with the law, or risk legal action. Employers must also obtain the skills their business needs by hiring the most qualified individuals available,

and by fully utilizing the abilities of every employee they have. Achieving these goals will often require new ways of thinking about the functions within the organization, as well as the individuals who make up the labor force. The organization that successfully integrates employees with disabilities into their workforce and effectively utilizes their skills will have a competitive advantage.

The implementation of the ADA is certainly a step toward reducing institutional discrimination against individuals with disabilities. Nevertheless, as it is often said, one cannot legislate attitudes. The greatest barrier for a person with a disability is often the perceptions and attitudes of others. Regardless of legal mandates, organizations are composed of human beings, whose attitudes and behavior may be slow to change. In fact, their beliefs and feelings may not even be readily apparent.

Psychosocial dynamics within the workplace may create barriers that prevent the organization from effectively utilizing a valuable labor resource: qualified individuals with disabilities. Employer and coworker assumptions, differential treatment, discomfort, and lack of information can ultimately lead to (a) failure to comply with the ADA, resulting in costly litigation, and (b) opportunity costs from failing to effectively utilize valuable potential.

Employment Practices and Potential Attitudinal Barriers for Persons with Disabilities

The ADA prohibits discrimination against qualified individuals on the basis of disability. The law addresses such personnel practices as selection, training, evaluation, and promotion. Since Human Resources functions occur in a social context human perceptions, decision making processes and behaviors are pivotal in each of these areas.

Selection. Much of the research dealing with disabilities in the workplace has focused on selection. Certainly this is an important topic, given the potential for litigation from improper selection practices. Any employment test or screening device, including those processes involving subjective judgment, must be used in a way that accurately reflects the knowledge, skills, or abilities required for the job, rather than

reflecting the disability of the applicant. The greatest threat of bias exists in assessment procedures involving human interaction and judgment. A great deal of research suggests that employer attitudes toward persons with disabilities have historically been negative (e.g., Johnson & Heal, 1976; Rickard, Triandis, & Patterson, 1963), and that such attitudes may vary considerably as a function of disability type (e.g., Hartlage & Roland, 1971). For example, psychogenic conditions appear to carry greater stigma than sensory or mobility impairments.

Given that many employers make their selection decisions during the first four minutes of an interview (Hatfield & Gatewood, 1978), initial reactions are crucial. Despite some apparent improvements in the acceptance of persons with disabilities, subtle forms of discrimination are likely to continue as a result of fear and inaccurate assumptions about disability (e.g., Freedman & Keller, 1981). Related research suggests that such negative attitudes result in lower ratings on scales reflecting likelihood of hiring (Stone & Sawatzki, 1980), employability (Florian, 1978), and willingness to promote into supervisory positions (Bolton & Roessler, 1985; Freedman & Keller, 1981).

The selection interview is a process in which interpersonal dynamics can have a critical impact. Research in social psychology has consistently shown that the presence of a person with a disability creates uncertainty and discomfort for many nondisabled persons (e.g., Belgrave, 1984; Davis, 1961; Goffman, 1963; Kleck, 1968; Kleck, Ono, & Hastorf, 1966; Thompson, 1982). This interaction strain has been associated with negative responses from the nondisabled member of the interaction toward the disabled party. Common reactions include less favorable evaluations of the individual with the disability, less desire for future interaction, and lower ratings of interpersonal skills. In addition, research examining the physical reactions and behavior of the nondisabled participant has shown that his or her behavior becomes stereotyped, nonverbal behavior is constrained, and the interactions are terminated sooner than with a nondisabled person (Hastorf, Northcraft, & Picciotto, 1979; Kleck, 1968; Kleck, Ono, & Hastorf, 1966).

Further, the opinions expressed by the nondisabled person on certain topics are less genuine and less likely to reflect true feelings (Kleck, 1968; Kleck, 1969; Kleck, Ono, & Hastorf, 1966). Given that many selection practices (e.g., the interview) involve bi-directional influence, the behavior of the nondisabled interactant is more critical than many people realize.

While many supervisors are now aware of their legal obligations pertaining to selection decisions under the ADA, many still have concerns about hiring a given individual with a disability. A variety of difficult situations could potentially arise, many of them social as well as legal. The law does not suggest that an employee with a disability should be held to a lower standard of performance, but this does not eliminate some supervisors' concerns. "What if this person doesn't perform well? Will I have to reprimand him?" "What if I have to fire her?" "Will she file discrimination charges for actions I take?" "Will his coworkers accept him?" "Will his subordinates respect his authority?"

Training. In addition to the selection phase of the employment process, subtle and not-so-subtle discrimination may occur later as well. Training presents another arena in which psychosocial processes may lead to unintended discrimination. Research in social psychology has suggested that in an interaction involving a person with a disability and a nondisabled person, the aforementioned strain may lead to ineffective social behavior, such as maintaining a greater physical distance (Kleck, 1969), or using a patronizing speaking style (Gouvier, Coon, Todd, & Fuller, 1994). In addition, problematic attitudes on the part of the nondisabled person are likely to result in biased evaluations of the employee with a disability. To date, little research has addressed issues pertaining to disability and training per se. However, since training is based on social and evaluative processes, as well as educational ones, it is reasonable to expect that the kinds of attitudes and behaviors discussed here could operate to undermine the effectiveness of the training process.

Similarly, very little research has directly addressed the influence of an employee's disability on the informal training or mentoring in organizations. However, some research has addressed the general socialization process involving employees with disabilities in organizations (e.g., Colella, 1994). In addition, researchers have examined the mentoring experiences of women and ethnic minorities (Ilgen & Youtz, 1986), which have been suggested to contribute to barriers to promotion or a "glass ceiling" effect. While little research has examined such treatment of employees with disabilities, such findings may well generalize to such a minority group, or anyone else perceived as "different."

Training cannot be fully effective if certain employees receive differential treatment from trainers. Biased evaluations undermine the process, as does labeling. Research on stereotypes and the self-fulfilling prophecy (Jones, et al., 1984; Miller & Turnbull, 1986; Rosenthal & Jacobsen, 1968) has found that the expectations of others not only color their evaluations of an individual, but may also start a process that untimately confirms those stereotypes. Social beliefs can be self-confirming; an individual's expectations can cause him or her to behave in a way that actually elicits behavior in the other individual consistent with these expectations. This phenomemon is one of the reasons why stereotypes are so resistant to change. Such dynamics can damage the effectiveness of the training process. If an organization spends money on training, it is with the intent of receiving some return on the investment. Some of the processes described may create barriers to the effective training of employees with disabilities, thereby limiting the benefits an organization may derive from its investment.

Evaluation. While the language of the ADA does not speak directly to the issue of performance evaluations for employees with disabilities, it does prohibit discrimination on the basis of disability in employment decisions such as promotion and termination. In many cases, these decisions are made on the basis of performance evaluations. Therefore, performance evaluations are subject to legal scrutiny under the

ADA to the extent that they form the basis for employment decisions involving persons with disabilities.

Available research findings suggest that performance ratings for persons with disabilities may be more positive on certain dimensions than is often warranted by true levels of performance (Czajka & DeNisi, 1988; Hastorf, Northcraft, & Picciotto, 1979). At first glance, this positive bias would appear to be inconsistent with the anxiety, social discomfort and discrimination frequently reported in research. Several explanations for this apparent contradiction have been suggested, and shall be discussed later in this paper.

Such inaccuracy in performance ratings has a number of potentially serious implications for the organization as well as for the employee. One function of performance appraisal is to provide documentation and justification for various personnel decisions such as promotion or termination. To the extent that these decisions are contradicted by biased performance evaluations, employers may face legal consequences when terminating or failing to promote an employee with a disability. Consider, for example, an employee whose evaluations have been inordinately high. If this individual is then repeatedly (and legitimately) passed over for promotion, he or she could file suit against the employer, using the documented performance evaluations as evidence.

But the primary objective of performance evaluation is to provide feedback and to foster improvements in job performance. In most organizations, this is done through both formal performance appraisals and through less formal ongoing feedback and coaching. For this reason, it is imperative that both supervisors and peers provide accurate feedback on performance. Unsubstantiated positive ratings and reluctance to give negative feedback to persons with disabilities undermine the performance appraisal process and limit an employee's ability to make necessary changes in work behavior. As a result, an organization may be faced with an employee who is unknowingly performing below expected standards. Coworkers may have to deal with a less productive colleague. One individual's poor productivity can impede the effectiveness of others who must make up

for the deficit. In addition, coworkers may well come to resent the less effective colleague, resulting in lower morale, perhaps blaming the employer for the problem.

The resulting inadequate performance by current employees with disabilities may even contribute to later discrimination; the employer may be reluctant to hire anyone with a disability in the future, particularly the same kind of disability, based on this negative experience. Thus, the cycle of prejudice and discrimination is perpetuated.

Hastorf, Northcraft, and Picciotto (1979) point out another potential hazard stemming from biased feedback. If an individual with a disability has become accustomed to receiving inaccurately favorable evaluations, he or she may learn to discount positive feedback altogether, and give inordinate weight to any negative feedback received. If this happens, the individual's learning will be affected only be negative feedback, rather than positive. This focus could lead to ineffective learning.

Promotion. The ADA prohibits discrimination against a qualified individual in the promotion process on the basis of disability. This requires that an employee with a disability be given equal opportunity for advancement. This means that if a decision not to promote an employee was demonstrably influenced by the individual's disability, the employer is liable. However, as in most personnel practices, compliance with the letter of the law does not ensure that subtle discrimination will not take place.

Some kinds of discrimination in the promotional process are relatively easy to detect. An example could be an employee with a disability and a documented history of outstanding performance (measured by objective means) being overlooked for a promotion in favor of a nondisabled individual with lower qualifications. This certainly may happen; research on employer attitudes suggests that supervisors are often reluctant to promote employees with disabilities to supervisory or managerial positions, and judge them lower than their nondisabled peers on potential for career advancement, potential for transfers to higher organizational levels, and potential for promotion into positions requiring greater responsibility (Bolton & Roessler, 1985; Freedman & Keller, 1981).

But other forms of discriminatory behavior are more subtle (and often unwitting). Many of the things cited as "glass ceiling" factors--obstacles to career development for women and ethnic minorities (e.g., Ilgen & Youtz, 1986)--may be creating similar barriers for individuals with disabilities.

Long-term career advancement is influenced by many factors. The decision to promote an employee to a higher position should be based on that individual's demonstration of the knowledge, skills, and abilities needed to perform successfully in the new position. It follows that an employee needs accurate information regarding his or her own performance, and what actions to take in order to make himself or herself more promotable. Accurate feedback, then, is essential for development. The inaccurate performance ratings and feedback previously mentioned may have a devastating effect on the employee's career, even if they were the result of a desire to be kind.

Discriminatory job assignment decisions may also limit the employment opportunities and career development of an individual with a disability. An employer may be less likely to provide such a person with a challenging job assignment that could develop skills and put him or her on a promotional track. It may simply not occur to the employer to give such an assignment to someone with a disability, perhaps due to an underestimate of the subordinate's ability. Maybe no one with an impairment has ever had this assignment before, or maybe a previous employee with the same kind of condition had failed in the past. Reluctance on the part of the employer could be due to concern for the risks to the organization, or even to the employee. The employer may have a paternalistic desire to protect the disabled employee from possible failure, not allowing him the same dignity of risk that would be granted any other person. Ultimately, this intent to be kind may do a favor to no one.

Any of these decisions or actions can act as a barrier to promotion for a person with a disability. When all the factors influencing advancement are considered, together with the findings regarding employer attitudes toward persons with disabilities, it seems

likely that such individuals would encounter barriers to promotion similar to the "glass ceiling" effect that has been suggested to occur with women and members of ethnic minorities. But the problem may be even more serious for employees with disabilities--in fact, few ever appear to see that ceiling. The majority of employed persons with disabilities work in either the secondary labor market or in entry-level positions (Dunn, 1981; Harris & Associates, 1986; McCarthy, 1988), with far less advancement than their nondisabled counterparts (when the author spoke to several EEO representatives and human resource professionals about career progression for employees with disabilities, the term often used was "sticky floor").

If a candidate is overlooked for the position in which he or she could be most effective, the organization loses in a number of ways. Failure to recognize and utilize the potential of one employee may lead the organization to promote someone who may not have been the optimal choice. In addition, the overlooked employee may become frustrated and leave the organization, or engage in withdrawal behaviors (e.g., absenteeism, theft).

Potential Reactions of Coworkers

As noted earlier, most of the research dealing with attitudinal barriers for the employment of persons with disabilities has focused on the selection process and other management decisions. While these topics are important, they are not the only areas in which psychosocial dynamics may create hazards for an organization. The perceptions, opinions, and reactions of coworkers must also be considered. This may be one of the most difficult areas for a manager to address.

Coworker attitudes and behaviors may well be similar to those of supervisors and managers, but relatively less research has focused on non-supervisory members of the organzation. Research on social situations involving persons with disabilities and those without is likely to provide much insight. However, as Jones and Stone (1994) have pointed out, work situations may be even more strained than other social situations. First,

the nondisabled coworker may not be able to avoid another employee, as he or she might choose to do in a nonwork setting. Second, and perhaps more importantly, tasks may be interdependent, so that the nondisabled employee's outcomes depend on the performance of the other. Coworkers may be very concerned about how the abilities and behaviors of the employee with a disability will affect them personally. Given the necessity for interaction and the possible impact--whether real or imagined--on outcomes, the potential for negative reactions may be much greater in the workplace.

General discomfort. Numerous studies investigating the interpersonal dynamics in social situations between an individual with a disability and another without have indicated a great deal of discomfort on the part of the nondisabled participant (e.g., Belgrave & Mills, 1981; Farina & Felner, 1973; Kleck, 1968; Kleck, Ono, & Hastorf, 1966; Hastorf, Wildfogel, & Cassman, 1979). Many people seem to avoid interacting with an individual with a disability. The nature and extent of this discomfort appears to vary according to the type of disability or impairment involved. Several researchers have endeavored to develop a hierarchy of types of disabilities according to the social distance associated with each (e.g., Jones, 1974; Tringo, 1970). For example, Tringo (1970) asked respondents to rate each disability on a 9-point scale, ranging from "Would marry" to "Would put to death." Tringo found that people responded most negatively to persons with cognitive, psychogenic, or addiction-related impairments, less so toward individuals with physical disabilities, and least to hidden impairments such as diabetes or high blood pressure. The results do not suggest that nondisabled persons are not uncomfortable around those with physical disabilities, but rather that this discomfort is even more pronounced with some other types of disabilities. More recently, Jones and Stone (1994) obtained similar results when they applied this same kind of ranking strategy to a work situation, asking graduate and undergraduate students to rate each of 20 disabilities from a list according to how comfortable they would feel working closely with someone who had each condition.

Discomfort and acceptance also vary as a function of the situation. For example, Grand, Bernier, and Strohmer (1982) found that acceptance of a person with a disability was inversely related to the intimacy of the situation. Gordon, Minnes, and Holden (1990) examined respondents' reported attitudes toward hypothetical individuals described as having specific disabilities and found that attitudes varied as a function of the interaction between disability type and situation; again, the greatest apprehension occurred in more intimate imagined situations. Given that much of the research on attitudes toward persons with disabilities has found discomfort in even brief and casual situations, it is possible that even greater discomfort may occur when working closely with a stigmatized person.

If one coworker is fearful or uncomfortable working with another, he or she is going to be unhappy in the situation. Negative or ineffective reactions from peers can certainly be harmful to the employee with a disability, affecting comfort, self-esteem and self-efficacy, job satisfaction, and job performance. They may also limit the effectiveness of the work group by raising tension and discomfort, hindering teamwork and cooperation, ultimately harming the performance of the unit. All of these factors can, in turn, hurt the larger organization.

Resentment of perceived inequities. Coworkers may be troubled by the accommodations made for a coworker with a disability. Such actions may be perceived by some as distribution of resources according to need rather than merit. Since the norm in United States business is (usually) allocation based on merit (e.g., Adams, 1965; Kabanoff, 1991; Walster, Berscheid, & Walster, 1976), a need-based distribution could lead to perceptions of unfairness. Coworkers may also resent another employee receiving a more favorable performance evaluation than would be justified by objective performance. Findings from research examining potentially biased evaluations for a disabled employee will be discussed in a later section.

Research on justice has found that employment practices seen as unfair by employees can have serious consequences for an organization. Perceived unfairness in employment has been linked with negative employee attitudes, such as lowered job satisfaction and organizational commitment, as well as to a variety of employee behaviors (e.g., Greenberg, 1987). Dissatisfaction with fairness may result in lower levels of performance (Cowherd & Levine, 1992; Pfeffer & Langton, 1993).

Further, this resentment can lead to other unfavorable attitudes toward and discomfort around the individual with a disability. The other employees may feel guilt about their resentment toward someone less fortunate than themselves. Thus, two unpleasant feelings would be engendered and may work against each other, creating tension in the perceiver. This tension would in turn cause discomfort, even beyond the discomfort the perceiver might feel from simply interacting with someone with a disability.

This process would be consistent with findings in cognitive dissonance theory (e.g., Festinger, 1957; Zajonc, 1960), which holds that conflicting cognitions create great tension in individuals, which they are motivated to relieve, sometimes leading to dysfunctional reactions. Such a process has also been suggested in research on ambivalence and response amplification (e.g., Katz, Glass, & Cohen, 1973; Katz, Glass, Lucido, & Farber, 1977), which shall be discussed in more detail later.

Concern for own outcomes. Human beings are greatly concerned for their own welfare. We favor those who assist us in achieving our goals, and regard negatively those who interfere with our efforts. There is empirical evidence that we like those who cooperate with our efforts, particularly when those efforts are directed toward some reward (e.g., Goranson & Berkowitz, 1966). There is also substantial evidence that we dislike those who prevent us from obtaining desired rewards (e.g., Sherif & Sherif, 1956).

Similar negative responses have even been found when the other person is hindering others' efforts due to an apparent disability. In a laboratory study by Burnstein

and Worchel (1962), subjects participated in a group discussion in which the goal was to come to a unanimous agreement. A confederate repeatedly interrupted the discussion, hindering progress toward the assigned goal. Subjects were found to like this confederate less than the other group members, even when the confederate was believed to have impeded their progress through no fault of his own (i.e., a faulty hearing aid). Even though the obstacle appeared to be influenced by a legitimate sensory limitation, an apparent disability, the individual was blamed nevertheless.

Coworkers of an employee with a disability may be reluctant to work with him or her in a situation in which his or her behavior may have an impact on their own outcomes. This is especially likely for interdependent tasks or under conditions of team-based rewards. Nondisabled coworkers may fear that the individual's impairment may affect their own outcomes. They may believe that if a performance problem should arise, even if unrelated to the impairment, no action will be taken because the person has a disability.

Misunderstandings. Even coworkers who mean well and believe they have a positive attitude may encounter and create difficulties for a peer with a disability. Makas (1988) found that nondisabled and disabled respondents had very different ideas about what is meant by "positive" attitudes toward disabled individuals. Specifically, nondisabled persons tended to label as positive the "disabled saint" image and the idea of special treatment for those with disabilities. This stands in sharp contrast to those perceptions identified as positive by respondents with disabilities. These respondents rejected these notions and instead advocated either a civil rights perspective or the view that the disability should make no difference. The disabled respondents neither needed nor wanted special treatment, which might be attempted by nondisabled persons as an attempt at kindness.

This difference in assumptions has tremendous implications for the successful integration of employees with disabilities. A nondisabled employee trying to "do the

right thing" may inadvertently behave in a way that will be perceived as disrespectful or demeaning by his coworker with a disability. Even in organizations emphasizing disability awareness and diversity training, these misunderstandings can undermine even the best intentions.

Evidence of Prejudice Toward Persons with Disabilities: Cognition and Affect

Many nondisabled persons hold negative stereotypes of persons with disabilities, which may in turn influence feelings and behavior. In a study of stereotypes among nondisabled college students in Montreal, for example, Fichten and Amsel (1986) found that more undesirable (e.g., depressed, nervous, helpless) and fewer desirable traits (e.g., curious, dependable, good natured) were attributed to fictional students described as using a wheelchair than to nondisabled counterparts.

Numerous other studies have provided concurring evidence of negative attitudes toward persons with disabilities, many of which could affect employment (e.g., Bowman, 1987; Yuker & Block, 1979). Many nondisabled persons appear to have lower expectations concerning the capabilities of a person with a disability (Wright, 1983). Wright (1983) also documented affective responses such as anxiety, depression, and devaluing pity toward one with a disability, as well as such discriminatory behaviors as avoidance and exclusion.

In a study of 145 management students, Krefting and Brief (1976) had subjects rate a female applicant for a typist position. The applicant was presented (on paper) as either being paraplegic or not having a disability, and as either experienced or inexperienced in this type of job. The researchers found the applicant presented as paraplegic was rated lower on health and on potential for promotion, regardless of job experience. This lower rating for potential for promotion would seem puzzling, given that subjects' ratings on important job-related dimensions (ability, potential for quality of output, potential for quantity of output, potential for tardiness, potential for absenteeism, potential for getting along with others, and overall rating) were equal across the two

conditions. Further, subjects' ratings on some dimensions were even higher for the applicant with a disability. These finding would be analagous to an employee receiving high performance evaluations, but no promotion or other favorable employment decisions; such decisions might not necessarily match what one would expect from ratings. In an employment situation, this kind of discrepancy could lead to litigation.

In the Krefting and Brief study, the applicant presented as having a physical disability was rated higher on motivation than the nondisabled applicant, and as having greater probability of becoming a long-term employee. It is also interesting to note that a disabled applicant with a who was portrayed as inexperienced was seen as having greater potential loyalty than when she was presented as having work experience. These results indicate that an applicant with a disability may be perceived as being more anxious to do a good job and very loyal, especially when she may have even fewer job opportunities due to lack of job experience.

Norm to be kind. The Krefting and Brief (1976) study suggests that individuals with disabilities face both the traditional "negative" prejudice and also a unique form of "positive" prejudice as well. This apparent "positive" prejudice may be a result of the norm to be kind to those less fortunate than ourselves. According to this explanation, the person with a disability is seen as a victim, and the perceiver/actor feels compelled to show compassion and evaluate the person more favorably than if he or she did not have this attribute.

Carver, Gibbons, Stephan, Glass, and Katz (1979) found support for this "sympathy effect" of the norm to be kind. In this study, 248 female undergraduates were asked to rate an interviewee portrayed in transcripts as either Chicano, paraplegic, or white/nondisabled. In addition, the researchers manipulated the favorability of the portrayal of the stimulus person. Their findings indicated that in both the favorable and unfavorable conditions, the interviewee with a disability received more favorable ratings than either the Chicano or white/nondisabled counterpart.

In a laboratory experiment, Bailey (1988/1989) had 45 male and 72 female participants work on a set of tasks in a group, with each group consisting of several other experimental participants and a female confederate, who was either seated in a wheelchair or apparently nondisabled. Participants had been led to believe that the two clerical tasks (crossing out the letter "o" wherever it occurred in a written passage and connecting a series of numbers) were a measure of people's motivation and willingness to work hard. The confederate's performance was ultimately responsible for the group's success or failure, which in turn determined the distribution of lottery tickets as a prize. Following the prize disbursement, participants were asked to evaluate the confederate in terms of a list of bipolar adjectives (e.g., hardworking--lazy, competent--incompetent, friendly--unfriendly, helpful--unhelpful).

Bailey found that the confederate appearing to have a physical disability was evaluated more positively than the nondisabled confederate, regardless of the outcome. The task partner with a disability was perceived more favorably even when this individual was responsible for a negative outcome for the perceiver. This would appear to support the idea of a sympathy effect.

It may alternatively be suggested that these higher ratings are a result of the contrast between the individual's actual performance and the low expectations held by the perceiver. Certainly there is reason to believe that many people have lower expectations of individuals with disabilities. However, Hastorf, Northcraft, and Picciotto (1979) specifically tested this notion. Their subjects' feedback to a confederate appearing to have an orthopedic disability was significantly higher than to the same confederate in the nondisabled condition, even with the effects of expected performance factored out. Their results support the "norm to be kind" hypothesis in explaining higher ratings.

A number of studies and literature reviews have indicated that an individual with a disability may actually be viewed more favorably in some ways than a nondisabled person. As Shapiro (1993) has noted, stereotypes of persons with disabilities tend to

cluster into two categories: "Tiny Tim" (helpless object of pity) or "Supercrip" (courageous and inspirational). Certainly these images are often perpetuated in popular culture and the media. There appears be an assumption by some that the individual with a disability must be more motivated and hard-working, given the obstacles he or she must have had to overcome.

Evidence of the norm to be kind has also been found in studies involving direct behavior toward persons with disabilities. Helping and altruistic behavior has been found to be more common toward them than toward nondisabled individuals. In a study by Doob and Ecker (1970) people were more willing to complete a questionnaire for a door-to-door canvasser when that person was wearing an eyepatch. Kleck, Ono, and Hastorf (1966, Study 1) found that student subjects spoke longer with a confederate seated in a wheelchair than one who was not, when they believed they were helping the confederate perform his task as an interviewer.

However, even seemingly positive evaluations and direct behavior may mask other less favorable feelings. To illustrate this point, Siller (1986) described his measure of "authoritarian virtuousness," one of the subscales on his Disability Factor Scales (DFS) measure: "ostensibly a 'prodisabled' orientation, this factor is really rooted in an authoritarian context which manifests itself in a call for special treatment that is less benevolent and more harmful than it seems" (p. 253). In an employment context, for example, a supervisor acting on these feelings could select an applicant with a disability because it seems the charitable thing to do, rather than because the applicant has the right skills to do the job. This hypothetical supervisor might then assign only menial and unchallenging tasks to this employee, instead of taking a chance and providing job assignments that could challenge or develop the subordinate's skills. In this scenario, the supervisor may feel genuine compassion for the person with a disability, yet believe that this individual is less capable or more vulnerable than a nondisabled peer. This sort of

kindness could ultimately keep an employee with a disability at the lowest levels of the organization.

Behavioral Measures of Attitudes: Avoidance and Social Desirability

In their discussion of the methods used to assess attitudes toward persons with disabilities, Antonak and Livneh (1995) described the difficulties associated with many of the attitude measures typically used in this kind of research. They cited reactivity as a major problem for many self-report methods, providing support for the use of alternative methods such as indirect measures of affect and nonobtrusive behavioral observations. Studies examining nonverbal behavior and behavioral intent have found indications of discomfort around and aversion toward individuals with disabilities. Kleck, Ono, and Hastorf (1966), measuring physiological arousal level, obtained higher levels of arousal among subjects interacting with a confederate who appeared to have a leg amputation than one who appeared nondisabled. Kleck, Buck, Goller, London, Pfeiffer, and Vukcevic (1968) found that male student subjects maintained greater physical distance from a confederate they believed to have epilepsy. In a study by Langer, Fiske, Taylor, and Chanowitz (1976), subjects chose a greater distance of interaction when a confederate appeared to be disabled or pregnant than when "normal," despite the fact that their self-reports of personal liking indicated no difference.

A number of studies have indicated a desire to avoid a person with a disability. While Doob and Ecker (1970) had found greater willingness to help a canvasser with an eyepatch, this was not true if the helping involved a face-to-face interview with this canvasser. This avoidance is especially noticeable in situations in which there is no opportunity for an act of altruism. Kleck et al. (1966, Study 2) arranged for high school students to be interviewed by a confederate without any indication that the interaction was "helping" the interviewer complete a task. Subjects interacting with a confederate appearing to have an amputation tended to terminate the interaction sooner than they did

with a nondisabled interviewer. It appears that "kindness" has limits when one's own comfort is at risk.

In a revealing study, Snyder, Kleck, Strenta, and Mentzer (1979) found that subjects chose to avoid a confederate wearing a leg brace, rather than watch a film with him, provided that there was a socially acceptable alternative reason for the choice (i.e., choosing a different kind of film). It appears that the motive to avoid someone because of a disability is not socially acceptable. In fact, people may not even admit it to themselves. However, if provided with a socially acceptable alternative explanation for their choice, many may use this as an excuse to avoid interacting with someone with a disability. Conflicting impulses and responses seem to coexist in the perceiver.

Ambivalence

Some researchers have explored the role of attitudinal ambivalence in explaining the seemingly contradictory findings in much of the literature. Not surprisingly, many of these authors suggest dynamics consistent with research in social psychology dealing with prejudice toward other minority groups.

According to this perspective, persons with disabilities are objects of attitudinal ambivalence. Derived from psychoanalytic theory (e.g., Freud, 1923/1961), ambivalence refers to the simultaneous presence in an individual of two conflicting feelings or cognitions toward an attitude object. When a given individual is stigmatized, that is, possesses a discrediting attribute such as a disability (Goffman, 1963), we see this person as deviant. This deviant status carries negative connotations and affective responses. However, we also perceive this person as disadvantaged by this status. This perception elicits sympathy and compassion, and appeals to our egalitarian values. Thus the stage is set for internal conflict. In recent years, applications of this concept have been most thoroughly explored in investigations of the nature of racial prejudice, especially that which exists in seemingly "unprejudiced" individuals. It is useful to consider these

dynamics here, since such a process could explain many of the findings in the literature dealing with disability.

Gaertner and Dovidio (1986) described this more subtle form of prejudice, when directed toward another racial group, as "aversive racism." As opposed to the more blatant, traditional form of racism, aversive racists support public policies intended to promote equality and regard themselves as nonprejudiced and nondiscriminatory. However, they also possess negative feelings and beliefs about the minority group. These negative feelings are not the hostility and hatred typically associated with blatant racism, but rather fear and uneasiness, similar to the discomfort experienced by many nondisabled persons in connection with disability. This more covert form of prejudice may be even more difficult to eliminate than that based on hatred.

These negative attitudes conflict with the values these individuals espouse, and are potentially threatening to their egalitarian self-concept. Aversive racists go to great lengths to deny these feelings, yet their behavior under certain circumstances indicates otherwise. This is particularly true when the situation is ambiguous, and a clear social norm is more difficult for the actor to identify. Such dynamics may offer at least a partial explanation for the divergence between nondisabled individuals' expressed attitudes and actual behavior toward persons with disabilities.

The kindness norm tells us we must have compassion for another, particularly if this person is less fortunate than we are. Nevertheless, when face-to-face with such a person, we may experience fear, disgust, resentment, or other "unkind" emotions. The humanitarian and egalitarian values held by most Americans are in conflict with the personal discomfort many experience in the presence of a stigmatized individual.

Many nondisabled people do indeed appear to be emotionally ambivalent toward persons with disabilities (e.g., Gergen & Jones, 1963; Katz, 1981; Jones, Farina, Hastorf, Markus, Miller, & Scott, 1984; Soder, 1990) An individual may think of a person with a disability as inferior in some ways and experience a great deal of discomfort in his or her

presence, yet simultaneously feel a need to be fair or kind. A number of pairs of conflicting motivations are possible, depending on the circumstances. For example, one may experience fear but also a desire to be kind, resentment of inconvenience but also sympathy, admiration but also pity, or curiosity but also a desire not to violate the norm against staring.

Response amplification. As described by Livneh (1988), attitudinal ambivalence toward a person with a disability triggers "momentary, fluctuating favorable and unfavorable feelings of compassion and sympathy but also of aversion and distaste" (p. 37). The combination of two inconsistent attitudes creates arousal in the perceiver. A number of researchers have suggested a principle called "response amplification" to explain the effect of this conflict on the perceiver's reactions.

According to the notion of response amplification, when the perceiver in a situation creating conficting emotions ultimately chooses the direction of response (e.g., a favorable or unfavorable evaluation) the intensity of the response is increased by the arousal. In other words, when an individual feels ambivalent toward a stigmatized person, the resulting conflict leads to instability of behavior. The individual opts for one response over the other, depending on which norms or feelings are made salient. The positive or negative response to the object of the ambivalence is then amplified, or exaggerated, due to the tension created by the mixed feelings (Carver, Gibbons, Stephan, Glass, & Katz, 1979; Carver, Glass, Snyder, & Katz, 1977; Katz, Glass, & Cohen, 1973; Katz, Glass, Lucido, & Farber, 1977).

Response amplification to stigmatized others has been suggested in research on interracial attitudes. For example, Dienstbier (1970) compared the amount of verbal liking and acceptance shown by white subjects toward white and black stimulus persons described either positively or negatively. The black person was rated more positively than the white person in the favorable description condition. But when both were described unfavorably, the black person was rated more negatively than the white person.

Subjects gave more extreme responses, either positive or negative, to the stigmatized (black) person than to the nonstigmatized (white) person.

An early study by Gergen and Jones (1963) examinined responses to a person who was believed to be either "mentally ill" or "normal." The behavior of the stimulus person was varied in such a way that it had either positive or negative consequences for the respondent. As predicted, subjects responded more favorably to the stigmatized other in the positive condition, (compared to the "normal" other) and more negatively in the negative condition. Again, both negative and positive responses were amplified as a function of situational factors.

Carver et al. (1979) tested the role of ambivalence in response amplification by including a pretreatment in their design. This pretreatment involved presenting subjects with a petition describing two different viewpoints on the enrollment of students with disabilities. This material was actually presented to half the subjects in order to make their own ambivalence toward persons with disabilities more salient. That is, the two viewpoints mixed both negative and positive attitudes. As predicted, subjects in the pretreatment condition evaluated the positively-portrayed paraplegic interviewee more favorably and the negatively-portrayed paraplegic interviewee more negatively than in the condition without the pretreatment. That is to say, the favorability of portrayal had a greater impact on subjects' responses when they had been reminded of their own mixed feelings toward persons with disabilities.

As Carver et al. pointed out, most of the support for the ambivalence-response amplification hypothesis has occurred when subjects actually interacted verbally and physically with the stimulus person (e.g., Gergen & Jones, 1965; Katz, Cohen, & Glass, 1975). In studies that lack this interpersonal interaction, as in those involving printed biographies, written transcripts, or videotapes, the norm to be kind appears to have the greatest influence (e.g., Carver et al., 1977; Carver et al., 1978; Gibbons, Stephan, Stephenson, & Petty, 1980, Studies 1 and 2). When this norm predominates, there is less

tendency for amplification of negative responses. This is one reason why studies on disability focusing on "paper people" find results which may not occur in a real-world setting. For this reason, researchers should exercise great care when interpreting the results of vignette or other paper-based studies.

Hedonic relevance. Another limitation of such studies is that the actions of the stimulus person typically have no consequences for the perceiver. The behavior or performance of the stimulus person lack what Jones and Davis (1965) described as "hedonic relevance" for the subject, which means the subject has little reason to care. A stimulus person's action has hedonic relevance to the extent that it promotes or undermines the perceiver's values, and fulfills or obstructs his or her purpose.

Situational factors may determine the hedonic relevance of the stimulus person's behavior. As discussed previously, people like those who assist them in achieving their goals and dislike those who hinder them. However, in the case of a stigmatized stimulus person, these effects may be even more pronounced. To the extent that the stimulus person's behavior aids or impedes the perceiver's achievement of a goal, as in an assigned work task, this behavior has hedonic relevance, and therefore, the potential to make salient the perceiver's inherent ambivalence. According to the response amplification hypothesis, this in turn will lead to more extreme evaluative responses of the stimulus person.

This notion was supported in research by Gibbons et al. (1980, Study 3), in which female subjects worked with a confederate on an anagram-solving task. The confederate, also female, was either presented as nondisabled or was walking stiffly with crutches, ostensibly because of a severe hip deformity. Both participants shared in the success or failure, which was actually determined by the confederate's performance. Since the confederate's performance on the anagram-solving task would not have been influenced by the physical disability, this design of this study should permit a test of the response amplification idea.

Following task completion, subjects were asked to indicate their mood, and to evaluate their partner on a questionnaire containing an 11-point scale anchored by pairs of bipolar adjectives (e.g., 1 = not at all friendly, 11 = very friendly). The results supported the response amplification hypothesis: the "disabled" partner received more extreme evaluations than the nondisabled partner in both the success and failure conditions. That is, the evaluations of the person with a disability were more positive when performance was high and more negative when performance was low than they were for the nondisabled person at the same level of performance.

In a fourth experiment, Gibbons et al. (1980) used another manipulation, task relevance, in addition to performance. Disability was held constant in that a male confederate always had an unspecified orthopedic impairment (in this experiment, the confederate's disability was real). This time, "relevance" was manipulated--performance of the subject and the confederate was evaluated independently in the "low relevance" condition and as a combined score in the "high relevance" condition. Success/failure was manipulated by controlling the scores obtained by subjects (always four correct) and by arranging for the confederate to get either a lower or higher score.

As in Study 3, the confederate received more favorable evaluations in the success condition, in which he had performed well, than in the failure condition. Gibbons et al. reported a more pronounced positive amplification effect (higher ratings) when the confederate was both successful and relevant (his scores had an impact on the success of the team) than when the confederate was successful but had no impact on the subject's outcome. The simple effect for performance was highly significant in the high relevance condition, but not in the low relevance condition. The results indicate that response amplification does not occur under conditions of low hedonic relevance. The researchers concluded that there was evidence of response amplification, but only in the high relevance condition, in which the evaluated party has done something that affects the evaluator's oucomes.

Taken together, the results of these two experiments would appear to provide more support for the response amplification hypothesis than the influence of the kindness norm. However, firm conclusions cannot be drawn. The two experiments differed in some important ways. Study 3 included a possible confounding influence. The confederate in this study had been instructed to act pleasant in the success condition and mildly unpleasant in the failure condition. While the confederate's interpersonal behavior could also have hedonic relevance for the subject, still supporting that part of the theory, it makes it more difficult to determine what was actually causing the amplified response--the confederate's contribution to the team's success/failure or her social behavior toward the subject. Can one conclude with confidence that people do not respond with sympathy in the failure condition (the assumed interaction between disability and failure) when the individual's behavior was, in fact, unpleasant? In contrast, the confederate in Study 4 had been instructed to act mildly pleasant in all conditions, and did not receive an amplified negative evaluation. Thus, unpleasantness offers a viable alternative explanation for the results. It may have caused amplification in Study 3, while pleasant behavior could have moderated negative amplification in Study 4.

Behavior of the Individual with a Disability

The differences between Study 3 and Study 4 by Gibbons et al. raise some interesting questions about how the behavior of an individual with a disability may influence other people's attitudes toward him or her. In Study 3, the confederate behaved pleasantly in the success condition and unpleasantly in the failure condition, regardless of disability, yet subjects indicated very different evaluations as a function of presumed disability. Is it possible that some forms of interpersonal behavior are interpreted differently when coming from someone with a disability? Very little research to date has addressed such a question. In fact, little research has examined the behavior of the individual with a disability at all. Research on attitudes has tended to treat disabled individuals as passive objects of others' attitudes, rather than considering how they may

actively influence these perceptions. This finding in itself may, ironically, reflect society's devaluing perception of persons with disabilities. Perhaps research has itself been influenced by a paternalistic bias when considering persons with disabilities.

From those studies which have examined behavioral influences, several conclusions can be drawn about certain specific behaviors. There are techniques that may be employed by the disabled interactant to reduce the strain of the interaction. For example, expressing interests in common topics (thereby emphasizing sameness), casually acknowledging the disability (indicating openness and a casual attitude), or making assertive requests for aid have been found to ease discomfort on the part of the nondisabled interactant and increase indications of acceptance (Belgrave, 1984; Hastorf, Wildfogel, & Cassman, 1979; Mills, Belgrave, & Boyer, 1984). Several studies have indicated that certain behaviors consistent with stereotypes lead to negative social reactions. However, as shall be noted later, this has not been found universally.

Apparent ineffective coping by the person with a disability has led to negative evaluations by nondisabled subjects (Shurka, Siller, & Dvonch, 1982). Elliott, MacNair, Yoder, and Byrne (1991) manipulated both the physical appearance (disabled, nondisabled) and social behavior (depressed, socially appropriate) of a stimulus person. For the depressed condition, confederates were trained to display verbal and nonverbal indications of depression, such as lethargy, pessimism, and sadness. For the socially acceptable condition, they were trained to display interest in current events, a sense of humor and a casual attitude toward the disability, and to make assertive requests for assistance. The degree to which subjects expected to meet the target person was also manipulated. Confederates were videotaped in a dyadic interaction with another student. Subjects viewed these videotapes, and were then assessed on negative affect, negative thoughts about the target person, and positive thoughts about the target.

Elliott et al. found no effect for physical appearance on negative affect, negative evaluations, or positive evaluations. The researchers had predicted, based on the

"kindness norm," that subjects would have more positive and fewer negative thoughts about the disabled targets; these predictions were not supported. Neither was the predicted interaction between physical appearance and expectation significant for negative affect. However, main effects were obtained for behavior on negative affect, negative evaluations, and positive evaluations. Subjects in the depressed condition reported higher levels of negative affect, regardless of the target's physical appearance, particularly when they expected to meet the depressed confederate. Contrary to the kindness norm predictions, none of the affective or cognitive reactions to the target person's behavior was moderated by disability. These results do not support the response amplification notion either.

The findings of this study by Elliott et al. suggest that a person with a disability who behaves in a non-stereotypic, socially skilled manner might elicit a positive cognitive and affective reaction from nondisabled persons. However, this study used videotaped stimulus with the implied possibility of future interaction, rather than actual face-to-face interaction. The researchers note that studies which have found negative affective reactions among nondisabled subjects have involved actual interactions with confederates, and that their laboratory study may not have involved the same psychosocial processes.

One such line of research with surprising findings was conducted by Katz, Farber, Glass, Lucido, and Emswiller (1978). In their first study, they tested the hypothesis, consistent with the "norm to be kind" premise, that a help-seeker with a physical disability would elicit more willingness to help than a nondisabled help-seeker when both types of actors displayed the same positive personal qualities. To test this hypothesis, a female experimenter was portrayed as either having a disability (using a wheelchair) or not, and as either friendly and achievement oriented (positive condition) or caustic and apathetic (negative condition). The experimenter administered verbal tasks to subjects who were later asked by another administrator to help the "examiner" by allowing her to

interview them for another research project. Subjects were also asked to rate the experimental personnel with whom they had had contact, including the examiner.

In the negative presentation condition, the predicted pattern of results was found in that subjects offered more help to the examiner with a disability than the one without. However, the researchers had not anticipated the magnitude of this difference; subjects were more willing to help the unpleasant disabled examiner than even the friendly nondisabled examiner.

The positive presentation condition yielded even more surprising results. Contrary to predictions, subjects were less willing to help the disabled examiner than the nondisabled one in the positive condition. In fact, they were more willing to help the unpleasant nondisabled examiner than the friendly person with a disability.

The researchers speculated that in the negative condition, subjects were sympathetic toward the abrasive person with a disability. After all, this unhappy behavior would be expected from a victim of misfortune. The results for the positive condition were harder to understand. Subjects' evaluations of the test administrator indicated that the positively-presented woman was perceived as warmer, more interested in the project, and more able to motivate subjects. Certainly these perceptions should be related to subjects' willingness to help?

Katz et al. reconsidered the theories underlying their initial predictions. Society may not value the same qualities in persons with disabilities as it does in nondisabled persons, as the researchers had initially assumed. Goffman (1963) had argued years earlier that people with disabilities are expected to know their place and should not aspire or achieve beyond a certain modest level, nor test the limits of acceptance granted them by nondisabled people. If this is true, an achievement oriented person with a disability would be regarded as "uppity." Happiness and friendliness could also be seen as an affront--Dembo, Leviton, and Wright (1956) had reasoned that people with physical disabilities are often expected to suffer, as a sign that the physical assets they lack are

valuable and important. If they do not appear to be suffering, they should be, and for this reason they will be devalued by others who have those physical attributes intact.

Katz et al. theorized that the subjects in their first study may have felt buried anger toward the disabled administrator who behaved in a competent and positive manner, because this violated such deeply rooted beliefs. This anger, in turn, was believed to be influencing subjects' willingness to help.

To test this idea, a second study was conducted that included a paper-and-pencil measure of covert anger. Subjects were exposed to the same manipulations as before, but with a male confederate this time. Following their exposure to the examiner, they were asked to generate synonyms for several words, including "anger." The idea here was that subjects experiencing anger would be able to generate more synonyms for the term that corresponded to their state of mind. Subjects were also asked to rate the confederate's level of happiness. In this second study, however, subjects were not asked to help the administrator later.

Consistent with predictions, participants exposed to the disabled examiner in the positive self-presentation condition generated more anger responses than those in the positive/nondisabled condition. In the negative self-presentation condition the difference was in the opposite direction, with more anger responses generated by subjects exposed to the nondisabled confederate, although this difference was not significant. The measure of subjects' perceptions of the examiner's affective state yielded a main effect only for self-presentation. The pattern of results generally supported the stigma-role interpretation and the notion that attitudes toward persons with disabilities are characterized more by ambivalence than by just either hostility or sympathy. Neither the kindness norm model nor the response amplification idea was supported.

It should be noted here that the results of the first experiment have never been replicated to this author's knowledge. Nevertheless, the results of these two experiments, considered together, raise even more questions about the psychosocial dynamics in the

interactions between individuals with a disability and those without. The only firm conclusion possible appears to be that these dynamics are complex and not well-understood.

Unanswered Questions

Research into the effects and interactions of physical disability, performance, and interpersonal behavior has thus far yielded inconclusive results. These dynamics are important to understand if researchers wish to assist an organization in dealing with disability-related issues. It would appear that several theoretical models are possible. If one were to combine manipulations of disability (yes/no), joint task success (succeed/fail), and interpersonal behavior of the individual with a disability (positive/negative), each argument would predict different results in terms of evaluations and affective response.

For example, the norm to be kind notion would predict that perceivers would respond sympathetically to the person with a disability, showing more favorable evaluations of this person than of the nondisabled person in the success condition and more lenient responses in the failure condition, regardless of the individual's interpersonal behavior or impact on the perceiver's outcome. Such results would be consistent with the findings of Bailey (1988/1989). Since participant outcomes are being manipulated, and the confederate's performance and behavior have hedonic relevance for the participant, the outcome-based response amplification hypothesis suggested by Gibbons et al. (1980) would predict that the individual with a disability would be evaluated in the same direction but to a more extreme degree than a nondisabled person exhibiting the same interpersonal behavior and level of performance. The social desirability effect indicated by Snyder et al. (1979) would suggest that negative responses, such as avoidance, toward an individual with a disability would only occur in the presence of a socially acceptable explanation for such a response, such as unpleasant interpersonal behavior by the disabled person. Poor task performance might also provide such an excuse to avoid the

other person in a situation where poor performance would affect one's own outcomes. The kind of ambivalence response suggested by Katz et al. (1978) would predict that subjects' affective response to the individual with a disability would be the opposite in some ways of those to a nondisabled individual manifesting the same kinds of interpersonal behavior, e.g., friendly or unfriendly, regardless of task performance.

The Present Study

The purpose of this study is to investigate the influences of and interactions between disability, performance, and interpersonal behavior on participants' evaluations of the actor/coworker and their willingness to work collaboratively with this coworker. These relationships were examined in a laboratory setting because of the control it allows.

It is expected that the kindness effect would have the greatest influence when the perceiver's own outcomes are not directly at stake. In other words, the perceiver will evaluate a person with a disability more favorably than a nondisabled person demonstrating the same levels of performance. Similarly, when an individual is behaving in an unpleasant manner, the perceiver is likely to be more lenient in his or her judgment if the individual has a disability. Since evaluations carry no cost for the evaluator, he or she is likely to be kind.

However, when the perceiver's own outcomes are at risk, he or she cannot afford to be so generous. Three kinds of potential "costs" are involved in this scenario. First, the individual would be concerned with the outcome of the task; having to work with a partner who performs poorly would prevent the perceiver from obtaining a desired goal. The partner's performance would therefore have hedonic relevance for the perceiver. Second, poor interpersonal treatment may be considered a cost. Most people would prefer not to interact with an individual whose behavior is unpleasant. Third, personal discomfort is a cost. It is apparent from the research discussed in this paper that many people feel discomfort in close interactions with a person with a disability.

The first two "costs" described here would be socially acceptable reasons for choosing not to interact with another person. The third cost, however, would not. It is expected, therefore, that in the absence of other costs (outcome or treatment), people will not express any less willingness to collaborate with a person with a disability than with a nondisabled person. However, if either poor performance or unpleasant behavior is present, it is expected that people will be less willing to work with a person with a disability than a nondisabled counterpart showing the same performance or behavior. In this situation, the perceiver has acceptable justification for expressing his or her real wishes, and some latent prejudice could be revealed, similar to the findings of Snyder et al. (1979).

Based on both theoretical arguments and findings from previous research, it is expected then that:

Hypothesis 1a: Evaluations of the high-performing partner (the success condition) will be higher than those given to a low-performing partner. That is to say, I expect a main effect for performance on evaluations.

Hypothesis 1b: Evaluations of the partner exhibiting positive interpersonal behavior will be higher than those given to a partner showing negative interpersonal behavior. In other words, I predict a main effect for interpersonal behavior on evaluations.

Hypothesis 1c: Evaluations of the partner with a physical disability will be more favorable than the evaluations given to a nondisabled partner (main effect for disability on evaluations).

Hypothesis 2: There will be a two-way interaction between performance and disability on evaluations such that participants in the failure condition will give lower ratings to a nondisabled partner than to a partner with a disability.

Hypothesis 3: There will be a two-way interaction between interpersonal behavior and disability on evaluations such that participants in the negative interpersonal

behavior condition will give lower ratings to a nondisabled partner than to a partner with a disability.

Although there is no theoretical basis for predicting a three-way interaction on evaluations, it will be tested in an exploratory manner.

Hypothesis 4a: Participants will show greater willingness to collaborate with a partner whose performance has been high than with one whose performance has been poor (main effect for performance on willingness to collaborate).

Hypothesis 4b: Participants will show greater willingness to collaborate with a partner whose interpersonal behavior has been positive than with one whose behavior has been negative (main effect for interpersonal behavior on willingness to collaborate).

Hypothesis 4c: Participants' willingness to collaborate with the partner in a subsequent task will be lower if the partner has a disability (main effect for disability on willingness to collaborate).

Hypothesis 5: There will be a two-way interaction between performance and disability on willingness to collaborate such that in the failure condition participants will be less willing to collaborate with a disabled partner than a nondisabled one.

Hypothesis 6: There will be a two-way interaction between interpersonal behavior and disability on willingness to collaborate such that participants in the negative interpersonal behavior condition will be less willing to collaborate with a disabled partner than a nondisabled one.

As with evaluations, there is no theoretical basis for predicting a three-way interaction on collaboration. Nevertheless, it will be tested in an exploratory manner.

Chapter II

Method

Design

The experiment was a 2x2x2 between-subjects design. The three independent variables were disability, performance, and interpersonal behavior. Specifically, a confederate appeared to either have a physical disability (using a wheelchair) or not. The dyad's performance on the task was either successful or unsuccessful, apparently due to the performance of the confederate. In addition, the confederate's behavior was either friendly or unfriendly.

Participants

Participants were 198 undergraduate students, 109 male (55%) and 89 female (45%), enrolled in an introductory psychology class, participating as part of a course requirement. Of the participants, 181 listed their ethnicity as White (91%), one as African American (.5%), nine Hispanic (5%), four Asian/Pacific Islander (2%), one Native American/Alaska Native (.5%), and two listed it as "other" (1%). One hundred forty-five were age 19 or under (73%), 48 were 20-24 (24%), four 25-29 (2%), and one 30-34 (.5%). All participants were treated in accordance with the "Ethical Principles of Psychologists and Code of Conduct" (American Psychological Association, 1992).

Materials

The first phase completed by participants was a set of paper-and-pencil exercises: a spatial abilities section and a simple clerical task. The spatial abilities task was the Spatial Relations--Three Dimensions measure from the spatial visualization portion of the Multiple Aptitude Tests battery by Segel and Raskin (1959), which is contained in Appendix A. In this exercise, participants are presented with a three-dimensional

geometric form and asked to choose the figure which represents how it would look if it were unfolded and rotated. The nature of this task allows for plausible false feedback on performance. The clerical task was a letter-deleting exercise similar to that used by Bailey (1988/1989), which also allows for false feedback (see Appendix B). This clerical task was used to provide participants with false information about their partner's level of motivation, similar the way the task was used in Bailey's study.

Following this exercise participants were led to another room, where they completed a questionnaire assessing their evaluation of the other "participant's" (the confederate's) performance and personality, and their views about the task and the experimenter. Participants were then told that the second part of the experiment involved playing a computerized game, in which they had a choice as to how to play. In reality, no game was actually played.

The portion of the questionnaire evaluating the participant's partner was a 12-item semantic differential scale, based on that used by Bailey (1988/1989). Later analyses showed an 8-item version of the scale yielded the highest level of consistency (alpha = .91), so all subsequent analyses were conducted using this 8-item version (see Appendix C).

The shortened scale consists of items asking participants to rate their partner on eight different dimensions: competence (extremely incompetent/extremely competent), dependability (extremely undependable/extremely dependable), likability (extremely unlikable/extremely likable), considerateness (extremely inconsiderate/extremely considerate), motivation (extremely unmotivated/extremely motivated), helpfulness (extremely unhelpful/extremely helpful), activeness (extremely passive/extremely active), and positivity (extremely negative/extremely positive). Taken together, these dimensions consider both "task-oriented" and "person-oriented" aspects of performance. In a work setting, supervisors, potential employers, and coworkers could all form impressions of a person's standing on the broad dimensions making up this scale.

Procedure

Both the disabled and nondisabled conditions were conducted simultaneously when possible. In an effort to reduce subjects' suspicion about the true nature of the experiment, four participants (real subjects and confederates) for each session (two pairs in each session) initially met in a single room to be introduced to the study and complete consent forms. Of these four individuals in each session, two were actually confederates, one simulating a physical disability. Participants were told that the study was about team performance in organizations, and was an investigation of the impact of different reward systems on task performance and attitudes. One subject was paired with each confederate, with subjects randomly assigned to experimental conditions.

In each pairing a female confederate, appearing to be another participant, was either seated in a wheelchair (disability condition) or not. This operationalization is similar to what has been used in previous research, such as the study by Bailey (1988/1989). This individual also behaved in a manner designed to be either friendly or caustic and unfriendly, similar to the manner suggested by Katz et al. (1978). Over the course of the study, 15 different confederates were used, each being used on a rotating basis across all conditions. The number of confederates and crossing of conditions were used to prevent any "person" effects in the results. Each confederate was thoroughly trained for the disability condition, including practice in using the wheelchair to maneuver in the session rooms. Confederates were also coached for each interpersonal behavior condition. Their instructions included demonstrating the same kind of attitude toward the task itself, the experimenter, and their partner. They were given sample statements to be used for each condition (e.g., "I can't believe I have to..." or "you've got to be kidding" for the "unpleasant" condition), and were observed in practice sessions. In addition, confederates were instructed to wear loose-fitting clothing to hide their limbs, and wore minimal make-up and hair styling so they would appear less attractive in all

conditions than they would normally appear. More detailed instructions to confederates appear in Appendix D.

Once each participant/confederate pair was settled into their room, the experimenter described the two phases of the experiment (see Appendix E). The first phase would consist of two paper-and-pencil tasks, and the second, a computer game. The experimenter also explained the nature of the reward system for the first phase. Participants were told that their team's collective score, averaged across both paper-and-pencil exercises, would determine their reward; if the joint score was greater than a specified level, the members of their team would each receive a raffle ticket for a cash award.

They then completed the paper-and-pencil tasks with an experimental confederate as their partner. In each exercise, the experimenter explained the task, left the room while the pair worked independently (that is to say, not collaboratively) on the exercise, collected the papers and left again, then returned to report back the pair's score. This allowed several "breaks," during which the participant and confederate could speak to each other, confederates maintaining their assigned interpersonal behavior condition.

The experimenter introduced each of the paper-and-pencil tasks with an explanation of what attibute the task was intended to measure. For the spatial abilities task, participants were told that spatial ability is believed to be a component of general intelligence, and that the exercise was taken from an intelligence test. In this way, participants were led to believe they had information concerning their partner's cognitive ability.

Following completion of the spatial abilities task, the experimenter collected the papers from both pairs and ostensibly scored them in another room. During this time, each participant/confederate pair had the opportunity to interact for several minutes, according to the confederate's assigned condition. The experimenter then returned and reported each pair's scores to them, identifying each individual's score. In reality, all

participants' scores, as reported to them by the experimenter, were the same moderate level, while the confederate's score were either higher or lower and the actual determinant of the team's success or failure.

The experimenter then introduced the letter-deleting clerical task, telling the pairs this exercise would be timed. She told the participants that this exercise was intended to measure people's motivation and willingness to work hard. Thus, participants were led to believe that the results of this exercise provided them with information about their partner's motivation. The experimenter returned in five minutes to collect and "score" the papers. This provided another opportunity for each participant/confederate pair to converse freely.

Upon completion of this paper-and-pencil task, each pair was told what their combined score was, and whether or not their team had achieved the reward. The confederate's scores on both exercises were kept consistently high or low, with the participant's score consistently in the average range. Participants were then told they and their partner would be separated into adjoining rooms to complete several short questionnaires. In reality, the participants remained in their rooms while the confederates were removed. Participants then privately completed the questionnaire asking their reactions to a variety of aspects of the tasks, including their evaluation of the other "participant" (Appendix A). Participants were then told that the second part of the experiment was a computerized game in which they could "win" a second unit of experimental credit. A computer terminal was visible in each room, and the experimenter had a diskette in hand.

The participants were also told that they had a choice about how they would play this game. Participants were asked to indicate whether they wished to collaborate with their previous experimental partner against the computer, or work independently against the computer. They were told that both parties (participant and confederate) from the previous task were to indicate their preference and the strength of this preference, and

that the experimenter would try to grant both parties' requests. They indicated the strength of this preference on a 1 to 7-point Likert-type scale on Item 41 of the questionnaire (Appendix C, Part II).

After participants had completed the second exercise, suspicion was assessed, and participants were debriefed thoroughly (see Appendix F for debriefing protocol).

Chapter III

Results

Manipulation Checks

The questionnaire included two items which served as a manipulation check for two of the independent variables. Specifically, a question at the top of the questionnaire ("Did your team win the raffle ticket?") assessed the effectiveness of the "performance" manipulation, and Item 50, asking "Was your partner: (extremely friendly....extremely unfriendly)," measured the effectiveness of the manipulation for "interpersonal behavior." (No manipulation check was conducted for "disability" prior to participant debriefing in order to avoid arousing suspicion.)

The manipulation check for performance required only that the subjects indicate whether or not he or she had earned a raffle ticket. A full 100% of the participants correctly indicated whether or not they had earned the ticket. Thus, conventional significance tests were deemed moot.

The interpersonal behavior manipulation check was examined using a 2 X 2 X 2 Analysis of Variance (ANOVA). The results of this analysis are displayed in Table 1. There was only one significant effect. As expected, participants in the "pleasant behavior" conditions reported that the confederate's interpersonal behavior was generally positive (M = 6.27), while those in the "unpleasant behavior" conditions found the confederate to be less so (M = 2.80). While the main effect for the interpersonal behavior manipulation was significant (F (1, 196) = 355.53, $p<.01$; $eta^2 = .65$), no other main effects or interactions approached conventional levels of significance.

In all, subjects were able to recognize both good and bad performance as well as positive or negative interpersonal behavior. Thus, the manipulations seem to have been successful.

Ratings of Partner

Main effects and interactions were tested using Analysis of Variance. For "Ratings of partner," cell means are displayed in Table 2.

Main Effects. A significant main effect (see Table 3) was found for performance (F (1, 196) = 36.96, p<.01; eta^2 = .09), which would support Hypothesis 1a; participants gave higher ratings to partners exhibiting good performance (see Table 2) . As predicted in Hypothesis 1b, subjects gave higher ratings for partners who behaved pleasantly (F (1, 196) = 187.42, p<.01; eta^2 = .44). This latter effect was consistent regardless of disability or performance. There was also a significant main effect for disability, as predicted in Hypothesis 1c (F (1,196) = 4.53, p<.05; eta^2 = .01); participants gave higher ratings to a partner with a disability than one without. However, as we shall see, the main effects for performance (Hypothesis 1a) and disability (Hypothesis 1c) are qualified by the interactions. When interactions are taken into account, the interpersonal behavior effect remained interpretable (Hypothesis 1b).

Interactions. Although the interaction between performance and disability on ratings in Hypothesis 2 was in the predicted direction, with participants in the failure condition giving lower ratings to the nondisabled partner, it was not significant. In support of Hypothesis 3, a significant two-way interaction was found between interpersonal behavior and disability (F (1, 196) = 4.61, p<.05; eta^2 = .01). While this two-way interaction is generally consistent with predictions, it was rendered uninterpretable by a significant three-way interaction (F (1, 196) = 6.74, p<.05; eta^2 = .02). Since there had been no theoretical reason to expect a three-way interaction, no predictions about it had been specified. The form of this interaction was analyzed in an exploratory manner with post hoc tests (see below).

Summary. For the ratings of partner dependent variable, the results were not strongly supportive of the hypotheses. The main effect tests (Hypotheses 1a, 1b, and 1c) the results were somewhat consistent. There were main effects for performance, interpersonal behavior and disability. In violation of Hypothesis 2, the performance by disability interaction was not significant. Somewhat in accordance with Hypothesis 3, there was a two-way interaction between interpersonal behavior and disability, but this effect was qualified by an unpredicted three-way interaction. Though these findings were not expected, the presence of a significant interaction was deemed important enough to require additional explication.

Post Hoc Analyses. The three-way interaction is diagrammed in Figures 1 and 2. Generally speaking, it appears that for nondisabled partners, there was a significant difference in ratings only when the partner was behaving unpleasantly; in the nondisabled condition, confederates behaving pleasantly were not penalized for poor performance in ratings. However, where the partner was disabled, high performers received high ratings, and low performers received low ratings; with the disabled confederates, pleasant behavior did not moderate the effect of performance on ratings. It appears that the disabled partner was evaluated on both interpersonal behavior and performance in all conditions. Ratings of the nondisabled partner were based on performance only when she behaved unpleasantly; the nondisabled and pleasant person did not receive lower ratings as a function of her poor performance, while her disabled counterpart did.

In order to examine the form of this interaction, we compared the individual cells using a series of Tukey Honestly Significant Difference (Tukey HSD) tests. The results of this analysis are displayed in Table 2. Generally speaking, the results are consistent with our visual inspection. It appears that pleasant behavior moderated the effect of performance on ratings, but only when the confederate was nondisabled. Thus, this effect did not occur for the group of interest: persons with disabilities.

Willingness to collaborate

Main effects. The Analysis of Variance results for willingness to collaborate are displayed in Table 4. As predicted in Hypothesis 4a, performance was related to subjects' willingness to collaborate with their partner on a subsequent task (F (1, 197) = 26.87, $p<.01$; $eta^2 = .12$); successful performance was significantly associated with greater willingness to collaborate, across levels of the other variables. A significant main effect was found for interpersonal behavior (F (1, 197) = 31.27, $p< .01$; $eta^2= .12$), which would support Hypotheses 4b; however, as we shall see, this main effect was qualified by an interaction with disability. Hypothesis 4c, which predicted that participants' willingness to collaborate would be lower if the partner has a disability, was not supported. The only remaining unqualified main effect was that for performance.

Interactions. The two-way interaction predicted between performance and disability in Hypothesis 5 was not supported. A significant two-way interaction was found between interpersonal behavior and disability (F (1, 197) = 5.38, $p<.05$; $eta^2=$ .02). This interaction was examined further to determine whether it was consistent with Hypothesis 6. In Hypothesis 6, it was predicted that in the negative interpersonal condition, participants would be less willing to collaborate with a partner who was disabled than with a nondisabled one. Although there was a significant two-way interaction between these two variables, it was contrary to the pattern predicted; in the unpleasant condition, participants showed a greater willingness to collaborate with a disabled partner than with a nondisabled one. While neither Hypothesis 5 nor Hypothesis 6 was supported, the presence of a significant two-way interaction was deemed important enough to merit further analyses.

Post Hoc analyses. The two-way interaction between interpersonal behavior and disability is diagrammed in Figures 3 and 4. When examining these figures, an interesting pattern emerges. For the nondisabled partner, interpersonal behavior made a significant difference in willingness to collaborate; participants were more willing to

work again with a pleasant person whose performance had been poor than with an unpleasant person who had performed well (though this difference is not statistically significant per the Tukey HSD test results in Table 2). However, for the partner with a disability, interpersonal behavior did not appear to be considered when participants made the decision about whether or not to collaborate (see Figure 4). For the disabled condition, the results of the Tukey HSD tests (Table 2) are consistent with the visual inspection; in this condition, interpersonal behavior did not make a significant difference in willingness to collaborate. It appears from these results that when choosing whether or not to collaborate with another person, interpersonal behavior matters only if the partner is nondisabled. For a disabled partner, performance alone determined the decision here. It appears that for the disabled group, the caustic and unpleasant individual was not penalized for her social behavior; however, neither was the pleasant person rewarded for hers, unlike her nondisabled counterpart.

Chapter IV

Discussion

Few of the predicted results were found. However, there were intriguing, if unexpected, differences between groups. For ratings, interpersonal behavior was the most important determinant, but its effect varied according to disability. A poor performer who did not have a disability was not penalized for her performance as long as she was pleasant. However, the poor performer with a disability could not buffer the effect of performance by being pleasant. For collaboration, performance was the most imporant factor considered. Interpersonal behavior was important only for a nondisabled partner; for the disabled partner, results varied solely as a function of performance. When comparing results for ratings and results for willingness to collaborate, it appears that interpersonal behavior and performance almost switched roles.

There was no significant main effect for disability for either outcome measure. This finding contradicts those of previous studies. At first glance, it could appear that disability was not an important factor in determining ratings of a partner or willingness to collaborate with that person. However, the presence or absence of a physical disability was important in determining the effects of other variables. Being disabled did not "hurt" the evaluated partner directly, but its interacting effect appeared to influence evaluations and decisions. In particular, participants did not attend to or consider interpersonal behavior the same way when their partner was disabled.

Comparing Results to Previous Theoretical Models

None of the models tested (kindness, social desirability, response amplification, reversal) explains results of present study. The kindness model would predict that a disabled partner would receive more higher evaluations than a nondisabled partner; more

favorable in the positive performance and behavior conditions, and more lenient in the negative conditions. While this notion was partially supported in the ratings of confederates (the average rating for disabled partners was higher than for nondisabled), it was not upheld in all conditions (i.e., disabled partners in the pleasant/failure condition received lower ratings than nondisabled ones). The kindness norm was not reflected in the results of the willingness to collaborate measure.

The social desirability effect found by Snyder et al. (1979) would suggest that participants would take steps to avoid the disabled partner (in the willingness to collaborate measure) if there were a socially justifiable reason for doing so (poor performance or negative interpersonal behavior). The present study did not find greater avoidance of the disabled partner (relative to the nondisabled one) in these negative conditions.

The response amplification notion suggested by Gibbons et al. (1980) would predict that responses to the disabled partner's performance and interpersonal behavior would be more extreme than those for a nondisabled partner. Again, this was not found in the present study--in fact, for willingness to collaborate, the opposite effect occured with regard to interpersonal behavior; participants showed less response to differences in this variable than with a nondisabled partner.

And finally, the response reversal suggested by Katz et al. (1978) would predict that participants would respond to interpersonal behavior (positive or negative) by a disabled person in a pattern opposite to their responses to a nondisabled partner. This was not found for either ratings or willingness to collaborate, the latter of which would be similar to the behavioroid measure used by Katz et al.

It is interesting to note that the reaction to the disability in this study did not appear to be affective, as suggested in previous research (e.g., Kleck, 1968; Snyder, et al., 1979), but rather cognitive in nature; the results of the collaboration measure in this study did not indicate any greater discomfort with a partner with a disability than with a

nondisabled one. However, it should also be noted that many of the previous studies on reactions to disability were conducted twenty or more years ago, before the majority of the participants in the present study had been born. It is likely that the participants in this study had had very different exposure to persons with disabilities (through school mainstreaming, media, etc.) than the participants in some of the earlier studies. Nevertheless, the presence of even a relatively innocuous disability (paraplegia) was enough to influence information processing in these participants.

In contrast to the effects suggested in the present study, the aforementioned theoretical models appear to be driven by emotion (discomfort, ambivalence). What occured in the present study suggests more of a cognitive response, with disability influencing the way information is processed, than an emotional one. Although previous research has suggested strong emotional responses to a person with even an inoccuous disability such as a leg brace (Snyder, et al., 1979), the present study did not find a greater desire to avoid the disabled partner. Again, the passage of time and societal and media changes may have had an impact on the emotional response of these participants relative to those in earlier studies.

Other Theoretical Explanations

From a cognitive perspective, the presence of a disability may be viewed as a novel stimulus or stigmatizing condition affecting information processing. For this reason it is useful to consider the literature on the effects of such stimuli on evaluations and other responses. Stigmatizing conditions, such as disability, have been found to prompt response amplification (e.g., Carver, et al., 1979; Dienstbier, 1970), with observers responding to behaviors in an exaggerated manner. Results of the present study suggest the opposite occurred with regard to disability and interpersonal behavior; in the disabled condition, response to interpersonal behavior appeared "flattened," rather than amplified.

Langer and Chanowitz (1988) argued that disability is a novel stimulus, and therefore produces "mindfulness." This enhanced awareness of one characteristic (disability) may come to dominate the observer's characterization of the target person, in essence swamping other unique information about the individual. This may have occurred in the present study with regard to interpersonal behavior. However, it is important to note that participants in the present study did respond to variations in performance by their disabled partner, so this "mindfulness" theory yields at best a partial explanation of the findings. Perhaps the effect occurs only where the second individual characteristic or stimulus (e.g., interpersonal behavior) is ambiguous.

A related possibility might be cognitive overload. The disability stimulus, because it was novel, may have been more cognitively demanding. Thus, participants working with a disabled partner may have been unable to weigh the interpersonal behavior.

Participants' responses to nondisabled partners were treated as the norm in this study. In some respects, it is possible that participants were actually more accurate in their evaluations of the disabled partner and biased when rating the nondisabled confederate. If this is the case, there are several possible explanations for how such a thing could occur. First, in recent years there has been increased awareness in the population about certain issues surrounding individuals with disabilities, as well as members of other minority groups. Many people are at least somewhat aware of the ADA and the importance of being fair to persons with disabilities. In addition, concern for "political correctness" and doing the right thing may be making many people self-conscious or especially careful when reacting to a member of any minority group, indcluding someone with a disability. There may now be more of a norm of caution and concern for fairness when evaluating a person with a disability, under any circumstances. It may be that participants were exerting extra mental effort to be accurate when rating the disabled partner. However, it should be noted again that the ratings scale used in the

present study addressed both task-oriented and person-oriented dimensions. "Accurate" ratings in this case would therefore have to consider both performance and interpersonal behavior.

Greater rater accuracy with regard to racial group membership has been suggested in research on supervisory ratings as a function of ratee race. In a meta-analysis, Kraiger and Ford (1990) found that supervisor ratings were more related to more objective work performance measures when the ratee was African American than when the ratee was of the same race as the raters (White), and suggested a positivity bias (higher ratings for same-group ratees) as a possible explanation. It is possible that such a bias was operating in the present study as well, with raters giving higher ratings to members of their own group (nondisabled, in this case) under certain conditions (failure/pleasant behavior). At first glance, the notion of greater accuracy could seem to be good news for persons wtih disabilities. However, if the disabled individual does not receive the same benefit as a nondisabled peer, as a consequence of such accuracy, it is hardly a desirable situation.

This discussion of accuracy is, of course, speculation. It is not possible to tell from the data here whether or not raters were, in fact, being more accurate in their evaluations of the person with a disability. In any case, it can be stated from this study's findings that the presence of a disability appeared to affect information processing in the nondisabled participant.

Limitations of the Present Study

Several caveats must be considered when drawing conclusions from the results of this study. This experiment was conducted in a laboratory setting, rather than a field setting, and the tasks performed (a spatial ability test and a letter-deleting exercise) were simpler than what actual employees would be asked to do in an organization, at least for many jobs.

The nature of the interaction between participants and confederates was also simplified. The tasks were performed independently but the results were pooled for each

"team." It is possible that different results could be obtained if the initial tasks were more interactive. Perhaps to the extent that interactiveness would increase hedonic relevance, some response amplification would occur. Most team-related tasks in a workplace would be more interdependent. However, it is not uncommon for a work group or team to share a reward or penalty for aggregate performance; for example, collective revenues for a sales unit can determine group bonuses. In such a situation, the performance of each team member affects the outcomes of all the others.

It would be premature to conclude that all types of evaluation and employment decisions would parallel the findings of this study. This study was intended to mirror psychological processes (psychological realism), rather than specific organizational practices (mundane realism). The ratings scale used may not match the kind of performance appraisal or peer evaluation instrument used in many organizations. It was derived from the scale used by Bailey (1988/1989); since this study was to be compared most closely to Bailey's findings, it was important to use a similar measure. However, since the measure includes both person-related and task-related items, it seems reasonable that similar psychological processes would be operating in both this evaluation and an organization's actual performance appraisal or peer evaluation.

The personnel functions most closely resembling the "willingness to collaborate" question in this study would have to do with peer or teammate responses. Supervisors are often more separated from their subordinates than peers are from each other, so personal reactions may not be reflected the same way in their decisions or preferences as in those of teammates. However, supervisors are often involved face-to-face with an applicant when conducting an employment interview, and may well have worked closely with specific subordinates prior to making a promotion decision. While the relationship between the ratings in this study and supervisory decisions is more tenuous than with peer reactions, the same processes may well occur.

This study also involved a briefer interaction than what would be found in a real work setting with existing coworker dyads. A pair of coworkers in an ongoing employment situation would most likely get to know each other better, and an extraneous variable like disability could have less of an impact over time. However, it should be noted that certain employment decisions, such as a hiring decision during an interview, may be made very quickly. In these situations, early impressions like the ones in the present study can carry tremendous weight. In addition, many firms use ad hoc teams that come together on only a temporary basis; such teams may not have much opportunity to get beyond early psychological barriers.

Another limitation of this study is, of course, the use of student subjects. These individuals were not trained or experienced supervisors. The participants were also younger than current supervisors or average coworkers, though they will likely be in roles like these in the future.

For the sake of experimental control, this study did not use real disabled confederates; confederates in this study were "faking" a disability. It is possible that a truly disabled individual might behave differently in some ways, for example, trying to minimize the visibility or salience of the disability. The apparent attitude of a disabled individual can sometimes moderate the effect of the disability, putting the other party more at ease (e.g., by using humor or indicating openness to discussing the condition), or, conversely, making the other party more uncomfortable (e.g., by appearing bitter). In this study, confederates were strongly cautioned to keep their behavior neutral with regard to their disability to avoid potential confounds.

Only female confederates were used in this study. It is possible that different results would have been found with male confederates. Gender was kept constant to allow comparisons to other studies using female confederates (e.g., Bailey, 1988/1989; Katz et al., 1978). There is no reason to assume that results would be the same with male

confederates; future research should also compare results based on the gender of the target person.

Since only one type of disability was simulated here, it would be premature to assume that the results found would generalize to all disabilities. Paraplegia was the disability chosen for this simulation for several reasons. The use of a wheelchair is a very visible indication of a physical limitation, and wheelchairs have become a symbol for disability in general. Paraplegia is also a relatively simple disability to simulate. Further, studies examining relative rankings of specific disabilities in terms of acceptability or social distance have generally found paraplegia to fall at a midpoint (e.g., Jones & Stone, 1994; Sheers & Jensema, 1969); it may therefore be considered somewhat more representative than conditions such as severe mental illness, which produce more extreme reactions. Finally, many previous studies, such as those by Bailey (1988/1989), and Katz et al. (1978) used a similar manipulation for the reasons just mentioned. Since the results of the present study were to be compared with these studies, the same manipulation was chosen. It is possible that different results would have been obtained if different disabilities had been included. For example, participants might have indicated greater avoidance of an individual with a severe cosmetic condition or communication impediment.

Strengths of the Present Study

This experiment allowed control of a variety of individual variables. Unlike a naturally-occuring situation, the use of the same confederates across all different conditions permitted conclusions to be drawn without concern for confounding personal characteristics such as attractiveness, age, etc. In addition, the use of thorough training and scripted statements allowed control of levels of both peformance and interpersonal behavior, thus permitting comparisons between conditions.

Unlike many previous studies dealing with disability, the present study involved face-to-face interaction with real individuals, rather than ratings or decisions based on

vignettes or written descriptions. Murphy, Herr, Lockhart, and Maguire (1986) argued that the "paper person" approach artificially limits the amount of information to which a participant may respond. While the vignette approach offers experimental control and typically yields large effect sizes, it has limited external validity, and is subject to social desirability and demand characteristics, and may therefore produce inflated and misleading effects for the manipulations. Simulations such as the one used in this study are intended to minimize these problems.

Although the present study involved a relatively brief experimental session, the experiment featured more interaction between the parties than most previous studies. Compared to studies involving videotaped interviews or brief exposure to a confederate, this increased opportunity for interaction may yield results which are less stereotypic and which more closely reflect what would happen in a real world setting. In addition, this study is one of the few which has examined the role of the behavior of the person with a disability. In this experiment, both interpersonal behavior and performance were manipulated; many studies in the past have overlooked individual differences among persons with disabilities.

As noted earlier, few studies have addressed the reactions of coworkers in an organization. This study was intended to reflect some aspects of coworker interaction in a work environment. In a real work setting, team members or other coworkers would have (or believe they have) some information about a colleague's measurable performance, attributes such as intelligence and motivation, and interpersonal behavior, similar to the manipulations in this study. Many organizations are placing greater emphasis now on teamwork, peer evaluations, and even selection decisions by potential teammates. Thus, the partner ratings and decisions addressed in this study have relevance for important organizational concerns. And even if a given organization does not use team-based decisions, coworker responses are still important. The ratings obtained from the participants reflect the kind of reaction coworkers can have to a fellow employee,

which can have an impact on the perceiver's job satisfaction, attitude toward a team or the larger organization, or even affect individual productivity. And the willingness to collaborate measure was intended to reflect coworker decisions about whether or not to work with a given individual where their own outcomes are at risk, as in many cooperative or team situations. People who wish to work together are likely to be a more satisfied team. In contrast, when people strongly opposed to collaborating with another individual must do so, resentment can create great problems in terms of both job attitudes and performance.

This study also separated evaluation of target person (ratings) from actual decisions (willingness to collaborate). Previous reseach has often assumed that actual decisions (such as hiring) would reflect the self-reported evaluations or other responses obtained. The present findings reveal that decisions do not necessarily match what one would assume from evaluations. This may also provide insight into the apparent discrepancies between performance appraisal and promotion decisions for persons with disabilities in the workplace.

Many previous studies simply asked participants to make a judgment or a decision, with no consequences for their choices. In such experiments, participants may not make decisions the way they would in a natural setting. When there are no consequences, subjects do not need to be concerned with accuracy or outcomes, such as having to work with an unpleasant target person or possibly losing a tangible reward if the partner is incompetent. Where there are no consequences, an individual can afford to be more generous. In the present study, participants believed their decision regarding whether or not to collaborate with their previous partner was a real one.

The present study examined multiple independent variables (disability, performance, interpersonal behavior) simultaneously. To the author's knowledge, this is the first study to examine all three of these variables together. This combining of variables is particularly important given the apparent interacting effects of disability.

Directions for Future Research

In light of the unexpected results of the present study, replication is needed to ensure that these results are not anomalous. This experiment used face-to-face interaction and had consequences for decisions, which may have led to different results than those for studies involving vignettes, watching videotape, etc. Additional research using simulation and the same variables could help clarify the dynamics involved. In addition, other ratings scales could be used. The present study used items from previous research in order to allow meaningful comparisons. While this scale included both task-oriented and person-oriented items, resulting in a general "evaluation" of the confederate, other studies could develop items specifically to evaluate performance on the task or tasks in question. Results of such studies could yield insight into the relative accuracy of ratings for disabled and nondisabled partners.

It appears that disability plays a more complex role in influencing reactions than previously assumed, though that role is not yet clear. Whereas many early studies found main effects for disability, the present study did not. The passage of time may have had an influence on the role played by disability in influencing reactions. Based on the finding of this study, it is strongly urged that future research consider disability as a moderator, to be examined with other variables.

This study, and a number of others before it, used female confederates in the simulation. As mentioned earlier, additional research should examine the influence of these variables using male confederates as well before any firm conclusions may be drawn about disability in general. Similarly, other types of disability (e.g., communication, cosmetic, non-visible) need to be addressed in research as well, since different types of disabilities (for example, those associated with different levels of comfort and social distance) may well prompt different kinds of cognitive and affective reactions.

Previous research has found that discomfort with a person with a disability is greater in closer and more intimate situations (Grand, et al., 1982; Gordon, et al., 1990). The tasks and type of interaction in this study were relatively neutral. Different types of tasks or interactions should be tried in experiments, perhaps where the disability involved is more salient or uncomfortable (e.g., a physical task, more personal or disability-relevant conversations) to further clarify the nature of the problems involved. It is also recommended that different types of interpersonal behavior be explored. For example, studies can include a manipulation of whether, and how, the disabled person mentions the disability. Mentioning it in a comfortable way would very likely put the other party more at ease, which could make them less self-conscious, or perhaps reduce the cognitive "load" they experience. If the results of the present study were due to self-consciousness or mindfulness on the part of the participants, specific tactics to put them at ease could conceivably negate some of the effects found here.

One can only infer the internal state of the respondents from the results of the present study, as with many previous studies. No direct assessment was made regarding the participant's specific cognitive processes or affect. Additional research more directly examining subjects' judgment processes or emotional state under similar conditions to the ones in this study could be very enlightening.

Future research could also address possible remedies for the problems that emerge. One potentially fruitful avenue would be to examine the effects of training (e.g., in performance appraisal or employment decisions) on reducing biases. And to whatever extent is possible, field studies should be conducted to determine whether or not the results found in experimental situations replicate outside of a controlled laboratory setting. The present study appears to have identified some boundary conditions under which certain psychological processes operate; clearly more investigation and clarification is needed in order to understand what happened here.

Implications for the Law

While a pattern of results for a group of people is important in identifying discriminatory practices, group-level analysis may mask some effects of disability. That would be analagous to looking for a main effect for disability on the outcomes examined in this study. It could be that disabled persons as a group are not disadvantaged in some situations, while certain disabled individuals are.

When there is discrimination as a result of a person's disability, it may not be readily apparent that it is related to his or her disability, especially when other individuals with members of the same minority group ("disabled") are not receiving the same kind of treatment. This group-level focus does not appear to be the appropriate comparison. When possible, the circumstances surrounding the individual should be examined. For example, an individual's employment outcomes should be compared to others demonstrating the same levels of clearly defined performance and competence, rather than "other disabled employees." Obtaining objective performance data should also be helpful. It is critical that employment evaluations and decisions are based on the same criteria for both disabled and nondisabled persons.

Implications for Organizations

Treatment of persons with disabilities has serious consequences for an organization in many different ways. Decreased productivity, opportunity costs, lowered morale, and turnover are costly. Moreover, since persons with disabilities are a protected class, disparate treatment can have serious legal consequences for an organization.

"Discrimination" is often evaluated in an organization as a main effect of group membership. This superficial examination could yield misleading results; the most critical influence of disability may be its interacting influence on important outcomes. Sometimes these effects may benefit a person with a disability and harm a nondisabled peer, but other combinations could have the opposite effect. In either situation, the long-term effects may be damaging both to individuals and to the organization.

If an employment decision harms a nondisabled person relative to a disabled one, there is not likely to be litigation, though there can be other costs incurred. However, a decision which harms someone with a disability is subject to legal action. Moreover, the variables examined in this study can interact in subtle ways. Effects such as those found in this study may influence evaluations and decisions in ways not readily discernable, and may not violate the letter of the law. However, they could lead to discrimination nevertheless. Consider, for example, the following scenario. Two employees, one disabled and one not, have equally poor objective performance, but equally pleasant demeanor. According to the findings of this study, the disabled individual may get a lower performance rating, even though her performance and behavior were the same. No matter what she does, she is unable to compensate for her poor performance the way the nondisabled person can. Or in a different situation, two employees may show the same high level of performance and positive interpersonal behavior. The employee with a disability may get performance ratings that are equally high or higher (ratings in this study were slightly higher for disabled people in the successful/positive behavior condition), yet not receive the same promotion as the nondisabled peer. Perhaps the disabled employee's evaluation was inflated, perhaps the decision (analagous to the "willingness to collaborate" measure) was based on flawed cognitive processes. In any case, this discrepancy could lead to charges of discrimination.

In a way, the findings of this study suggest that organizations need to attend more closely to performance appraisal validity. It is not uncommon for organizations to use performance appraisal instruments addressing both task-oriented and person-oriented aspects of performance, similar in some ways to the ratings scale used here. In the present study, this ratings scale seemed to be measuring something different for one group of ratees than for another. The validity of a performance appraisal process needs to be high, and equally high, across all groups.

Advice to Organizations

Bias is more likely to show up in certain conditions and for certain kinds of decisions (e.g., decisions involving a subjective component) . Organizations should look for subtle and unintentional forms of discrimination, and when conducting any kind of an audit, and not view a single individual's treatment as being representative of "all disabled people." As the results of this study indicate, such an assumption could be misleading.

Few supervisors receive formal training in functions like performance appraisal and employment interviews, and there is often no direct accountability for inaccuracy, though the consequences for the organization can be serious. It is recommended that organizations wishing to reduce discrimination implement training processes for performance appraisal, employment interviews, promotion decisions, etc. It is also advisable to provide feedback on accuracy of evaluations and ensure consequences for accuracy.

The ADA is written to place the focus on the individual, evaluating potential discriminaton on a case-by-case basis. Treatment and personnel decisions must be evaluated based on individuals, rather than groups defined by outward characteristics like the presence of a disability. The results of this study underscore the importance of this philosophy.

It should be noted that none of the findings presented in this study suggest any participant had any wish to harm a person with a disability. Neither would such a desire be likely to emerge in an organizational setting. Discrimination and prejudice against persons with disabilities, including some institutional bias, is often different from other forms. Many kinds of prejudice seem to have roots in anger or hatred. However, for a person with a disability, the problem with others' attitudes often stems from fear, lack of familiarity or knowledge, or even from attempts at kindness. However well-intentioned, these kinds of attitudes may at times be even more difficult to combat. It is encouraging to see that fear did not appear to play a role in the dynamics witnessed here. Perhaps

changes are occurring. However, there are clearly still issues to be addressed and resolved. Findings such as those in the present studies challenge us to examine our own biases.

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Table 1

Three-Way ANOVA of Partner Friendliness, by Performance (perf), Interpersonal Behavior (interper), and Disability (disab).

Source of Variation	Sum of Squares	DF	Mean Square	F
Main Effects	591.35	3	197.12	118.72**
perf	.042	1	.042	.025
interper	590.33	1	590.33	355.53**
disab	1.83	1	1.83	1.10*
2-Way Interactions	.523	3	.17	.105
perf interper	.124	1	.12	.075
perf disab	.042	1	.04	.025
interper disab	.35	1	.35	.209
3-Way Interactions	2.76	1	2.76	1.66*
perf interper disab	2.76	1	2.76	1.66*
Explained	594.63	7	84.95	51.16**
Residual	313.82	189	1.66	
Total	908.45	196	4.64	

Note. *$p<.05$. **$p<.01$

Table 2

Means of the Dependent Variables by Performance (perf), Interpersonal Behavior (interper), and Disability (disab).

	Disability Condition			
	Nondisabled		Disabled	
Dependent Variable	Successful Performance	Failure	Successful Performance	Failure
Ratings of Partner				
Pleasant Behavior	5.35a,b	5.11a,b	5.87b	4.67a,e
	n=25	n=33	n=22	n=23
Unpleasant Behavior	3.76c	2.53d	4.13c,e	3.35c,d
	n=22	n=26	n=24	n=22
Willingness to Collaborate				
Pleasant Behavior	5.68a	4.88a,b	5.36a,d,h	4.04b,f,h
	n=25	n=33	n=22	n=23
Unpleasant Behavior	4.22b,c,d,e	3.12c,f,g	4.67a,d,h,i	3.45e,g,i
	n=23	n=26	n=24	n=22

Note: Entries are means on 7-point Likert-type scales; higher values indicate more positive ratings of the dependent variable in question. For each dependent variable, means with no subscript in common differed at $p < .05$ in the Tukey Honestly Significant Difference test.

Table 3

Three-Way ANOVA of Ratings of Partner, by Performance (perf), Interpersonal Behavior (interper), and Disability (disab).

Source of Variation	Sum of Squares	DF	Mean Square	F
Main Effects	201.28	3	67.09	74.27**
perf	33.39	1	33.39	36.96**
interper	169.31	1	169.31	187.42**
disab	4.10	1	4.10	4.53*
2-Way Interactions	7.07	3	2.36	2.61*
perf interper	1.35	1	1.35	1.50
perf disab	.99	1	.99	1.10
interper disab	4.17	1	4.17	4.61*
3-Way Interactions	6.09	1	6.09	6.74**
perf interper disab	6.09	1	6.09	6.74**
Explained	214.43	7	30.63	33.91**
Residual	170.73	189	.90	
Total	385.17	196	1.97	

Note. *p<.05. **p<.01

Table 4

Three-Way ANOVA of Willingness to Collaborate, by Performance (perf), Interpersonal Behavior (interper), and Disability (disab).

Source of Variation	Sum of Squares	DF	Mean Square	F
Main Effects	122.43	3	40.81	18.80**
perf	58.31	1	58.31	26.87**
interper	67.87	1	67.87	31.27**
disab	.67	1	.67	.31
2-Way Interactions	13.59	3	4.53	2.09
perf interper	.15	1	.15	.07
perf disab	1.25	1	1.25	.58
interper disab	11.67	1	11.67	5.38*
3-Way Interactions	.51	1	.51	.24
perf interper disab	.51	1	.51	.24
Explained	136.53	7	19.51	8.99**
Residual	412.36	190	2.17	
Total	548.89	197	2.79	

Note. *$p<.05$. **$p<.01$

APPENDIX A

SPATIAL TASK

Test 9. Spatial Relations—Three Dimensions

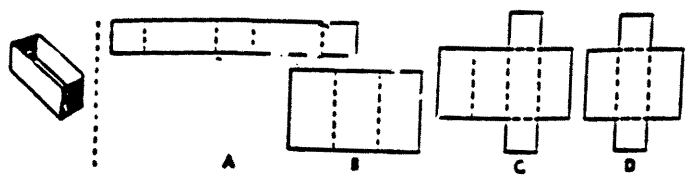
INSTRUCTIONS TO EXAMINEES

This is a test of spatial relations involving three dimensions. No one is expected to do the whole test correctly, but you should do as many items as you can. Work as fast as you can without making mistakes.

Each item consists of a row of figures. In each row you are to find the pattern which would form the figure shown on the left. Then mark the answer you have chosen.

Follow these rules: (1) Each pattern may be folded along the dotted lines or rolled where necessary. (2) The edges of each pattern must meet exactly, with no overlapping or empty spaces between them. Study the sample below.

SAMPLE K:



To the left of the dotted line, in Sample K, you will see a completed object. To the right are four patterns, one of which can be used to form the object on the left. Pattern A is wrong because it has a small square which would overlap and no bottom. Pattern B is wrong because there are no parts to form the ends of the box, and its parts are too large. C is wrong because it would form a box with a top on it. D is correct because it will make the exact figure at the left.

IF YOU ARE MARKING THIS TEST ON AN ANSWER FORM, READ THIS COLUMN ONLY.

As the correct answer is D, a heavy mark is made under the letter D on the answer form as follows:

Do as many of the items as you can. Go right on from page to page until you finish the test. To get your best score, avoid spending too much time on any one item so that you will have enough time to try all of them. If you finish before time is up,check your work. Are there any questions?

DO NOT BEGIN UNTIL TOLD TO DO SO.

IF YOU ARE MARKING THIS TEST IN THE BOOKLET, READ THIS COLUMN ONLY.

As the correct answer is D, a capital D is written in the answer space as follows:

D L

Do as many of the items as you can. Go right on from page to page until you finish the test. To get your best score, avoid spending too much time on any one item so that you will have enough time to try all of them. If you finish before time is up, check your work. Are there any questions?

DO NOT BEGIN UNTIL TOLD TO DO SO.

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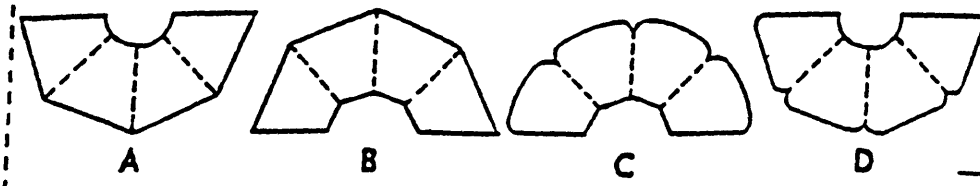

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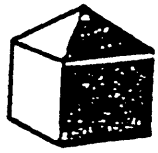

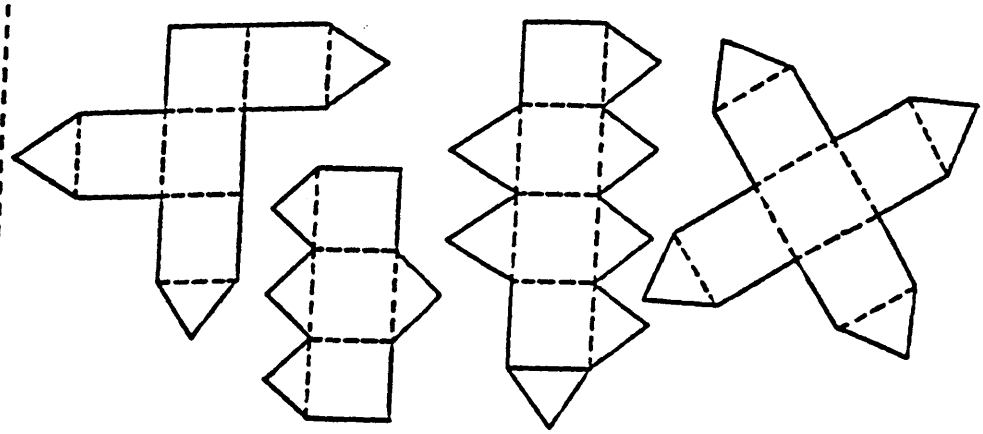

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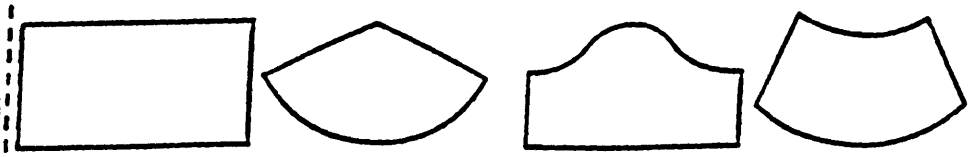

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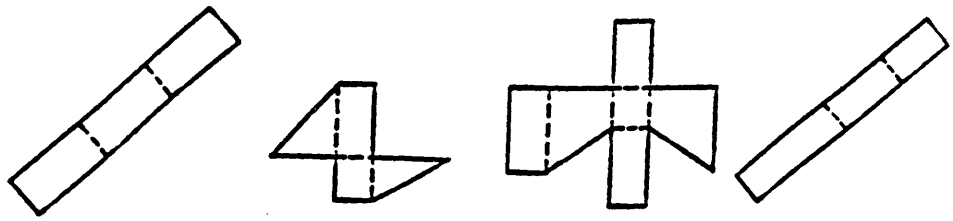

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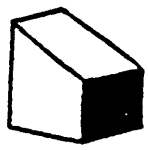

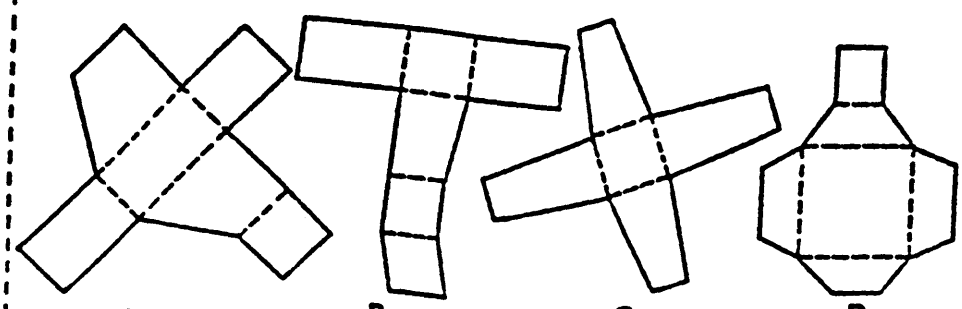

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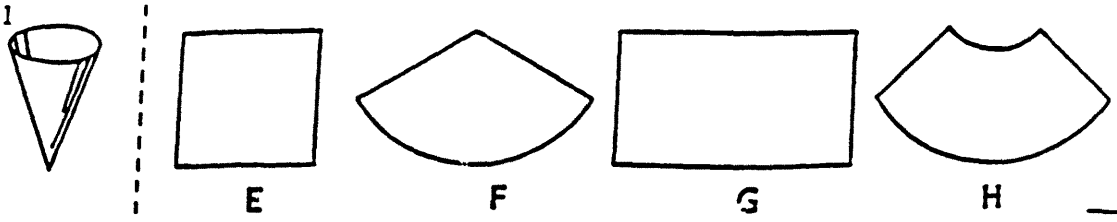

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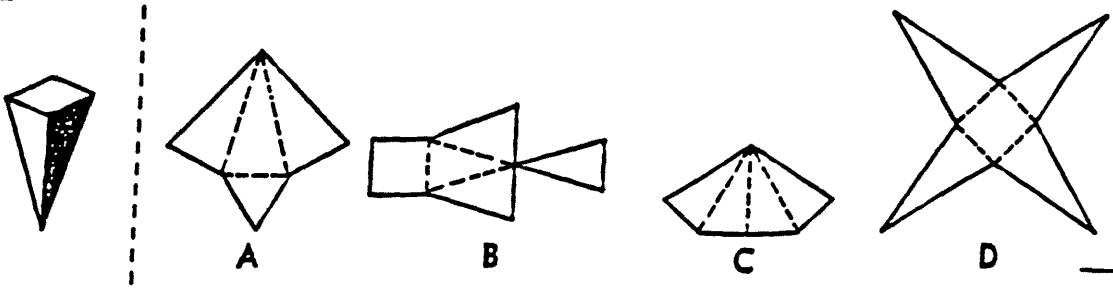

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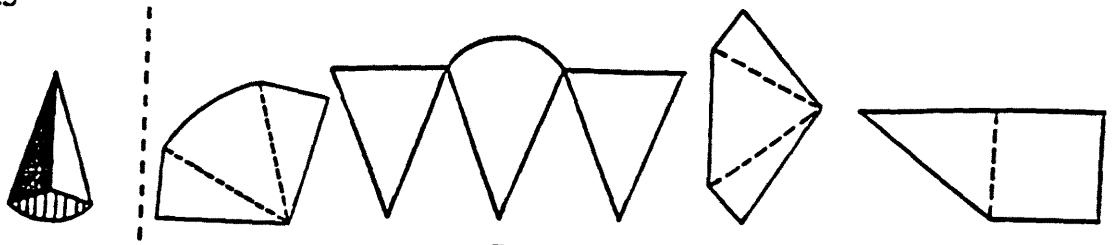

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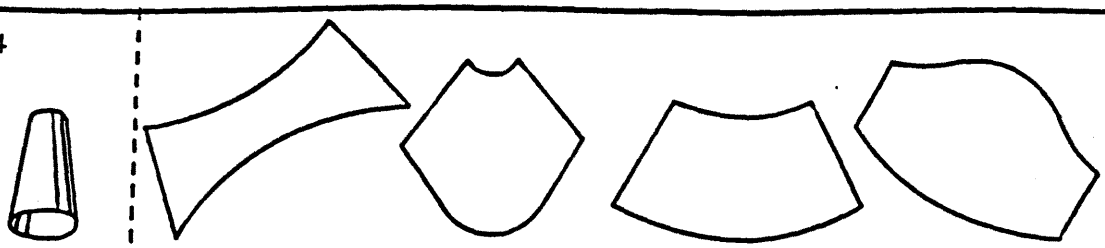

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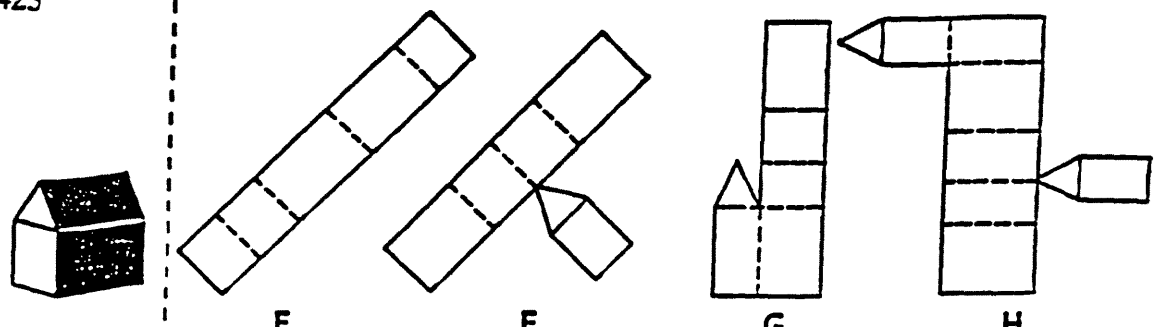

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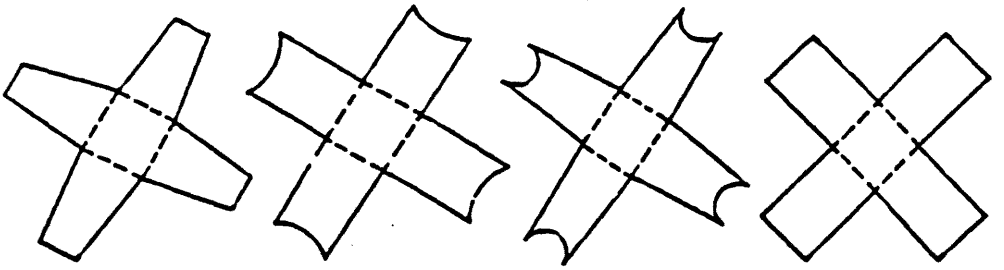

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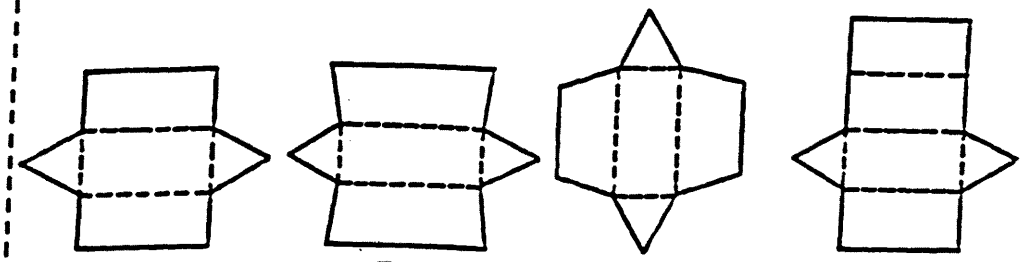

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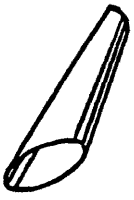

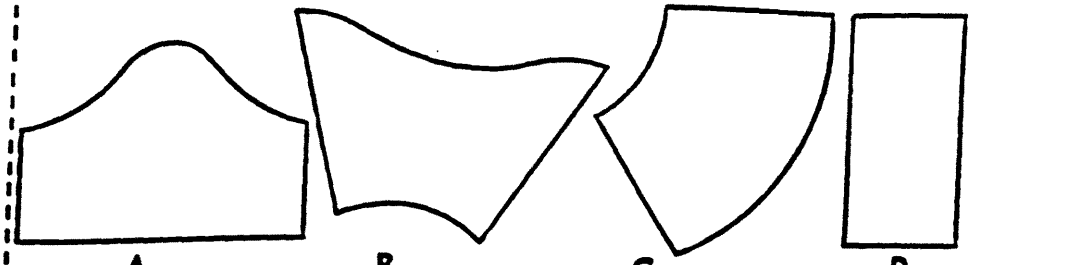

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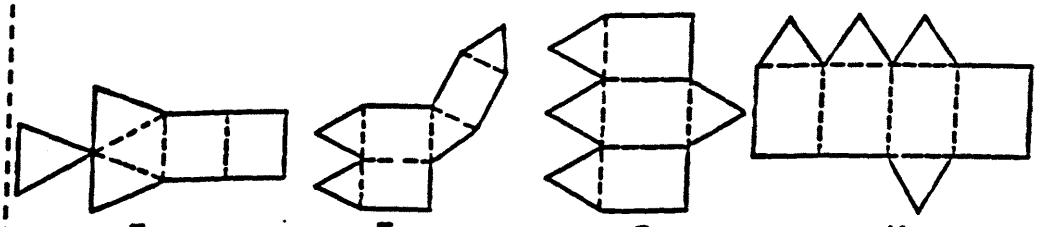

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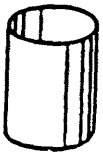

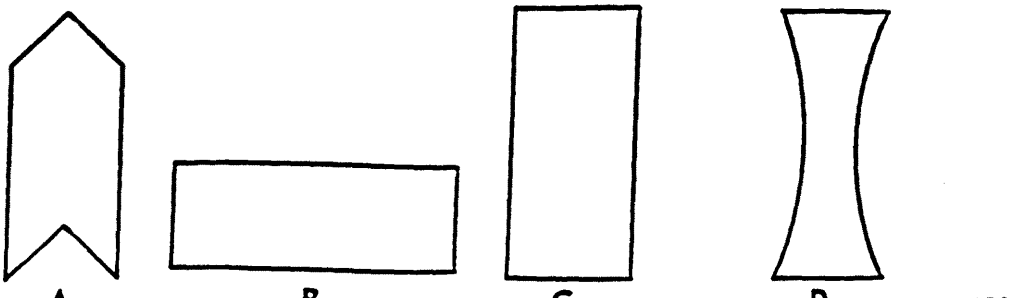

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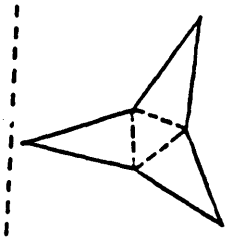

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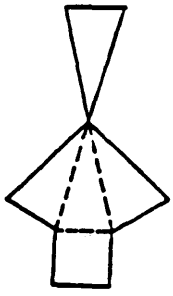

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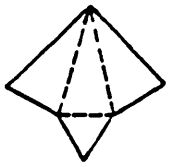

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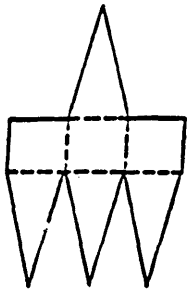

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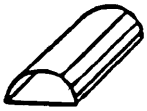

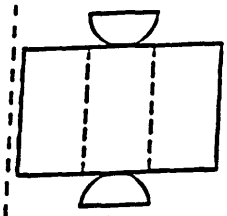

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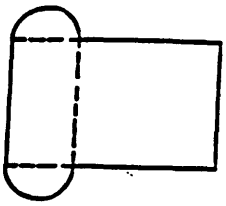

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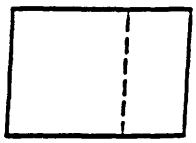

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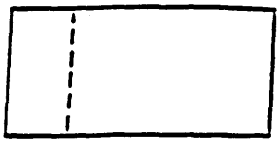

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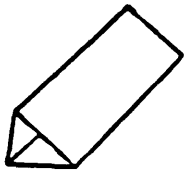

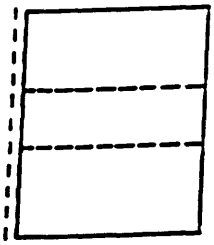

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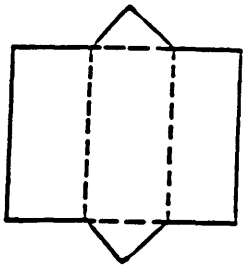

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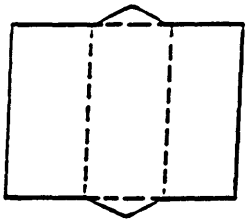

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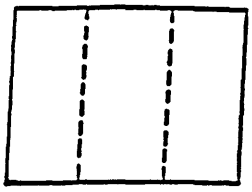

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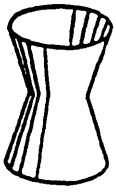

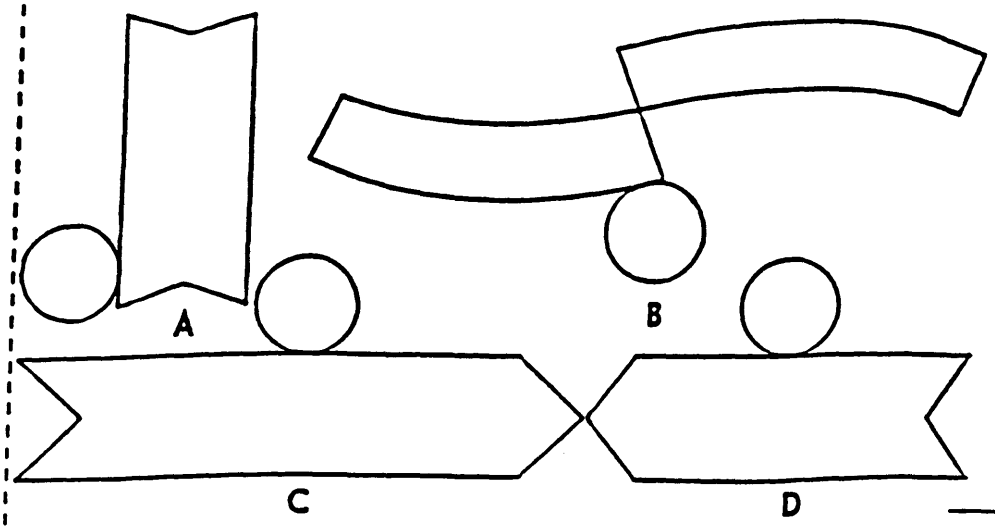

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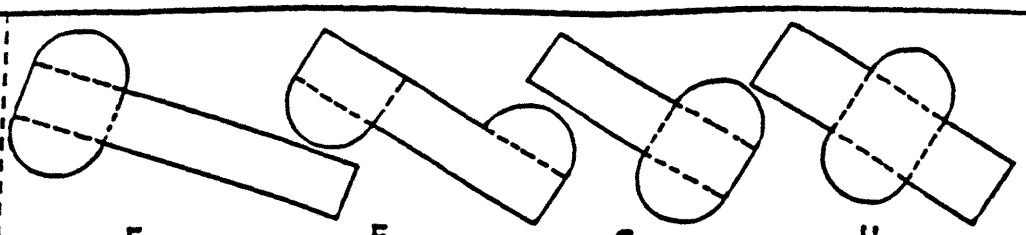

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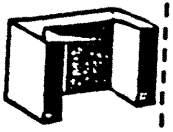

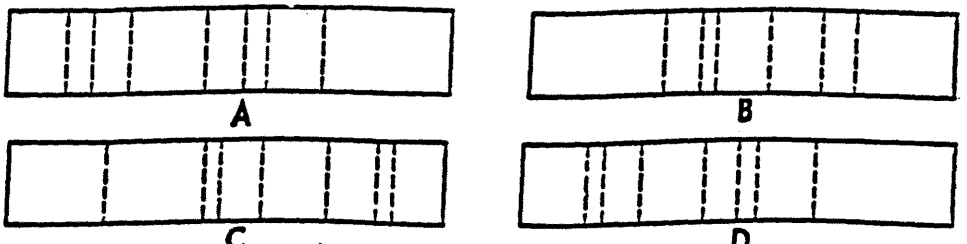

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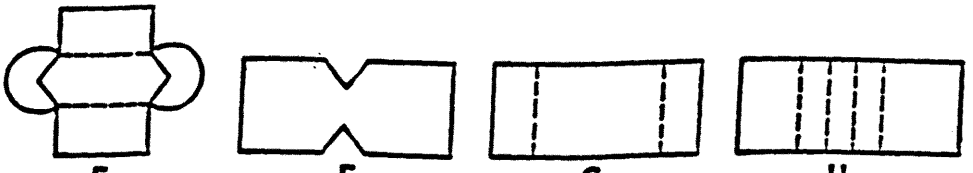

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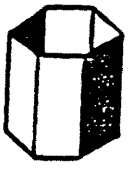

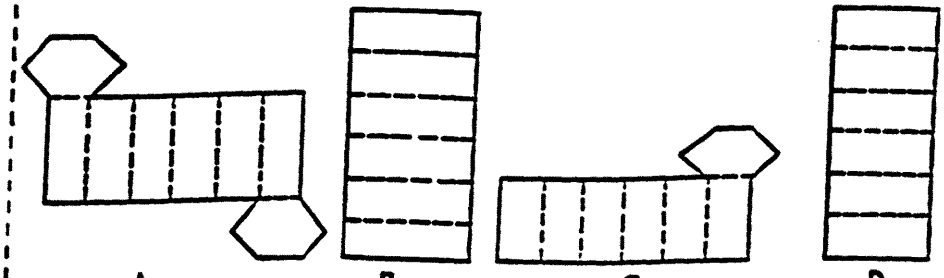

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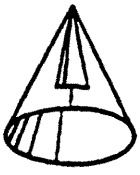

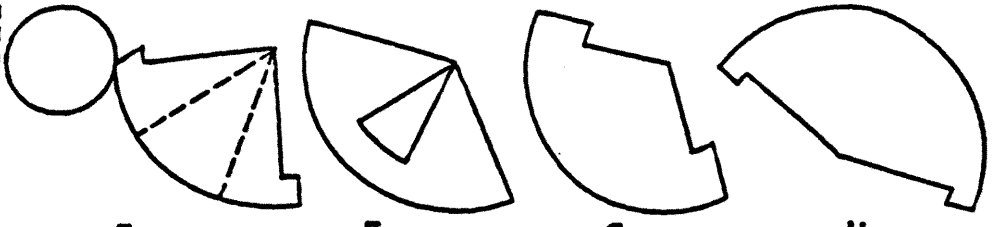

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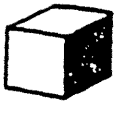
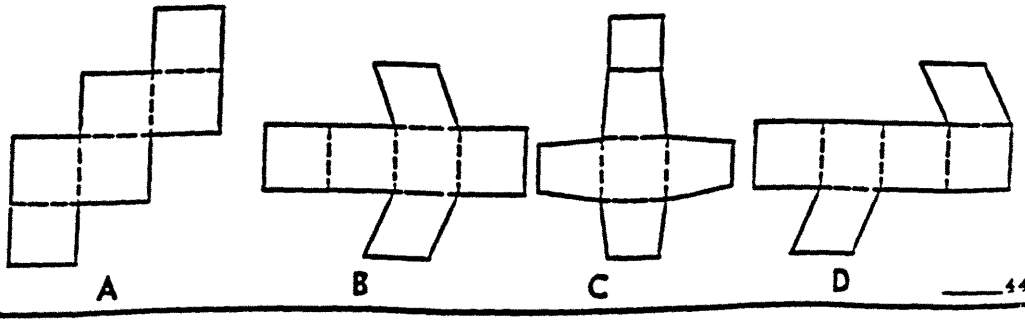




Test 9 Score
(right — ½ wrong)

APPENDIX B

CLERICAL TASK

LETTER DELETING TASK

Instructions to Participants

On the following pages, you will need to cross out as many occurrences of the letter "o" as possible. Each time you see the letter "o" (smaller-case or capitalized), mark a line through it. Your score will be based on both the number of "o's" you mark and the accuracy of your work.

Work as quickly and accurately as you can. The experimenter will tell you when to stop.

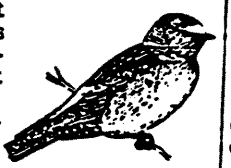
Do not begin until the experimenter instructs you to do so.

Rome depending on a noble or wealthy man for assistance. 4. a personal follower; dependent. *n.* —**cli′ent less,** *adj.*

cli en tele (klī′ən tel′), 1. clients; customers. 2. personal followers. 3. number of clients. *n.*

cliff (klif), a very steep slope of rock, clay, etc. *n.* —**cliff′like′,** *adj.*

cliff dweller, 1. person living in a cave or house built in a cliff. Some of the ancient Indians in the SW United States were cliff dwellers. 2. *Slang.* person living in a large apartment house.



Cliff swallow (about 6 in. long)

cliff swallow, a North American swallow that builds a bottle-shaped nest of mud, straw, and feathers and usually fastens it to a cliff.

Clif ton (klif′tən), city in NE New Jersey. 82,000. *n.*

cli mac ter ic (klī mak′tər ik), 1. time when some important event occurs, changing the course of things; crucial period. 2. of or like a period when some important event occurs; crucial. 3. period of life when the body becomes fundamentally changed. 1,3 *n.*, 2 *adj.*

cli mac tic (klī mak′tik), of or forming a climax. *adj.*

cli mate (klī′mit), 1. the kind of weather a place has, including conditions of heat and cold, moisture and dryness, clearness and cloudiness, wind and calm. 2. region with certain conditions of heat and cold, rainfall, wind, sunlight, etc.: *The doctor ordered Jim to go to a drier climate.* *n.*

cli mat ic (klī mat′ik), of or having to do with climate. *adj.*

cli mat i cal ly (klī mat′ik lē), with reference to climate. *adv.*

cli max (klī′maks), 1. the highest point; point of greatest interest; most exciting part. 2. arrangement of ideas in a rising scale of force and interest. 3. bring or come to a climax. 1,2 *n.*, 3 *v.*

climb (klim), 1. go up, especially by using the hands or feet, or both; ascend: *The painter climbed the ladder. We had been climbing for hours but we had not reached the top of the mountain.* 2. rise slowly or with steady effort: *It takes a poor person many years to climb from poverty to wealth.* 3. grow upward by holding on or twining around: *Some vines climb.* 4. a climbing; ascent: *Our climb took two hours.* 5. place to be climbed. 1-3 *v.*, **climbed** or (*Archaic*) **clomb, climb ing;** 4,5 *n.*

climb down, 1. go down by using the hands and feet. 2. *Informal.* give in; back down; withdraw from an impossible position or unreasonable attitude.

climb er (klim′ər), 1. person or thing that climbs. 2. *Informal.* person who is always trying to get ahead socially. 3. spike attached to a shoe to help in climbing. 4. a climbing plant; vine. *n.*

clime (klīm), *Poetic.* country; region; climate. *n.*

clinch (klinch), 1. fasten (a driven nail, a bolt, etc.) firmly by bending over the part that projects. 2. fasten (things) together in this way. 3. fix firmly; settle decisively: *A deposit of five dollars clinched the bargain.* 4. grasp one another tightly in fighting or wrestling; grapple: *When the boxers clinched, the crowd hissed.* 5. a tight grasp in fighting or wrestling; close grip. 6. kind of sailor's knot in which the end of the rope is lashed back. 7. clench. 1-4,7 *v.*, 5,6 *n.*

clinch er (klin′chər), 1. tool for clinching nails, bolts, etc. 2. *Informal.* argument, statement, etc., that is decisive. *n.*

cling (kling), 1. stick; hold fast: *A vine clings to its support. We cling to the beliefs of our fathers.* 2. keep near: *The clouds cling to the mountains.* 3. grasp; embrace: *Terrified by the thunder, little Margaret clung to her mother's waist.* 4. act of clinging. 1-3 *v.*, **clung, cling ing;** 4 *n.*

cling ing (kling′ing), that clings; that holds fast. *adj.*

clin ic (klin′ik), 1. place where poor people can receive medical treatment free or at low cost. Such a clinic is usually connected with a hospital or medical school. 2. place for the medical treatment of certain people or diseases: *The children's clinic was open during school hours.* 3. practical instruction of medical students by examining or treating patients in the presence of the students. 4. class of students receiving such instruction. 5. brief course of practical instruction in some non-medical field. *n.*

clin i cal (klin′ə kl), 1. of or having to do with a clinic. 2. used or performed in a sickroom. 3. having to do with the study of disease by observation of the patient. *adj.*

clin i cal ly (klin′ik lē), by clinical methods. *adv.*

clinical thermometer, thermometer for measuring the temperature of the body.

clink (klingk), 1. a light, sharp, ringing sound like that of glasses hitting together. 2. make a clink. 3. cause to clink. 1 *n.*, 2,3 *v.*

clink er (klingk′ər), 1. piece of the rough, hard mass left in a furnace or stove after coal has been burned; large, rough cinder. 2. a very hard brick. 3. mass of bricks fused together. 4. slag. *n.*

Clin ton (klin′tən), 1. **De Witt,** 1769-1828, American political leader largely responsible for the building of the Erie Canal. 2. **George,** 1739-1812, American political leader, vice-president of the United States from 1805 to 1812. *n.*

Cli o (klī′ō), in Greek mythology, the Muse of history. *n.*

clip[1] (klip), 1. cut; cut short; trim with shears or scissors: *A sheep's fleece is clipped off to get wool.* 2. cut the hair or fleece of: *Our dog is clipped every summer.* 3. act of clipping. 4. amount of wool clipped from sheep at one time. 5. damage (a coin) by cutting off the edge. 6. omit sounds in pronouncing. 7. a fast motion: *Our bus passed through the village at quite a clip.* 8. *Informal.* move fast. 9. *Informal.* a sharp blow or punch. 10. *Informal.* hit or punch sharply. 11. *Informal.* one time; single occasion: *at one clip.* 12. cut pieces from a magazine, newspaper, etc. 1,2,5,6,8,10,12 *v.*, **clipped, clip ping;** 3,4,7,9,11 *n.*

clip[2] (klip), 1. hold tight; fasten: *clip papers together.* 2. thing used for clipping (things) together. A clip for papers is often made of a piece of bent wire. 3. a metal holder for cartridges on some firearms. 1 *v.*, **clipped, clip ping;** 2,3 *n.*

clip per (klip′ər), 1. person who clips or cuts. 2. a sailing ship built and rigged for speed. 3. a large, fast aircraft. *n.*

clip per-built (klip′ər bilt′), built and rigged for fast sailing. *adj.*

clip pers (klip′ərz), tool for cutting: *hedge clippers.* *n.pl.*

clip ping (klip′ing), 1. piece cut out of a newspaper, magazine, etc. 2. thing cut out or off of something else. *n.*

clique (klēk or klik), a small, exclusive set or snobbish group of people. *n.*

cli quish (klē′kish or klik′ish), 1. like a clique. 2. tending to form a clique. *adj.* —**cli′quish ness,** *n.*

clk., 1. clerk. 2. clock.

cloak (klōk), 1. an outer garment, usually loose, with or without sleeves, and hanging to the knees. 2. cover with a cloak. 3. anything that hides or conceals: *do mean deeds under the cloak of friendship.* 4. hide; conceal: *cloak evil purposes under friendly words.* 1,3 *n.*, 2,4 *v.*

cloak room (klōk′rüm′), room where coats, hats, etc., can be left for a time. *n.*

clob ber (klob′ər), *Slang.* 1. attack violently. 2. defeat severely. *v.*

clock[1] (klok), 1. instrument for measuring and showing time, especially one that is not carried around like a watch. 2. measure the time of, especially of a person, car, horse, etc., in a race or in preparation for a race. 3. record the time of. 1 *n.*, 2,3 *v.* —**clock′er,** *n.* —**clock′like′,** *adj.*

APPENDIX C

QUESTIONNAIRE

Participant (First name): _____ **Partner (First name):** _____

TEAM PERFORMANCE IN ORGANIZATIONS

Did you win the raffle ticket? Yes No

Please do not make any other marks on this questionnaire. Mark your answers on your computer scantron.

This questionnaire consists of three parts. Part One asks your assessment of the various aspects of the tasks so far, including your reactions to the reward system, the experimenter, and your other team member(s). When you have completed this, the experimenter will give you Part Two, which deals with the computer game. You will also be asked to complete a third part of the questionnaire, asking about how clear the instructions, etc. have been. Please answer each item on your scantron sheet. Following this, you will engage in the computer task.

Please don't write your name on your scantron sheet: your identity will not be linked with your responses, and all information is confidential.

ASSESSMENT

Below, you will find some questions asking about characteristics of and your reactions to the tasks so far. Some items will ask you to rate the tasks, the reward system, the experimenter, your task partner, or yourself. Please read each item carefully and mark the space **on your scantron** that corresponds to the point on the scale that best indicates your opinion on each of the following statements. Please do not leave any questions blank. *Please make sure you fill in each circle completely.*

This questionnaire asks you to rate various things on a scale from 1 to 7.

EXAMPLE

How would you describe the temperature of the room?

1	2	3	4	5	6	7
extremely cold						**extremely hot**

If you felt that the room was quite cold but not extremely cold you would mark "2" on your scantron.

A. Demographic Information

1. What is your gender?

1	2
Male	**Female**

2. What is your age range?

1	2	3	4	5	6	7
19 or under	**20 - 24**	**25 - 29**	**30 - 34**	**35 - 39**	**40 - 44**	**45 or more**

3. Which term best describes your ethnicity?

1	**White**	**3**	**Hispanic**	**5**	**Native American/Alaskan Native**
2	**African American**	**4**	**Asian /Pacific Islander**	**6**	**Other**

B. The following section asks you to describe the tasks and your performance.

4. How interesting was the spatial exercise you performed?

1	2	3	4	5	6	7 (RS)
extremely interesting						**extremely boring**

5. How interesting was the letter-deleting exercise you performed?

1	2	3	4	5	6	7
extremely boring						**extremely interesting**

6. How much did you enjoy the first exercise?

1	2	3	4	5	6	7 (RS)
very much						**not at all**

7. How much did you enjoy the second exercise?

1	2	3	4	5	6	7 (RS)
very much						**not at all**

8. How hard did you work on the first exercise?

1	2	3	4	5	6	7
not at all						**very hard**

9. How hard did you work on the second exercise?

1	2	3	4	5	6	7 (RS)
very hard						**not at all**

10. Overall, how would you rate your <u>own</u> performance on both exercises?

1	2	3	4	5	6	7 (RS)
very good						very bad

11. In this phase of the experiment, the reward for your team was based on the **combined** performance of both subjects. How fair was the way the reward was decided?

1	2	3	4	5	6	7 (RS)
extremely fair						extremely unfair

C. For the following items, please rate the <u>experimenter</u>

12.

1	2	3	4	5	6	7 (RS)
extremely professional						extremely unprofessional

13.

1	2	3	4	5	6	7
extremely un-helpful						extremely helpful

14.

1	2	3	4	5	6	7 (RS)
extremely competent						extremely incompetent

15.

1	2	3	4	5	6	7 (RS)
extremely likable						extremely un-likable

16.

1	2	3	4	5	6	7 (RS)
extremely considerate						extremely inconsiderate

17.

1	2	3	4	5	6	7
extremely unfair						extremely fair

18.

1	2	3	4	5	6	7 (RS)
extremely strong personality						extremely weak personality

Ratings of Experimenter, continued

19.						
1	**2**	**3**	**4**	**5**	**6**	**7**
very harsh						**very mild**
20.						
1	**2**	**3**	**4**	**5**	**6**	**7 (RS)**
extremely intelligent						**extremely un-intelligent**
21.						
1	**2**	**3**	**4**	**5**	**6**	**7**
extremely arrogant						**extremely humble**
22.						
1	**2**	**3**	**4**	**5**	**6**	**7 (RS)**
extremely motivated						**extremely unmotivated**
23.						
1	**2**	**3**	**4**	**5**	**6**	**7 (RS)**
extremely active						**extremely passive**
24.						
1	**2**	**3**	**4**	**5**	**6**	**7 (RS)**
extremely positive						**extremely negative**

D. For the following items, please rate <u>your partner in the tasks</u>

*25.							
1 extremely competent	2	3	4	5	6	7 extremely incompetent	(RS)
*26.							
1 extremely dependable	2	3	4	5	6	7 extremely undependable	(RS)
*27.							
1 extremely un-likable	2	3	4	5	6	7 extremely likable	
*28.							
1 extremely inconsiderate	2	3	4	5	6	7 extremely considerate	
*29.							
1 extremely motivated	2	3	4	5	6	7 extremely unmotivated	(RS)
*30.							
1 extremely helpful	2	3	4	5	6	7 extremely unhelpful	(RS)
31.							
1 extremely strong personality	2	3	4	5	6	7 extremely weak personality	(RS)
*32.							
1 extremely active	2	3	4	5	6	7 extremely passive	(RS)
33.							
1 extremely competitive	2	3	4	5	6	7 extremely non-competitive	[1]

Note: Items marked with an asterisk (*) indicate item retained for final "Ratings" scale.

Ratings of Partner, continued

34.

1	2	3	4	5	6	7
extremely arrogant						**extremely humble**

35.

1	2	3	4	5	6	7
extremely unattractive						**extremely attractive**

*36.

1	2	3	4	5	6	7 (RS)
extremely positive						**extremely negative**

E. Below are some questions about your experience in this experiment. These items are concerned with your feelings during the experiment.

37. How competitive did you feel?

1	2	3	4	5	6	7
extremely competitive						**extremely non-competitive**

38. Overall, the tasks were

1	2	3	4	5	6	7
extremely difficult						**extremely easy**

39. Overall, how much have you enjoyed this experiment so far?

1	2	3	4	5	6	7
very much						**not at all**

40. In the next phase of the experiment, you will have the opportunity to earn a second unit of experimental credit if you (or your team) perform(s) well. How important is this second unit of credit to you?

1	2	3	4	5	6	7
extremely important						**not at all important**

PLEASE STOP NOW AND WAIT FOR THE EXAMINER'S INSTRUCTIONS

Note: Items marked with an asterisk (*) indicate item retained for final "Ratings" scale.

Participant (First name): _____ Partner (First name): _____

Please do not make any other marks on this questionnaire. Mark your answers on your computer scantron.

PART TWO: COMPUTER GAME EXERCISE

For the following activity, you will be playing a computer-based game called **Mission: Difficult-But-Not-Impossible.** It is a strategy game for one to three players, and usually requires about 15 minutes for one round.

In this exercise, you will be playing against the computer. You and your partner from the previous task **both have a choice about how** you wish to play:

A) By yourself, competing against the computer

OR

B) With your partner from the previous task, working together against the computer.

If you or your team wins, you will receive a **second unit of experimental credit.** That is to say, you will receive the same credit for today's experiment as if you had participated in two experiments at CSU.

If you work alone, you will work **privately at a single terminal.**
If you work with your partner, both of you will work **together at the same terminal.** Since you both have the choice now about how you wish to play, the experimenter will try to grant both of you your wishes, depending on how strongly you do or do not wish to work with each other. (**Note: Neither of you will actually be told** the other person's preference. This information is confidential. If you choose to work alone, you and your previous partner will have no further contact.)

F. PLAYER PREFERENCE

41. How strongly would you prefer to work **WITH your partner** from the previous task?

1	2	3	4	5	6	7 (RS)
Very strongly prefer to work **WITH PARTNER**						Very strongly prefer to work **ALONE**

When you have answered Question 41 please inform the experimenter.

PART THREE

G. Clarity of Instructions and Information

42. Did your team earn the reward?

1 yes **2** no

43. To what extent did you feel that you were working jointly with someone else?

1 not at all **2** **3** **4** **5** **6** **7** very much

44. To what extent do you feel the spatial task reflected intelligence?

1 heavily **2** **3** **4** **5** **6** **7** not at all

45. To what extent did the letter-deleting task reflect willingness to work hard?

1 heavily **2** **3** **4** **5** **6** **7** not at all

46. Overall, how would you rate your partner's performance on both exercises?

1 very good **2** **3** **4** **5** **6** **7** very bad

47. Whose performance do you believe *most* influenced your team's total score (both exercises combined)?

1 mine **2** my partner's

48. Was your partner:

1 extremely un-intelligent **2** **3** **4** **5** **6** **7** extremely intelligent

49. Was your partner:

1 extremely lazy **2** **3** **4** **5** **6** **7** extremely hardworking

50. Was your partner:

1 extremely friendly **2** **3** **4** **5** **6** **7** (RS) extremely unfriendly

APPENDIX D

CONFEDERATE INSTRUCTIONS

TEAM PERFORMANCE IN ORGANIZATIONS:
RESEARCH ASSISTANT NOTES

ADMINISTRATIVE NOTES

The main duties of Research Assistants in this study involve acting as a confederate in a laboratory experiment. Based on availability information provided by Research Assistants, I will develop a schedule of experimental sessions. It is critical that RAs adhere to the schedule, being there on time, etc. Prior to the actual running of subjects, several training sessions will be necessary to ensure that RAs are able to convincingly simulate the various conditions involved in the study.

THE EXPERIMENT

Keep in mind the basic principles of good experimental procedures. **Nothing should vary in any condition except the variable of interest**. Neither should the level of any variable be different. In other words, your level of pleasantness or unpleasantness or the comments you make should not be any different in the disabled condition than in the nondisabled condition.

APPEARANCE

In general, research assistants **in each condition** should be dressed and groomed (makeup, hairstyle, glasses, etc.) so as to appear plainer and less attractive than they normally would. It is very important that your appearance be **consistent** across conditions, since appearance is not one of the variables of interest.

CLOTHING

Clothing should be simple and loose-fitting. Don't wear sleeves with loose cuffs that will drag on the wheels (or very short sleeves that might reveal less-than-Linda-Hamilton triceps!). Long skirts are fine if they are loose but not so as to catch in the wheels. Pants should be very loose; baggy sweat pants are probably best. Jeans should be avoided, or any other kind of pants that might show any muscle tone in the legs. Shoes should be practical, e.g., sneakers (no heels, which could catch or slip on the foot plates). Scuffed toes are fine. Dress the same in all conditions.

DISABLED CONDITION

The disability you will be simulating in the "disabled" condition is paraplegia, specifically a complete spinal cord injury at the T-8 vertebra level (for the sake of "backstory"--you were 16 years old and feel asleep behind the wheel of a car).

This condition must be believable. You will have to concentrate on not having any movement or sensation below your ribcage. Keep your legs loose, preferably a little skewed. All movement must come from your **upper body**.

Your wheeling needs to be strong and confident, as if you've been doing it since you were 16. You know how to maneuver your chair in a variety of situations, including going through doorways and backing up alongside a table. Remember too that you know the turning radius and length of the chair, as you would when parallel parking your car. You will have a **backpack** on the back of your chair, and be wearing **gloves**, which you will remove to write (put them on the table but remember where you put them!). Putting your gloves on and taking them off would also be quick and smooth, since you've done it so many times. Periodically shift your weight by raising yourself with your hands and turning your body slightly. You would be in the habit of shifting your weight this way to avoid circulatory problems, pressure sores, or other difficulties.

There is a balance we must achieve here. The disability must be noticeable and salient to the subject, yet not confounded with any other variables. You will not volunteer any comments relating to your physical condition. If asked, respond according to your assigned interpersonal condition (see below).

BEHAVIOR

As soon as you leave the room with the chair or are heading down to the C wing from elsewhere you should be in "character"-- that is, behaving in the friendly or unfriendly manner to which you are assigned for the upcoming session. Between sessions, you should remove yourself from the experimental area to prevent accidentally running into any potential subjects for that day or later sessions.

It is critical that your behavior be totally independent of the disability condition. In other words, when you are being "friendly" or "unfriendly," you should behave exactly the same and make the same comments in both the disabled and nondisabled condition. You should exhibit the same level of friendliness or unfriendliness regardless of whether you are in the wheelchair or not. When you react in a pleasant or unpleasant way, it should not be connected with your physical condition at all (e.g., no comments dealing with the chair), or how hard you will work in later tasks.

You will need to exhibit the friendliness of unfriendliness toward several key elements in the situation:

1) the experiment itself
2) the tasks
3) the experimenter
4) your partner

Your behavior in each condition (friendly or unfriendly) needs to be strong and clearly positive or negative, but believable. The best opportunities to demonstrate this behavior will be during "downtime" in the experiment--prior to the task, being set up in the rooms, after the first (spatial) task, and after the second (letter deleting) task.

SAMPLE STATEMENTS

Friendly: "It's nice to meet you." "Sure, no problem." "Thank you." "Sounds like fun." Smile. Maintain an attitude of interest in the tasks and the experiment in general. You enjoy interacting with the people in the exercise, and like life. However, avoid revealing too much information about yourself, because self-disclosure is a different variable. Avoid any small talk that could relate to your physical condition (disabled or nondisabled). For example, if you are asked about your interests, quickly mention something neutral like music, art, journalism, child development, etc., (nothing likely to support or violate a stereotype), keeping your comments positive. If the subject initiates conversation, try to focus on the task and asking them questions.

Unfriendly: "I can't believe I/we have to..." "I have other things to do" "So what do you want me to do?" "Give me a break." "I need this credit, even if you don't." Sarcasm is good. Be abrasive. Maintain an attitude that you don't want to be there, but not that you don't care about performing well. You aren't enjoying the tasks, and are just there for the rewards and credit(s). You don't much like any of the people around you. If the subject asks you questions, keep your comments independent of physical condition, focusing on neutral topics, like above, and keeping your comments negative (e.g., "How boring." "I've heard he's awful.") Again, avoid revealing too much information about yourself.

PRIOR TO TASK

If you are in the disabled condition, you will need to get the chair and props out of B-203. Try to avoid being seen. The key will be in my mailbox (Marjorie Randall) in the hallway. Set up the chair, put the backpack on it, get the gloves out of the backpack, and put them on. Be in the chair when you leave the room.

You will meet in the hallway outside of the room. Remember you are a freshman, and not very familiar with the layout of the C-wing. You may ask others you see (including the other RA) whether they are there for the team performance experiment and where you're supposed to meet (remember that the other RA is also supposed to be a freshman you don't know). When the experimenter joins you, you will get a brief explanation of the experiment and be asked to complete consent forms. Fill this out as instructed.

The experimenter will separate the individuals into two pairs, seemingly at random. In the friendly condition, smile at the partner you've received. In the unfriendly condition, appear less than thrilled with the choice. You will be ushered into a room with your partner. You will sit close to your partner.

FIRST TASK

In the friendly condition, smile and nod when the experimenter provides instruction, as if you're looking forward to it. In the unfriendly condition,

maintain an attitude of "yeah, let's get on with it." (You want the rewards just as much, but don't want to be there.) For example, in the friendly condition, say: "Oh, this looks interesting." In the unfriendly condition, say: "You've got to be kidding." During the exercise, don't make any comments which could distract your partner or interfere with his or her performance.

After the first task, you will have about ten minutes alone with your partner before the experimenter returns. During this time you may comment on the task, keeping your comments in line with the interpersonal condition you are assigned to (friendly or unfriendly). The experimenter will tell your team how you did on the task, and what your combined score was. In the friendly condition, react to positive feedback with a smile, and negative feedback (that your performance was less good) apologetically. In the unfriendly condition, react to any feedback as if you're annoyed. **NOTE:** It is important not to react in a way that indicates how hard you will try on subsequent tasks. Your reaction should only reflect interpersonal behavior.

SECOND TASK

The experimenter will mention the second task (letter deletion), then leave to check on the other group before giving you actual exercise. During this time, in the friendly condition, say: "That doesn't sound bad", and/or speak encouragingly to your partner. In the unfriendly condition, make an unpleasant comment about to your partner (e.g., "I don't mean to be rude, but you might need to work harder this time.") You may also make derisive comments about the task, e.g., "This sounds pretty mindless." The experimenter will then return and have you begin the second exercise. During this exercise, don't make any comments or noises which could distract your partner.

The experimenter will collect the exercise to score it. The experimenter will also mention that there will be another exercise in which you each will have the opportunity to obtain a second unit of experimental credit. You will have about 15 minutes alone with your partner. Don't discuss too much about the upcoming exercise. In the friendly condition, you may ask the subject about what strategy he or she used in completing the letter-deleting task. In the unfriendly condition, comment s should be along the lines of "what a pain." Remember you will need to be unpleasant to the individual you are working with, as well as to the task, e.g., "I guess you don't need this (money, credit) very much." "I need this extra credit, even if you don't."

The experimenter will return with your "scored" papers. You will be told how you (and your team) performed and whether or not you received the raffle ticket. Again, respond only in terms of positive or negative interpersonal behavior, not any reflection on how much you care about doing well or how hard you would work on any later tasks (would be a possible confound). Your friendliness or unfriendliness must be seen as independent of your expected task performance.

THE QUESTIONNAIRE AND COMPUTER TASK

The experimenter will tell you and your partner that you will now complete a questionnaire asking your views on the experiment so far, and that you will be asked to play a computer game to get the second unit of experimental credit. The experimenter will usher you out of the room, seemingly at random. Act like you weren't expecting to be moved. In the friendly condition, cheerfully say "Oh, okay." In the unfriendly condition you may grunt as you say "okay" or "whatever." Don't give away anything about what you are going to say in your questionnaire or anything about the computer exercise (like whether or not you will want to work with this person again).

Leave the room quietly, as if you were being moved to a nearby room. In reality, you will quietly go to the elevator (in both the disabled and nondisabled conditions), being careful not to run into others. Maintain a neutral expression, and try not to be seen by many people; those you cross paths with could be subjects in the next session or a later session, and one of your conditions may be different then.

APPENDIX E

EXPERIMENTER SCRIPT

EXPERIMENTER SCRIPT: TEAM PERFORMANCE IN ORGANIZATIONS

BRING: watch, credit sheets, four copies of spatial and clerical task, four copies of questionnaire and computer task, four scantrons, eight copies consent form, four pencils, raffle tickets with envelope, pen, clipboard. One copy debriefing, one script. One computer terminal will be set up in each of the two session rooms.

[THE EXPERIMENTER GREETS THE SUBJECTS AND THE ASSISTANTS IN THE HALLWAY. SHE EXPLAINS AND HAS ALL INDIVIDUALS COMPLETE CONSENT FORMS. SHE SPLITS THE GROUP INTO PAIRS, SEEMINGLY AT RANDOM. SHE THEN ESCORTS EACH PAIR INTO THEIR ASSIGNED ROOM, AND ADDRESSES EACH PAIR IN TURN]

In today's experiment we are interested in the effects of different reward systems on team performance and people's opinions of tasks and situations. You will have three tasks. First, you will perform a paper-and-pencil measure of spatial ability. Then, you will complete a timed clerical-type task. Finally, you will play a game in which you can earn a second unit of experimental credit.

Your team will be working under two different types of incentive conditions. In the first phase, you can earn a raffle ticket, based on how well both of you perform as a team. In the second phase you can earn a second unit of experimental credit. In the first two exercises, your team will have the opportunity to earn a raffle ticket for each of you. When the entire study is over, four winning numbers will be drawn, and each will receive ten dollars.

In this first phase, you will work independently on tasks--that is to say, you won't be collaborating. However, your combined score, adding both of your scores on both exercises together, is what will determine whether or not you each receive a raffle ticket. The top half of the people participating in this study, that is, the top fifty percent, will get raffle tickets. So your team will have to get a combined total score that is above the average in order to win.

When you are done with the paper-and-pencil tasks I will move you into other rooms and ask you to complete a short questionnaire asking for your feedback and your reaction to the activities so far. When you have completed this, you will begin the last exercise.

In the last exercise, you will play a computer game in which you can earn a second unit of experimental credit if you win. I will give you more information on details of that later.

Do you have any questions before we begin?

INTRODUCTION TO FIRST EXERCISE
This is a test of spatial relations involving your ability to think in three dimensions. This test measures you spatial ability, which is a part of your general cognitive ability, or intelligence. You will be asked to look at a figure, then select the answer which best represents how that figure would look if it were opened or rotated in some way. There will be 25 items in this task. The average score for an individual would be between 13 and 15 correct, so please try to get at least that score. This exercise will not be timed, and you must work individually, without collaborating.

(HAND OUT SPATIAL EXERCISE AND PENCILS)

Look at the sample problem on the first page. This is the kind of item you will see. [Pause] Do you have any questions on this exercise? Please write your first name on the first sheet. I will return in several minutes to see if you have finished.

AFTER COMPLETION OF SPATIAL EXERCISE
Thank you. I will now collect and score your papers. (LEAVE ROOM FOR 8) MINUTES)

AFTER SCORING SPATIAL EXERCISE
(IN THE SUCCESS CONDITION)
Your team's combined score is 35. The average score on this test for an individual is between 13 and 15 correct. The average team score would be 26 to 30. (READ SUBJECT'S NAME) Your score was 15, which is in the average range. (READ ASSISTANT'S NAME) Your score was 20, which is above the mean. Therefore, your team's combined score is 35. This is better than 50% of the scores for this test. You two are doing well toward earning the raffle ticket.

(IN THE FAILURE CONDITION)
Your team's combined score was 24. The average team score on this test would be 26 to 30. For an individual the average is between 13 and 15 correct. (READ SUBJECT'S NAME) Your score was 15, which is in the average range. (READ ASSISTANT'S NAME) Your score was 9 correct, which is somewhat below the mean. Therefore your team's combined score was 24. This is lower than 50% of the scores for this test. You will have to do well on the second exercise to earn the raffle ticket.

INTRODUCTION TO SECOND EXERCISE

In this second exercise, you will be asked to look at several pages of printed material and delete as many occurrences of the letter "O" as you can in a given amount of time.

This is a measure of how hard you are willing to work. Work as quickly and accurately as you can, deleting every "o" you see in the words themselves, the definitions, and the pronunciation guides. You may use any strategy you wish, as long as you don't collaborate. While the first exercise was not timed, this one will be. You will have five minutes to complete the task. No one is expected to finish, just do the best you can. Your score will be the percentage of the total that you identified.

(HAND OUT LETTER-DELETING TASK)
Please write your first name on the cover sheet, but **don't turn the page** until you are told to begin.

Do you have any questions before we begin? (NOTE TIME ON WATCH)
Begin.

AFTER 5 MINUTES
Thank you. I will collect and score your papers. This will take a few minutes, but I have an assistant who will be helping me, so I'll return as soon as possible. So please wait here until I return.

AFTER "SCORING" LETTER-DELETING EXERCISE (10 minutes)
(SUCCESS CONDITION)
Most people usually get a little less than half of these.
Your team's combined score was 52.5 (percent of the total), so your score is again better than half the participant teams.
(SUBJECT'S NAME) 42
(ASSISTANT'S NAME) 63
So your average percentage as a team was 52.5.

Combined with your previous scores on the other exercise, 70%, your team's total average is 62.3 (%) This is above the average for participants (49%) . Accordingly, your team does win the raffle ticket. (GIVE TICKETS) Keep the one that says it's for you and return the other half to me (PUT IN ENVELOPE). At the end of the semester there will be a drawing. Four winning numbers will get $10 each. The winning numbers will be posted in the glass case in the hallway, along with a phone number for you to contact if yours is a winning number.

Now I will put you in separate rooms so you can complete the individual questionnaires.
(SEPARATE PARTICIPANTS. MAKE SURE BOTH HAVE PENCIL.
ESCORT ASSISTANT QUIETLY AROUND CORNER AND "ASK TO WAIT")

(FAILURE CONDITION)
Your team's combined score was 31.5 [% of the total]. Most people get a little less than half of these, but somewhat higher than 31.5, so your combined score is again below the mean.
(SUBJECT'S NAME) 42
(ASSISTANT'S NAME) 21. So your average percentage as a team was 31.5
.
Combined with your previous score on the other exercise, [48%], your team's total average is 39.8 [%]. Because this is below the average for participants in these exercises (49%), your team does not get the raffle ticket for this activity. (PAUSE) However, you will still have the opportunity to earn a second unit of experimental credit.

Now I will put you in separate rooms so you can complete the individual questionnaires.

(SEPARATE PARTICIPANTS. MAKE SURE BOTH HAVE PENCIL. ESCORT ASSISTANT QUIETLY AROUND CORNER AND "ASK TO WAIT")

INTRODUCTION TO QUESTIONNAIRE
(HAND PARTICIPANT QUESTIONNAIRE AND SCANTRON)
As I'd mentioned, in this experiment we are interested in people's reactions to various aspects of a team exercise under different incentive systems. Your answers will be recorded on this scantron sheet. Don't put your name on the scantron sheet. That information is entirely confidential, and will only be analyzed at a group level. On the questionnaire itself, write your first name and the first name of your partner from the previous exercises. Her name was (READ NAME FROM ASSISTANT'S PAPER). Also indicate whether or not your team got the raffle ticket.

(READ INSTRUCTIONS FOR QUESTIONNAIRE)
I will return in several minutes.

AFTER COMPLETION OF FIRST QUESTIONNAIRE
(VERIFY CORRECT ANSWER INDICATED ON ITEM ASKING IF THEY WON THE RAFFLE TICKET)
Now I'm going to explain the computer exercise. This is the one where you may be able to earn the second unit of credit. It's a strategy game, and you will have a choice about how you want to play it. Please follow along while I read the instructions.

For the following activity, you will be playing a computer-based game called "Mission: Difficult-But-Not-Impossible." It is a strategy game designed by a programmer here at CSU, for one to three players. It usually requires about 15 minutes for one round.

In this exercise you will be playing against the computer. Some people prefer to work alone on an activity like this, while others prefer to collaborate with someone else in solving the problems. You can do it either way. In the first phase of the experiment, you were not allowed to collaborate, and you were given no choice. In this exercise, however, you will both have a choice; you and your partner from the previous exercise will both have a choice about how you wish to play. You can play by yourself, competing against the computer program, or with your partner, working together against the computer. If you work alone and you win, you will get the second unit of credit. If you work together and your team wins, you will each get the second unit of credit. In other words, if you win you will get the same credit as if you had participated in two experiments.

If you work alone, you will work privately at a single terminal. If you work with your partner, both of you will work together at the same terminal, either here or in the room she is in now.

Both you and your partner are being asked to make a choice about how you want to play, and I'll try to give you both what you want, as much as I can. To do this, I'll ask both of you to indicate <u>how much</u> you 'd rather work alone or with your previous partner. This way I can try to grant both your requests. Of course, neither of you will be told what the other person said--this is confidential. If either of you indicates a strong preference for working alone, for whatever reason, you won't have any further contact with each other.

Please take a few moments to carefully review the instructions on the page, and tell me when you are done.

Do you have any questions about how to proceed or what will be happening?

I'd like to call you attention now to Item 38 on this page. As with the questionnaire, you will be asked to mark on your scantron the strength of your preference-- number one being strongly preferring to work with your partner, 7 for strongly preferring to work alone. Again, your information will be confidential. I will leave you alone for a few minutes to complete this.

(LEAVE ROOM)

RETURN TO ROOM. COLLECT COMPUTER SHEET AND SCANTRON. BEGIN DEBRIEFING.

APPENDIX F

DEBRIEFING PROTOCOL

Participant Debriefing

Experimenter says:

Thank you for completing these questionnaires. Before we continue, I'd like to spend a few minutes talking to you about this study.

- How would you describe your experience so far?

- Has it been clear what you were being asked to do?

- How would you describe the purpose of this study, in your own words?

- Has anything unusual happened?

As you may have heard in your PY100 class, sometimes it is necessary to tell people that an experiment is about one thing when the purpose is really something else. Has anything happened today that might suggest something else was going on?
- If so, what was it?
- When?

In fact, this is that kind of study. We want to learn how people might work together in different situations. Were you aware of any unusual circumstances while you were working on these tasks?

What we are really interested in is how groups of people might work together when one person has a disability, is friendly or unfriendly, and performs well or badly on a job. To do this, we had each person in the study work with someone who is actually a research assistant. This person would either appear to be disabled or not, act either friendly or unfriendly, and perform well or poorly on the tasks. In other words, if the person you were working with in this experiment was acting unpleasant, that was why. We wanted to see what effect disability, interpersonal behavior, and task performance would have on a coworker's opinions, and whether or not they wanted to work with that person again.

It's important to get information about these issues, because people in organizations can have problems if they don't understand what's happening. For example, a manager might end up discriminating against someone without meaning to. Or a team may not work well together

because some members are uncomfortable, or because one member is behaving badly and no one wants to say anything about it.

To get the kind of information we need, some things in this experiment were controlled. Each team's performance was actually part of the experiment. Your actual score on the tasks wasn't recorded. Every participant was told they scored in the average range. In reality, every participant in the study will receive a raffle ticket. ***[in the "Failure" condition, give participant raffle ticket now]***

The only reason we need anyone's names is to make sure that everyone gets the proper credit for the experiment. We won't record anyone's names on their responses. We will just group the responses according to which situation each person was in, and analyze them that way. In addition, no one outside of the researchers will see any of the questionnaires, and they will be computer scanned, so all information is confidential.

In addition, you won't actually need to play the computer game. You will, in fact, receive the second unit of credit for your participation right now; you've already earned that. ***[Record two units of credit]***

I also need to ask something of you. As you can see, if someone came to this study and suspected that anything else was going on, their behavior and their answers would be different, even if they didn't do it on purpose. The results wouldn't be real. Their time would be wasted, and we wouldn't be able to learn anything more about how people truly respond in the real world. For this reason, it is critical that no one discuss the things I've told you here once they leave here--like the fact that someone was really an assistant.

Can I count on you not to tell anyone about these hidden parts? ***[If the participant asks what is acceptable to reveal, they may mention what they were told in the beginning--that the study involves different reward systems and how they affect teams]***

What kind of questions do you have?

I want to thank you for helping us with this study. You will be helping us to answer some important questions.