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SELF-REGULATION AND FAIRNESS PROCESSES
IN BENEFICIARY REACTIONS

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AFFIRMATIVE ACTION IN ORGANIZATIONAL HIRING: SELF-REGULATION AND FAIRNESS PROCESSES IN BENEFICIARY REACTIONS

Volume I

By

Keith Evan Hattrup

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ABSTRACT

AFFIRMATIVE ACTION IN ORGANIZATIONAL HIRING:
SELF-REGULATION AND FAIRNESS PROCESSES
IN BENEFICIARY REACTIONS

By

Keith Evan Hattrup

This research examined the effects of preferential and merit selection on the reactions of women hired in a simulated temporary employment context. Two alternative causal models of the potential psychological processes underlying reactions to hiring policies were developed. In the first model, individuals were hypothesized to respond cognitively and behaviorally to preferential and merit selection in a manner that was consistent with their initial self-perceptions of task-specific abilities. In the second model, individuals were hypothesized to judge preferential hiring procedures as unfair, and the eventual distribution of their job assignment as fair when they were high in initial self-efficacy. Perceptions of distributive and procedural fairness were hypothesized to then determine performance outcomes.

Female participants were recruited from advertisements in the campus newspaper to work on a temporary computer-controlled military air defense job, for which they received monetary compensation. After completing measures of initial self-efficacy and a test of pre-employment qualifications, participants were randomly assigned to receive feedback informing them that they were being hired to satisfy

affirmative action needs, or because they passed the pre-employment test and were therefore qualified for the temporary job.

Path analyses failed to support either the self-consistency or fairness models. Moreover, neither model evidenced superior fit in relation to the other. A series of post hoc modelling efforts identified a parsimonious set of causal paths that implicated both self-consistency and fairness processes. High self-efficacy participants rejected the implications of preferential hiring for their task-related abilities, and eventually performed more effectively on the task, as hypothesized. Low self-efficacy participants, in contrast, were more apt to accept the validity of pre-employment testing procedures and to judge their selection decision as distributively unfair. However, they appeared to perform more accurately under preferential relative to merit selection to redress perceived hiring inequities that operated in their favor. Additional causal paths implicated prior perceptions of personal discrimination in influencing reactions to pre-employment selection procedures.

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INTRODUCTION

The use of general aptitude tests and other selection devices frequently results in differences in the passing rates of members of different race and sex subgroups. A common finding with tests of general aptitudes is subgroup differences on the order of from one half to one standard deviation between majority group members and minorities (Arvey & Faley, 1988; Jensen, 1980). Sex differences are also observed, with tests of quantitative and spatial abilities showing the largest differences in favor of males, and tests of verbal abilities frequently favoring women. In these situations, unqualified use of test scores to select applicants for employment typically results in disparate impact in the hiring of members of various protected race and sex subgroups. Disparate, or adverse, impact is defined as occurring whenever the selection ratio of members of protected groups is less than four-fifths that of majority group members (Jones, Murphy, & Belton, 1987; Uniform Guidelines on Employee Selection Procedures, 1978). Such disparate impact is taken as prima facie evidence of discrimination in employment selection (e.g. Seberhagen, 1991; Civil Rights and Women's Equity in Employment Act of 1991).

In an effort to minimize liability associated with disparate impact, employers have often taken <u>affirmative action</u> to ensure representation of members of protected groups. Although recent legislation may be interpreted as limiting employers' rights to adopt

affirmative action programs without sufficient cause, organizations may still be required by the courts to take affirmative action to redress past patterns or practices of race or sex discrimination (cf. Civil Rights and Women's Equity in Employment Act of 1991; Newman, 1989). Moreover, Executive Order 11246 signed by Lyndon Johnson in 1965 and subsequently amended by Executive Order 11375 requires that organizations holding contracts or subcontracts with the Federal government adopt affirmative action in their employment procedures. Recent political debates and future court cases notwithstanding, existing civil rights legislation is currently interpreted as upholding these standards.

In practice, specific programs designed to implement affirmative action vary considerably from one organization to another; however they have historically included preferential treatment in the hiring of members of protected groups (Newman, 1989). Preferential treatment involves providing greater access to jobs to members of protected groups, even though their measured qualifications may be lower than those of majority group applicants. Although strict hiring quotas, whereby protected group members are selected without consideration of measured qualifications, are unlawful, the extent of adjustment in measured qualifications or advantage given to protected group members is left to the organization and the courts to decide.

Despite wide-ranging debate regarding the merits of preferential treatment from a public policy standpoint, systematic investigations of the consequences of affirmative action for organizations (e.g. Hunter, Schmidt, and Rauschenberger, 1977) and individuals (e.g. Barnes Nacoste, 1990; Heilman, Simon, & Repper, 1987) are relatively rare.

Social policy analysts have frequently argued that affirmative action efforts may ultimately harm those very individuals that are intended to benefit from such programs (e.g. Loury, 1986; Murray, 1984). From this perspective, affirmative action programs are thought to lead to feelings of stigma and self-doubt among program beneficiaries, and social perceptions that encourage or legitimize stereotype-based expectations regarding members of traditionally disadvantaged groups. Supporting these arguments are several empirical investigations showing degraded job-specific self-confidence among those hired preferentially on the basis of their sex (e.g. Heilman et al., 1987; Heilman, Lucas, & Kaplow, 1990; Heilman, Rivero, & Brett, 1991).

Although the studies just cited support the notion that preferential treatment in organizational hiring may have undesired consequences, research has not yet described the psychological processes by which preferential treatment is translated into specific behavioral reactions. Research of this sort is needed for both applied and theoretical reasons. From an applied standpoint, greater understanding of whether and why affirmative action leads to various behavioral reactions among program beneficiaries may pave the way for the development of interventions designed to ensure that such preferential hiring policies do not harm individuals who are hired under such programs. Clearly, it is important that organizations attempt to minimize any potential negative consequences of selection policies on the subsequent motivation and satisfaction of organizational incumbents. Moreover, some have argued that policies that call attention to race or sex, and thereby evoke stereotypic expectations among perceivers and evaluation apprehension among

beneficiaries, may, in effect, delay the ultimate goal of a society that values color-blind and gender-blind treatment of citizens (Crosby & Clayton, 1990).

From a theoretical standpoint, research into the effects of affirmative action hiring may provide insights into more general issues regarding the processes and outcomes of social stigmas and expectancies. Personality and social psychology researchers have long been interested in the effects of socially-constructed expectations on perceptions of self and others (see Fiske & Neuberg, 1990; Hattrup, 1990; Jussim, 1986 for reviews). Within this framework, recent research has emphasized the role that expectation-disconfirming information may play in the processes of social perception. This research has shown that whether or not social information influences the behavior of perceivers depends largely on the consistency of new information with prior knowledge or beliefs. For example, people with high self-esteem may be reluctant to internalize negative feedback communicated by others and may work hard to counteract these self-disconfirming expectations (Banks, 1984; Jussim, 1986).

The purposes of the present research are to explore the psychological processes by which affirmative action hiring leads to behavioral reactions among program beneficiaries. Prior theory and research in the areas of self-concept and self perception is used to develop a model of beneficiary reactions to preferential treatment in hiring. As is discussed below, the perspective taken here regards the potential stigmatizing effects of affirmative action as an example of self-consistency and self-regulatory processes in the interpretation of self-relevant information. That is, reactions to the stigmatizing

implications of affirmative action labelling may depend on the extent to which the information regarding ability that is implied by preferential hiring is consistent with one's self view.

It should be pointed out that the psychological effects of affirmative action are not expected to be limited to program beneficiaries. In fact, supervisors' and peers' reactions to affirmative action beneficiaries may resemble in many respects the demonstrated effects of stereotypic expectations on the perception of others (see Fiske & Neuberg, 1990; Hattrup, 1990). However, the scope of this dissertation is necessarily limited to the effects of preferential hiring on perceptions of self; future research efforts should be devoted to explicating the likely effects of affirmative action programs on the perception of others (see Garcia, Erskine, Hawn, & Casmay, 1981; Jacobson & Koch, 1977 for examples).

In the section that follows, previous empirical research addressing the effects of preferential hiring on beneficiary reactions is reviewed. This is followed a review of personality and social psychology research addressing self-concept and reactions to self-relevant feedback. An integrative model of the expected effects of affirmative action hiring on beneficiary reactions is then described.

Prior Research on Reactions of Beneficiaries to Preferential Selection

A clear progression can be seen in the small body of affirmative action literature addressing beneficiary reactions to preferential treatment, from early studies that focused primarily on advocacy of affirmative action programs in general, to more recent studies addressing specific attitudinal and behavioral reactions, such as

perceptions of fairness, self-perceptions of ability, and eventual job performance. Although diverse in both theoretical focus and research methodology, much of the existing research has reported negative reactions among potential or actual program beneficiaries. In this section, prior affirmative action research is reviewed with an emphasis on outlining consistent themes.

In the first reported survey relating affirmative action hiring with attitudes towards one's employing organization, Chacko (1982) demonstrated lower organizational commitment and satisfaction among women who believed they were chosen as managers more on the basis of their sex than their measured qualifications. Women who believed they were preferentially selected on the basis of their sex also reported greater role conflict and role ambiguity. The authors explained that preferential hiring policies appeared to create a backlash among women who inferred that they were hired merely to pacify the demands of equal employment policies. A laboratory study by Heilman and Herlihy (1984) found that both male and female high school students were less interested in pursuing a managerial occupation when it was clear that preferential hiring was used to increase the ranks of women employees. Neither of these studies identified mediating processes by which affirmative action was translated into specific reactions, however.

In an effort to identify variables that predict advocacy of preferential hiring, Tougas and Veilleux (1988) found that women's perceptions of historic social inequalities, or <u>collective relative deprivation</u>, predicted their attitudes towards affirmative action programs and their intentions to participate in programs providing preference in hiring to women. In this survey, feelings of collective

relative deprivation (CRD) appeared to create a sense of historical justification for preferential treatment of women. In addition, advocacy of preferential treatment was directly related to women's feelings of identification with their subgroup, as measured by their perceived similarity in values to women in general and their rated ingroup identification. Drawing from Tajfel's (1978, 1982) social identity theory and prior research in CRD (Dube & Guimond, 1986), the authors explained that collective action favoring one's subgroup occurs to a greater extent when subgroup status is an important part of self-concept. Women who felt little identification with their gender group, or by implication, identified with other social groups, were reluctant to support and participate in programs that were designed along gender group lines.

A series of laboratory studies conducted by Nacoste (1985; 1987; Nacoste & Lehman, 1987) attempted to identify the effects of preferential treatment in employment decisions on beneficiary affective reactions and perceptions of the employing organization. In these studies, female undergraduate subjects were asked to play the role of a female university professor applying for a research grant. Subjects were led to believe that they were awarded the grant either on the basis of their gender, or on the basis of both gender and qualifications. Subjects reported lower general affect, deservingness of the grant, and perceptions of fairness of the selection procedure and final decision, and inferred lower organizational commitment to fairness when they were awarded grant money through an apparent quota system whereby awards were based on gender alone (Nacoste, 1985; see also Austin, Friedman, Martz, Hooe, & Ball, 1977).

In the preferential treatment condition, where both gender and qualifications were used to award grant moneys, subjects reported lower deservingness and perceived fairness when their own qualifications were lower than those of a male professor competing for the same grant (Nacoste, 1985; 1987; Nacoste & Lehman, 1987). However, experimentally manipulated qualifications interacted with the organization's prior history of discrimination in influencing ratings of general affect (Nacoste, 1985), and attraction to the university (Nacoste, 1987). Specifically, global affect was lowest when there appeared to be no historical justification for preferential treatment of a female with lower qualifications. Attraction to the organization was highest when the organization had not clearly discriminated in the past and one's qualifications were higher than those of the competing male. These latter findings appear to indicate that applicants will be less attracted to an organization whenever there has been a clear history of discrimination, or when it can be inferred that one's own selection was based on sex without sufficient historical justification.

In a follow up study, Nacoste and Lehman (1987) found some tendency for females preferentially awarded grants to expect less objective and favorable treatment in future decisions when grant allocation decisions were made without consideration of applicant qualifications and when there had been no clear history of discrimination. The authors explained that an insufficient historical justification for awarding grants to women irrespective of their qualifications raised questions in subjects' minds about the organization's motives for selecting members of the target group, and the organization's likely treatment of women in future decisions.

It is worth noting at this juncture that a clear history of discrimination on the part of the employing organization may operate similarly to perceptions of CRD as measured by Tougas and Veilleux (1988). Both variables may provide individuals with a justification for organizational policies favoring women and minorities. Although some organizations may be known to have a history of discrimination against certain groups, and this knowledge may influence beneficiary reactions to affirmative action in these organizations, perceptions of CRD and their effects should be expected to generalize across situations.

The studies reviewed above illustrate the effects perceived historical justifications on advocacy of affirmative action and the effects of preferential hiring on perceptions of the fairness of the organization's selection procedure and expected future treatment by the organization. These studies also suggest effects on general affect, perceived deservingness, and attraction to the organization. A series of laboratory studies by Heilman and colleagues (Heilman, et al. 1987; Heilman, et al., 1990; Heilman, et al., 1991) has attempted to address more directly the effects of preferential hiring on beneficiary task-specific self-confidence. After administering an ostensible job knowledge test to measure qualifications for a leadership position, the authors informed male and female subjects that they were either being assigned to the leadership position on the basis of their test score or, in the preferential treatment conditions, were being assigned to the leadership position without consideration of their test score. Subjects selected preferentially were led to believe that they were selected on the basis of their sex because there had not been "enough

male (female) subjects signing up so far" (Heilman et al., 1991, p. 101). Because experimenters never considered test scores in the preferential treatment conditions, the hiring manipulation most closely resembles quota selection on the basis of sex.

As expected, preferentially selected women, but not men, reported lower self-perceived qualifications (Heilman et al., 1991), general leadership ability (Heilman et al., 1987; 1990), task performance (Heilman et al., 1987; 1990), responsibility for successful task outcomes (Heilman et al., 1987), and desire to persist in the leadership position (Heilman et al., 1987; 1990) than individuals selected on the basis of their test scores. The negative effects of preferential selection were found even when women were unaware of their actual level of measured qualifications, or of the qualifications of other female applicants. The results suggested that preferential selection in the absence of information regarding qualifications created doubts among women regarding their abilities to perform in the leadership role. This did not occur among males. Similar results were reported for choices among demanding or simple tasks (Heilman, et al., 1991). In this study, preferentially selected women chose to work on a simple, but less desirable task than women selected on the basis of merit or men selected either preferentially or on the basis of merit.

Consistent with the results of quota hiring reported by Nacoste (1985), preferential hiring resulted in lower perceived fairness of the selection procedure (Heilman et al., 1990). In one study (Heilman et al., 1991), males reported lower perceived fairness associated with their own preferential hiring than did women hired preferentially. Although speculative, one explanation of this finding is that women

generally experience greater CRD in hiring contexts than do men, and therefore responded more favorably to their own preferential treatment during selection.

To assess the impact of information regarding their level of measured qualifications, preferentially selected women in two studies (Heilman et al., 1990; Heilman et al., 1991, Study 2) were presented with feedback indicating they were either more or less qualified than the competing applicant. Women who received information indicating that their qualifications were in fact very high responded no differently than those hired on the basis of merit. However, preferentially selected men and women who received information indicating that their qualifications were low responded similarly to preferentially selected women who did not receive information regarding their test scores.

The authors explained that women apparently felt little initial confidence in their abilities to perform the leadership role in the experiment, presumably because the role represented a typically male-dominated position. The mere suggestion (through preferential treatment) that they may not be as qualified as men to perform the job led the women to decrease their task-specific confidence to an even greater extent. Because males were not expected to experience low initial task-specific confidence, preferential selection was not expected to result in changes to their initial level of confidence. Hence, the results suggest that preferential hiring carries with it an implicit message regarding beneficiaries' level of abilities to perform the job. According to Heilman and colleagues, the implicit message is consistent with the self-concept of women, and therefore operates to

further lower their task-specific confidence. Men apparently did not initially doubt their abilities and therefore did not internalize lower expectations for their performance.

Heilman and colleagues (Heilman et al., 1987; Heilman et al., 1990; Heilman et al., 1991) argued that the lowered task-specific self-confidence found in the preferential hiring conditions likely translates into lower eventual performance. This view is consistent with self-efficacy theory and research (e.g. Bandura, 1977; 1982; 1989; Wood & Bandura, 1989b, described below), and with subjects' reported levels of task performance following preferential hiring. However, there need not be any close correspondence between self-rated performance in these studies and actual observed performance.

In the only published study examining task performance following preferential hiring, Nacoste (1989) reported that subjects hired under a simulated affirmative action program performed at a level that did not differ from subjects who were hired under an ostensible standard merit selection policy. In this study, subjects were selected either using a minimum cut-off standard on a pre-employment test, or were selected under a preferential hiring program. Although subjects hired under the affirmative action policy were not told their actual level of qualifications, those who thought affirmative action was unfair inferred lower test performance than those who considered affirmative action a generally fair policy. These results parallel those reported by Heilman et al. (1991) regarding self-perceived qualifications following preferential hiring. Although objective measures of performance quantity did not differ across conditions, efficiency of performance, as measured by quantity of output divided by time spent on

the task, was significantly higher among those hired preferentially who also viewed their initial qualifications as substantially below the minimum cutoff on the selection test.

Summary and Implications

The studies reviewed above provide preliminary evidence bearing on the perceptions and behavioral reactions associated with affirmative action hiring in organizations. Not surprisingly, strict quota hiring is seen as less fair than hiring on the basis of both gender and qualifications. Furthermore, in the absence of some historical justification for granting preference to women, subjects respond to affirmative action hiring with decreased advocacy, less attraction to the organization, and greater uncertainty regarding the expected objectivity and fairness of future evaluations of their performance. Laboratory research also suggests negative consequences for the task-specific self-confidence, self-perceived ability, self-rated performance, and willingness to take on challenging job assignments among women hired preferentially on the basis of their gender. Objective measures of task performance however, do not show impairment in performance quantity or efficiency among individuals who perceive they were beneficiaries of affirmative action hiring policies.

It should be noted that it is the perception of affirmative action hiring, not necessarily the actual hiring policy, that determines beneficiary reactions to such programs in organizational contexts. That is, it is unlikely beneficiaries have full knowledge of the actual selection procedure and how it was implemented in their own situation (Barnes Nacoste, 1990; Bunzel, 1988). In fact, actual beneficiaries of policies designed to increase the ranks of women and

minorities may yet deny that they personally received preference in hiring (Crosby, 1984). Likewise, those not receiving special advantage in hiring may infer favored treatment on the basis of an apparent underrepresentation of their subgroup within the organization, or through other informal inter- and intra-personal processes. The perspective taken here regards affirmative action labelling as a potential causal factor in organizational behavior, irrespective of whether the perceived treatment is an actual reflection of reality. Future research should explore the social and psychological processes whereby individuals come to deny or infer preferential treatment in their own hiring situation. Nevertheless, it is clear from available empirical research that the perception (however created) that one has been hired preferentially on the basis of subgroup membership results in lowered self-perceived qualifications for the position (e.g. Barnes Nacoste, 1990; Heilman et al., 1987; 1990; 1991; Nacoste, 1989).

Despite relative consistency in the findings reported across studies, several limitations in the available literature addressing beneficiary reactions to affirmative action should be noted. First, studies employing role-play techniques (e.g. Nacoste, 1985; 1987; Nacoste & Lehman, 1987) provide an insufficient test of the potential impact of preferential hiring in realistic contexts. Although laboratory simulations in which undergraduate subjects are "hired" for short-term employment may also be criticized for lack of realism, the role-play seems unlikely to possess personal relevance. The threat to one's perceived level of ability that is implicit under preferential hiring policies is considered fundamental in studies designed to address reactions to affirmative action (e.g. Heilman et al., 1991).

As will be discussed in more detail below, and as is illustrated in the research reported by Heilman and colleagues, reactions to preferential hiring depend on the self-concept of those hired under such policies. It is unlikely that these self-reactive influences are sufficiently elicited in studies using role-play techniques.

A second, and more critical limitation of existing affirmative action research has to do with the lack of well articulated theoretical descriptions of the underlying psychological processes by which preferential hiring is translated into specific behavioral reactions. Most existing research has merely addressed antecedent and outcome variables that appear intuitively to relate to affirmative action in hiring contexts. Research efforts focused on developing and testing integrative models of the psychological processes by which perceptions of preferential hiring are translated into specific behavioral reactions are sorely needed.

Barnes Nacoste (1990) has developed a model of beneficiary reactions to preferential hiring based largely on theories of organizational justice (eg. Greenberg, 1987; Greenberg & Cohen, 1982; Lind & Tyler, 1988). According to Barnes Nacoste, judgments of the procedural fairness associated with the organization's affirmative action policy lead to perceptions regarding the distributive fairness associated with receiving preferential advantage. These perceptions then translate into expectations regarding one's abilities to perform the job and expectations regarding the fairness with which one will be treated in the future. More recently, Barnes Nacoste (1991) has argued that preferential hiring may stimulate concerns regarding overcompensation inequity among beneficiaries. Feelings of

overcompensation inequity are then thought to elicit a variety of concerns, including evaluation apprehension, guilt, and self-imposed social isolation.

These propositions have yet to be tested empirically, however. Moreover, as is discussed in more detail below, the theoretical perspective underlying the present research posits self-consistency and self-reactive influences as causally prior to perceptions of justice associated with one's preferential treatment in organizational hiring. In fact, these self-reactive processes have been demonstrated to underlie responses in studies specifically designed to induce justice-related reactions to overcompensation inequity (Weiner, 1970). Because reactions to preferential hiring may easily be hypothesized as following existing distributive justice models of behavior, and because early tests of Adams's (1965) equity theory of distributive justice employed methodologies that are strikingly similar to preferential hiring, equity theory and supporting research are briefly reviewed in the next section. It is ultimately concluded from this review that self-consistency processes provide a more adequate explanation of the observed overcompensation inequity effects reported in early tests of Adams's equity theory. Hence, the purpose of the next section is to provide a background for a discussion of self-concept theories that explain reactions to failure feedback and other self-relevant information. Theoretical and empirical work related to self-consistency processes forms the basis of the theory of beneficiary reactions to affirmative action hiring that is developed in this dissertation.

Equity Theory and Reactions to Preferential Hiring

Equity theory (Adams, 1963; 1965) represents a distributive justice perspective on organizational and interpersonal behavior. According to equity theory, a person attempts to maintain fairness or equity in exchange relationships with other persons. Perceptions of equity or inequity are created when a person, either consciously or unconsciously, compares his or her outcome/input ratio to what is perceived as the ratio of some comparison other or to one's own internal standards (see Carrell & Dittrich, 1978). Equity results when the two ratios are perceived as equal; inequity occurs when the ratios are perceived as unequal.

Inequity may represent either an exchange that results in greater (i.e. overcompensation) or fewer (i.e. undercompensation) outcomes per inputs for the perceiver relative to the comparison other. Furthermore, inequity may occur either through differences in inputs or in outcomes relative to the inputs or outcomes that would render the exchange equitable. The consequences of perceived inequity are presumed to include a heightened state of tension or drive to reduce the inequity (Adams, 1965). This may occur through attempts to alter the inputs or outcomes of one's own exchange, or the inputs or outcomes of the comparison other. Alternatively, individuals may attempt to cognitively distort perceived inputs and outcomes, or may simply choose to leave the situation.

Preferential treatment in hiring is most similar to an overcompensation in job allocations, given applicant inputs in the form of measured qualifications. That is, in preferential hiring, minorities and females receive the same job and pay as majority members

despite having lower qualifications for the job. Therefore, situations in which individuals are selected preferentially on the basis of sex or race may lead to lower perceived inputs relative to the inputs of other individuals hired for the same job. The resulting inequity may then motivate higher performance among those selected preferentially. These processes are consistent with the theoretical perspective described by Barnes Nacoste (1990; 1991).

Early studies of the overcompensation phenomenon often attempted to manipulate perceived inputs through instructing subjects that they either were or were not qualified to perform a job as part of the experiment and receive payment for their performance (e.g. Adams & Jacobsen, 1964; Andrews & Valenzi, 1970; Weiner, 1970). These manipulations are strikingly similar to the mechanisms by which affirmative action is implemented in organizational hiring. Consistent with the notion that selection and payment for a task for which one is underqualified creates inequity distress, subjects in these studies performed the experimental tasks more effectively in overcompensation conditions relative to equitable hiring conditions.

Although inequity distress resulting from preferential hiring appears plausible given the results of these early overcompensation inequity studies, several interpretational difficulties have been raised regarding the psychological processes underlying the effects of manipulated qualifications in early equity theory research. Specifically, Lawler (1968) and Pritchard (1969) challenged the interpretation offered by previous authors (e.g. Adams, 1965; Adams & Jacobsen, 1964) regarding the effects of manipulated qualifications on subsequent task performance. These authors argued that previous

manipulations that had suggested to subjects that their qualifications were lower than those of other participants may, in fact, have challenged subjects self-esteem. Challenges to self-esteem may then have led subjects to expend greater effort to protect their self-conceptions of ability.

Hence, the alternative explanation of the early overcompensation-through-lower-qualifications results posits that subjects experienced threats to their self-esteem which they sought to protect through greater effort on the task. In fact, Andrews and Valenzi (1970) reported that none of the subjects in their overcompensation study mentioned concerns over the inequity of the hiring decision. Rather, a large majority of the subjects mentioned concerns over protecting their self image as a motivating factor. Specifically, subjects reported being motivated to prove to themselves and to the experimenter that they could in fact succeed at the task. In an effort to provide a more direct test of this explanation, Weiner (1970) manipulated the job for which "unqualified" subjects were selected as one that required either general intelligence or task-specific skill. As expected, when the task ostensibly reflected general intelligence and was therefore ego-involving, subjects responded to the overcompensation hiring inequity with increased performance. No differences in performance between equitably and inequitably hired subjects occurred when the task ostensibly reflected less ego-relevant task-specific skills.

Researchers have often noted this confound and have sought alternative methods of manipulating perceived overcompensation inequity (see Carrell & Dittrich, 1978). Evidence from these studies suggests that overcompensation inequity has an inconsistent and somewhat

transitory effect on increased performance (e.g. Greenberg, 1988; Greenberg & Ornstein, 1983; see also Campbell & Pritchard, 1976; Greenberg, 1982; Kanfer, 1991, for reviews). Hence, although concerns over inequities may operate as causally prior factors in other contexts, particularly those in which perceivers experience undercompensation distress, the available research suggests self-concept and self-consistency concerns as primary motivating factors in situations in which individuals are selected for employment despite receiving messages that they lack necessary qualifications. From this perspective, affirmative action hiring may invoke threats to beneficiaries' self-concept, which in turn stimulate reactions that follow self-consistency processes. In the next section, existing personality and social psychological theories of reactions to self-relevant failure feedback are selectively reviewed.

Self-Concept Theories of Reactions to Self-Relevant Feedback

The notion that individuals respond to threats to their self-image by withdrawing effort, or on the other hand, engaging greater effort to behaviorally and/or cognitively disconfirm inconsistent messages, has a long history in psychology. Underlying the various theoretical perspectives used to describe and explain these self-reactive processes is the fundamental assumption that individuals strive for control and mastery over their environments. Indeed, this key assumption is pervasive in psychology, from theories of childhood development (DeCharms, 1968; White, 1959), to attributional theories of causation (Kelley, 1971), to theories of cognitive consistency (Zimbardo, 1968), and even underlies some theories of justice and

fairness (Lerner, 1970; 1971; Walster, 1966). Moreover, as will be seen below, many psychological theories of reactions to self-relevant information also include the assumption that people seek favorable outcomes and positive experiences (cf. Shrauger, 1975; Swann, 1990; Taylor & Brown, 1988).

Wortman and Brehm's Integration of Reactance Theory and Learned Helplessness

One of the earliest theories describing the processes by which individuals seek to exert control over their environment was Brehm's (1966; 1972) now classic theory of reactance motivation. In Brehm's theory, individuals are motivated to feel that they are free to do what they wish, to avoid doing what they do not wish, and to feel that they are the sole directors of their own behavior. Hence, receiving outcomes that one does not choose, and has no control over, threatens one's freedom to do as one pleases (Wortman & Brehm, 1975). According to Brehm (1966; 1972), reactance to perceived losses of freedom is a direct function of the strength of the expectation that one initially possessed freedoms that are now threatened, and of the importance of the threatened freedoms in one's perceptual and cognitive system. Reactance behaviors designed to restore threatened control can take several forms, including direct attempts to engage in the threatened or eliminated freedom, hostile or aggressive acts, or attempts to exert control in other contexts in order to restore one's freedom by implication.

Although the notion that individuals are motivated to reassert self-determination in the face of threatened freedoms has received wide-ranging empirical support (e.g. see Brehm, 1972; Wortman & Brehm,

1975, for reviews), a large body of research amply documents the tendency for individuals to withdraw effort and become passive in the face of threats to their control (Miller & Norman, 1979; Wortman & Brehm, 1975). For example, in an early program of research with laboratory animals (e.g. Overmier & Seligman, 1967; Seligman & Groves, 1970; Seligman, Rosellini, & Kozak, 1975), and with human subjects (e.g. Hiroto, 1974; Hiroto & Seligman, 1975), Seligman and colleagues noted a marked tendency among subjects to withdraw avoidance behaviors in the face of seemingly uncontrollable aversive stimuli. Termed learned helplessness, the tendency to accept negative outcomes and a loss of freedom, rather than react in an effort to reassert control, was seen as arising from a perceived lack of association between one's responses and subsequent reinforcements. In that sense, a person receiving non-contingent positive outcomes should feel as helpless as one receiving negative outcomes (Seligman, 1974; 1975); however, subsequent reviews of the empirical research indicated that helplessness behaviors are likely to occur only in response to uncontrollable negative outcomes (e.g. Miller & Norman, 1979; Wortman & Brehm, 1975).

In the experimental paradigm most relevant to the present research, subjects in helplessness conditions encounter failure feedback on unsolvable tasks and then perform on an additional task (e.g. Krantz, Glass, & Snyder, 1974; Roth & Bootzin, 1974). When subsequent performance is perceived as requiring the same abilities and personal characteristics as were required in the initial unsuccessful efforts, withdrawal of task effort and reduced persistence occurs relative to conditions in which subjects experience initial success.

Helplessness has therefore been shown to generalize to experimental contexts and task conditions that were designed to appear unrelated to initial tasks, but not to tasks that appeared to require different abilities than those on which subjects initially experienced failure (Wortman & Brehm, 1975).

Wortman and Brehm (1975) and others (e.g. Miller & Norman, 1979) argued that both methodological and conceptual difficulties limit firm conclusions regarding the processes underlying helplessness effects. Moreover, the learned helplessness and reactance theories appear to make opposing predictions; reactance theory predicts that individuals will respond to threatened loss of control with increased efforts to reassert self-determination, whereas the learned helplessness model predicts that exposure to uncontrollable outcomes will result in withdrawn effort and passivity. In an effort to integrate the two perspectives, Wortman and Brehm (1975) argued that reactance to task failures would occur only if individuals initially expected to have some influence over the outcomes. Furthermore, reactance should occur only in those conditions in which subjects perceive the outcomes as important. When individuals lack initial expectations of personal control, or when outcomes are perceived as subjectively unimportant, learned helplessness should prevail.

Studies by Shaban and Welling (reported in Glass & Singer, 1972) and Roth and Kubal (1975) offered support for the integrative model. Subsequent research sought to identify conditions or individual differences that moderate perceptions of control over future outcomes. For example, isolated failures were shown to result in initial reactance, whereas repeated and consistent failures led to learned

helplessness (e.g. Mikulincer, 1988; Pittman & Pittman, 1979). As Wortman and Brehm (1975) and others (e.g. Abramson, Seligman, & Teasdale, 1978; Miller & Norman, 1979) suggested, the perceived utility of reacting to initial failure with renewed efforts may also vary as a function of the attributions individuals make for the performance outcomes they receive. Specifically, when outcomes are attributed as deriving from internal sources, such as ability or effort, reactance and learned helplessness should be more pronounced. Failure attributed to a lack of ability would suggest outcomes are stable and therefore beyond reach, whereas failures attributed to unstable effort suggest that renewed energies may result in success (Miller & Norman, 1979). Attributions to external causes result in negative affect when causes are seen as unstable, and effort withdrawal when external causes are perceived as stable.

In support of these propositions, Dweck and Repucci (1973) found that subjects attributing initial failures to insufficient effort persisted longer than those attributing failure to insufficient ability or to external, and therefore less controllable causes. Similarly, Mikulincer (1988) found that subjects who attributed isolated failures to internal causes performed at a higher rate than subjects attributing initial failures to external causes. However, when repeated failures were experienced, internal attributors performed less effectively than external attributors, suggesting that both reactance and helplessness occur primarily when performance is perceived as indicating something about the effort or ability of the performer (see also Dyck, Vallentyne, & Breen, 1979; Tennen & Eller, 1977). Consistent with Wortman and Brehm's (1975) integrative model, Mikulincer (1988) argued

that internal attributions for task failure enhance the importance attached to task performance, and therefore result in greater reactance when outcomes were perceived as controllable (i.e. due to effort) and helplessness when outcomes were seen as uncontrollable (i.e. due to insufficient ability).

Relatively fewer studies have addressed the role of individual differences in mediating perceptions of control over task failures. As might be expected given research underscoring the role of attributions in reactance and helplessness responses, subjects responding in the external direction on Rotter's (1966) internal-external locus of control scale showed greater performance impairments following non-contingent outcomes than did subjects with an internal locus of control (Hiroto, 1974). Some evidence has been reported indicating that female children respond to non-contingent outcomes with more helplessness than do boys, however these results appear to occur only when outcome feedback is delivered by adults rather than by peers (e.g. Dweck & Bush, 1976; Dweck & Reppucci, 1973). These results are consistent with research demonstrating sex differences in attributions for performance (e.g. Ickes & Layden, 1978).

More recently, Brockner and colleagues (Brockner et al., 1983) reported differential reactance and helplessness responses among subjects differing in global self-esteem. In this study, both low and high self-esteem subjects responded to initial failures with greater effort; however, low self-esteem subjects withdrew effort following repeated failures. High self-esteem subjects persisted in the face of consistent failure feedback. Included in the experimental procedure were several ploys designed to increase subjects' internal attributions

for performance on the initial helplessness training task. Therefore, high self-esteem appeared to protect subjects from the debilitating inference that they lacked sufficient ability to succeed on the task. As the authors noted, low self-esteem may weaken the perceived association between responses and subsequent reinforcements, resulting in withdrawal in the face of difficulties. Similar results showing greater task persistence among high self-esteem subjects following failure feedback have often been reported (e.g. Brockner, 1979a; 1979b; McFarlin, Baumeister, & Blascovich, 1984; Shrauger & Sorman, 1977) and are discussed in more detail below.

Summary and Implications. Research designed to test the Wortman and Brehm (1975) model of reactance and learned helplessness supports the conclusion that failure feedback will invoke renewed efforts to succeed, particularly when success is subjectively important and potentially within reach. When individuals attribute repeated failure to insufficient ability, withdrawal and internalized helplessness are more pronounced. This may occur more readily among subjects lacking initial confidence in their abilities, as measured by trait self-esteem. Reactance and helplessness should be expected to generalize to tasks and performance contexts that are subjectively perceived as requiring the same abilities as those that are seen as underlying performance that results in failure.

Although propositions derived from the original integrative model, including the moderating role of causal attributions, received substantial empirical support, little explanation was offered of the processes by which situations are cognitively represented in the generation of future expectancies (Miller & Norman, 1979; Wortman &

Brehm, 1975). Miller and Norman (1979) offered an attribution theory perspective of helplessness processes, whereby causal attributions for prior failures mediate between these outcomes and expectations of future success. Individual differences were regarded as crucial in this theory, but due to the lack of available research, were not well-described. In spite of the intuitive appeal of Miller and Norman's (1979) reconceptualization of learned helplessness, the motivational processes underlying reactance behaviors were not addressed. According to Brehm's (1966; 1972) original theory and the integrative model offered by Wortman and Brehm (1975), reactance represents merely an attempt to reassert behavioral self-determinism. This was thought to occur whenever future outcomes were perceived as attainable and subjectively important. The mechanisms by which proximal outcomes become subjectively important were not described, however. Recently, Carver and Scheier's (1990; Scheier & Carver, 1988) control theory model of behavioral self-regulation has offered an account of these and other motivational processes, including the translation of distal values and principles into subjectively important proximal desires and goals, and the potential reactions to task failures and negative feedback. Control theory and supporting research are described in the next section.

The Control Theory Model of Behavioral Self-Regulation

Control theory is based on the proposition that human behavior is motivated through a continual process of goal seeking and feedback control (Carver & Scheier, 1990; Scheier & Carver, 1988). Accordingly, individuals are thought to generate, either consciously or unconsciously, goals and standards for their behavior and future

intentions. Goals may exist at many levels of abstraction, from goals related to idealized "possible selves" (Markus & Nurius, 1986), to goals associated with day-to-day activities, such as arriving at work on time. In all cases, high-level goals are translated into lower-level prescriptions for action, which are then translated into more concrete behaviors and overt movements. Fundamentally, progress towards goals is accomplished through a process of feedback control whereby perceived outcomes or states are compared against a reference value that specifies the state required to achieve desired goals. If the perception of one's behavior or outcomes is discrepant with the perceived reference value, a change in behavior is motivated aimed at diminishing or removing the apparent discrepancy.

Goals and feedback loops are often ordered hierarchically, with global idealized standards or principles, such as honesty, responsibility, competence, and general personal worth, providing reference values for lower level "program", or behavioral, control (Carver & Scheier, 1990). Such high level principles allow for flexibility in the manner in which distinct behaviors serve to maintain progress without revision of more important and central values. Moreover, given this hierarchical organization, a single behavioral act may often be performed in service of multiple higher level goals. At times this may result in conflict, wherein reducing discrepancies with one standard may enlarge discrepancies with some other reference value. Nevertheless, it is the perception of discrepancy, not the actual difference between what a person may say and what he or she may do, that motivates behavioral change. Thus, control theory is compatible with research demonstrating self-serving perceptual biases (e.g. Weary,

1980) and vicarious self-enhancement (e.g. Tesser, 1986).

Self-regulation through feedback control is thought to occur automatically and efficiently in many behavioral contexts. However, at times individuals may encounter obstacles in their attempts to execute programs, realize intentions, or attain goals (Carver & Scheier, 1990). In these instances, self-regulation through feedback control is interrupted, causing a reevaluation of the situation and/or one's reference standards. Reevaluation is thought to lead to an assessment of the expected likelihood of successful discrepancy reduction given renewed efforts. This outcome expectancy is presumably based on an evaluation of information from a variety of sources, and ultimately includes perceptions of personal efficacy and perceptions of environmental responsiveness or situational favorability. As in the Wortman and Brehm (1975) model, expectations of likely success result in a return to the self-regulatory cycle and renewed efforts, whereas expectations of continued failure result in a disengagement of attempts at goal attainment. Moreover, willingness to disengage from self-regulatory efforts directed towards goal attainment depends on the subjective importance of the proximal outcomes in the hierarchical system of progress towards higher level principles. Thus, control theory includes an "override" mechanism whereby future efforts may be redirected in the event discrepancy reduction at the proximal level is precluded.

Behavioral withdrawal in the event of obstacles is often impossible however, as when for example, job requirements or the desires of others require continued task engagement. In these instances, disengagement is expected to take the form of mental or

emotional withdrawal as reflected by task-irrelevant thinking, daydreaming, procrastinating, and so on (Carver & Scheier, 1990). When such mental disengagement has implications for task performance, performance deficits are expected (Carver, Peterson, Follansbee, & Scheier, 1983; Carver & Scheier, 1982).

Carver and Scheier (1990) included a variety of potential sources of expectancies for successful discrepancy reduction in their model. For example, the attributions made for initial failures are presumed to lead to expectations regarding the utility of continued effort engagement; stable causes (either of an internal or external sort) lower subsequent expectancies, whereas unstable causes suggest potential future successes (cf. Carver & Scheier, 1990). Additionally, perceptions of present expectancies are thought to depend to a large extent on memories of prior successes or failures in similar situations (Carver & Scheier, 1990). These memories may be either specific and concrete, or generalized expectancies developed through years of effort-outcome reinforcements. In all cases, perceivers are thought to engage in an analysis of historical representations stored in memory and cognitive construals of the present situation, including the similarities of the present situation to past events and the apparent availability of present facilitating conditions, to derive an expectation of successful discrepancy reduction.

Few empirical studies have offered direct tests of propositions derived from control theory (see Scheier & Carver, 1988; Carver & Scheier, 1990 for reviews). Most relevant to the present discussion is a series of studies reported by Carver, Blaney, and Scheier (1979). In this research, subjects were presented with feedback indicating failure

on an anagrams task prior to performing a subsequent task that was described as either negatively or positively correlated with performance on the initial task. When subjects expected that their subsequent performance would be unrelated or negatively correlated with their failure on the first task, they persisted longer than when they expected that their performance would be similar to that on the first task. These performance results were obtained in the absence of differences between conditions in self-rated expectancies for future success. Hence, subjects appeared reluctant to assert higher expectations following failure even though they were willing to try harder given the possibility of future success.

Summary and Implications. Control theory offers a sophisticated and compelling analysis of human self-regulation and reactions to self-relevant feedback. Feedback that suggests discrepancies from desired reference values stimulates renewed efforts or effort withdrawal depending on the subjective expectancies of successful discrepancy reduction given a reengagement of task efforts. Outcomes that are perceived as important in the attainment of higher level principles result in greater efforts towards discrepancy reduction through continued task engagement (see also Steele, 1988; Weiner, 1973).

Control theory is consistent with a large body of research demonstrating greater task persistence among subjects with high chronic self-esteem relative to low self-esteem subjects (e.g. Brockner, 1979a; 1979b; McFarlin & Blascovich, 1981; McFarlin et al., 1984; Shrauger & Sorman, 1977). As Cohen (1959) argued, high self-esteem individuals expect and value success to a greater extent than do low self-esteem individuals. Hence, from the perspective of control theory, high

self-esteem subjects set higher reference values during task performance and maintain high expectancies of successful discrepancy reduction in the face of failure.

The proposition that behavior is motivated through a cybernetic process of discrepancy reduction implies that feedback indicating overshooting of reference values results in self-corrective attempts to return to the reference standard (Carver & Scheier, 1990). In other words, performance that exceeds one's standards should result in a withdrawal of effort to return to a level of performance that is more congruent with personal reference standards. This type of effect may be regarded as counterintuitive given research demonstrating that people often prefer self-enhancing positive rather than negative evaluations of their own performance (Greenwald, 1980), they often avoid or reject negative feedback (Harvey, Kelley, & Shapiro, 1957), and they often make favorable predictions about their future success (Taylor & Brown, 1988). Hence, although the notion that overshooting of reference values results in effort withdrawal appears necessary given the control theory model proposed by Carver and Scheier (1990), little integration is offered in their theory of these cybernetic processes with previous research demonstrating that people, both those with high and low self-esteem, derive positive affect from self-enhancing outcomes (e.g. McFarlin & Blascovich, 1981). Moreover, Carver and Scheier (1990) fail to describe empirical research supporting their overshooting hypothesis.

Recently, Swann's (1983; 1987; 1990) self-verification theory has provided an integration of seemingly robust self-enhancement motivations with empirical research demonstrating effects that appear

at first glance to mimic control theory's overshooting hypothesis. In fact, although based on a very different perspective of motivated self-regulation, self-verification theory predicts many of the same reactions to feedback that are described in Wortman and Brehm's (1975) integrated reactance-helplessness model and Carver and Scheier's (1990) control theory. Rather than supposing that reactions to feedback follow from motivations to reassert behavioral self-determinism or to attain hierarchically organized goals and principles, self-verification suggests that much of human motivated behavior in evaluative contexts derives from the need to maintain consistency with stable self-conceptions, whether those self-conceptions are ultimately positive or negative. In so doing, self-verification offers a comprehensive account of motivations underlying reactions to self-enhancing and self-disparaging feedback, as well as previous research on the self-fulfillment of social expectancies, or <u>self-fulfilling prophecies</u>. Self-verification thus offers a unique perspective on the potential motivations underlying beneficiary reactions to affirmative action hiring in organizational contexts.

<u>Swann's Self-Verification Theory</u>

Responses to self-relevant feedback have often been described as either deriving from needs for self-enhancement or for regulation of self-consistency (see Dipboye, 1977; Shrauger, 1975 for early reviews). Shrauger (1975) and Swann (1983; 1987; 1990) noted that empirical research offers strong support for both motives. Self-enhancement refers to the positive affect that derives from experiencing favorable outcomes, and the negative affect that derives from receiving unfavorable outcomes, including task failure. Thus, a large body of

research demonstrating self-enhancing strategies of self-presentation (e.g. Baumeister, 1982; Jones & Pittman, 1982), self-serving attributions for successful and unsuccessful performance (e.g. Greenwald, 1980; Snyder & Higgins, 1988; Zuckerman, 1979), self-serving predictions of future success (Taylor & Brown, 1988), self-enhancing social comparison processes (Tesser, 1988), and compensatory self-affirmation (Steele, 1988), supports the notion that people seek positive feedback in order to maintain high levels of self-esteem.

Nevertheless, Swann (1990) points out several weaknesses in a strictly self-enhancement view of human motivation that restrict its application to the full spectrum of motivated human behavior. First, a strict self-enhancement perspective would predict greater compensatory self-enhancing drives among individuals with low self-esteem, who theoretically would have the most to gain from positive outcomes. Empirical research, including studies (discussed above) showing greater task persistence following failure among high rather than low self-esteem subjects, has offered very little support for this compensatory version of the self-enhancement perspective (Brown, Collins, & Schmidt, 1988; Shrauger, 1975; Taylor & Brown, 1988). The self-enhancement motive does not offer a parsimonious explanation of helplessness and self-regulatory withdrawal behaviors reviewed above. Second, as Shrauger (1975) noted in his review of literature related to reactions to self-relevant feedback, little evidence of a self-enhancing motive is found when cognitive, as opposed to affective, reactions to feedback are examined. This is an important distinction and is addressed in more detail below.

Third, much of the research that has been offered in support of a self-enhancement motive may in fact represent self-consistency strivings. That is, responding to failure with renewed efforts aimed at achieving success may reflect a desire to receive feedback that is consistent with a perception of oneself as being competent and capable. Supporting a self-enhancement motive requires demonstrating that subjects with a negative self-concept seek success to the same extent as do individuals with a positive self-concept. The literature reviewed above would suggest that individuals with negative self views, or low self-esteem, in fact withdraw effort in the face of failures, thereby behaving in a manner that is consistent with their self perceptions. Indeed, self-consistency can be seen as underlying control theory's propositions regarding hierarchical self-regulation of valued principles and standards. These potential self-consistency strivings represent a major focus of Swann's (1983; 1987; 1990) self-verification theory.

Before turning to a more detailed discussion of self-verification theory and supporting empirical research, it is worth noting that considerable research demonstrates behavioral confirmation of expectations held by others, even when such expectancy confirmation may undermine important aspects of the actor's self-conception. Indeed, expectancy confirmation processes, or self-fulfilling prophecies, have long been the focus of research efforts (see Darley & Fazio, 1980; Jussim, 1986; Miller & Turnbull, 1986 for reviews). Self-fulfilling prophecies refer to instances in which a perceiver's expectancy regarding a target other leads the target to behave in ways that confirm the perceiver's expectancy. For example, in a series of

studies reported by Rosenthal and Jacobson (1968), teachers with false expectancies regarding their pupils adopted different teaching strategies which ultimately resulted in student performance that was consistent with teachers' initial expectancies. Later research confirmed self-fulfilling prophecy effects in laboratory (e.g. Swann & Snyder, 1980; Zanna, Sheras, Cooper, & Shaw, 1975) and field settings (e.g. Crano & Mellon, 1978), and in unstructured interactions in which perceivers and actors were similar in social status and power (e.g. Snyder, Tanke, & Berscheid, 1977). Jussim (1986) noted that behavioral confirmation may arise through a complex process involving perceiver cognitive biases, target behavioral passivity and compliance, and/or target internalization of perceiver expectancies. Empirical research within the framework of self-verification theory has addressed these social expectancy effects and has described conditions under which behavioral confirmation and self-consistency processes are more likely to prevail. These moderating conditions are addressed in the review of self-verification research provided below.

Because of the inherent complexity of self-verification theory, and the comprehensiveness with which it addresses motivations underlying responses to self-relevant feedback, its basic underlying theoretical propositions and supporting empirical research are described in detail below. The sections that follow present an overview of the theory, a description of strategies that serve self-verifying motives, conditions regulating self-enhancement and self-verification, and implications for research on self-reactive processes. It will ultimately be concluded in a later section of this dissertation that reactions to affirmative action hiring may correspond quite

closely to the need to self-verify stable self-conceptions of ability.

An Overview of Self-Verification Motives. The fundamental assumption underlying self-verification theory is that an individual's self-concept serves as an important means of predicting and controlling the social world. This view derives from Lecky's (1945) "unity" or consistency motive, according to which the individual's self-concept:

> ... is his only guarantee of security, its preservation soon becomes a goal in itself. He seeks the type of experience that confirms and supports the unified attitude and rejects experiences which seem to promise disturbance to this attitude (Lecky, 1945, p. 123).

In that sense, self-conceptions can be construed as cognitive and emotional lenses through which people perceive and make sense of their worlds. Thus, substantial changes in one's self-concept result in a psychically unsettling reorganization of the manner in which information in the social world is perceived and understood, and are therefore avoided (Swann, 1987).

According to Swann (1990), self-verification of stable self-concepts serves at least two motives. First, as Lecky (1945) and others (e.g. Epstein, 1973; Mead, 1934; Secord & Backman, 1965) argued, engaging in activities that confirm one's stable sense of self bolsters one's confidence in being able predict and control future outcomes. However, Swann (1990) also emphasized the role of stability of self-conceptions in maintaining social harmony with others. That is, social interaction is based in large part on implicit agreements between individuals that they will honor the identities with which they have come to be known (e.g. Gergen & Taylor, 1969). Thus, both to maintain self-perceptions of control and predictability, and to facilitate social interaction, individuals should be motivated to ensure that

others see them as they see themselves (Swann, 1990). In support of this conception, Baumgardner and Brownlee (1987) reported a tendency for subjects who were doubtful of their abilities to strategically perform poorly on a task that was to be evaluated by an interaction partner relative to subjects that were more certain of their abilities or who would not share their performance outcomes with another perceiver. The authors explained that strategic failure served to lower the perceiver's expectations of performance for a subsequent task about which actors felt uncertainty regarding their likely success.

The notion that individuals seek self-verification implies therefore, that they should think and behave in ways that promote a stable self-conception, even if their self views are negative. Thus, individuals with perceptions of incompetence and poor ability should prefer failure over success on tasks that are relevant to their self views. In a widely-cited study by Aronson and Carlsmith (1962), subjects receiving repeated failure or success feedback on a task changed their subsequent test responses following expectancy-disconfirming feedback to a greater extent than did subjects receiving consistent feedback, suggesting that subjects in the expectancy discrepant condition may have desired to maintain self beliefs regarding their task abilities. As Dipboye (1977) and others (e.g. Shrauger, 1975) noted however, these findings were seldom replicated, suggesting that the self-consistency effect may not be as robust as self-enhancement drives. Nevertheless, in reviewing these perspectives, Swann (1990) argued that studies attempting to replicate the Aronson and Carlsmith (1962) findings may have operationalized self-consistency in a manner that sought to demonstrate consistency

with experimentally induced prior self views, rather than with subjectively held stable self-conceptions. Given that people generally hold positive rather than negative self-conceptions (e.g. Myers & Ridl, 1979; Swann, 1987), and the fact that replications of Aronson and Carlsmith's research often did not examine self-verification of stable personal self views, it is not surprising that self-enhancement often seemed to prevail. Swann's (1983; 1987; 1990) self-verification theory emphasizes the motivation to verify subjectively certain self views. It incorporates motives for self-enhancement, and relies on the cognitive/affective distinction made by Shrauger (1975), in deriving hypotheses regarding the operation of self-verification and self-enhancement in reactions to self-relevant feedback. In the next section, strategies of self-verification and supporting research are described.

Self Verification Strategies. Swann (1987; 1990) describes a variety of cognitive and behavioral strategies that serve self-verification needs. Although Swann (1990) argues that cognitive strategies are used only in the event behavioral strategies are unsuccessful or precluded by characteristics of the situation, social perception researchers generally consider cognitive processes as causally prior to behavioral reactions (e.g. Fiske & Neuberg, 1990; Fiske & Taylor, 1991; Hattrup, 1990). For example, social perception researchers posit that perceptual and cognitive biases operate to maintain social schemas and stereotypes, and it is only when information undeniably disconfirms prior conceptions of social reality that behavioral or cognitive changes take place. For that reason, Swann's (1987; 1990) cognitive strategies will be described first given

that they are considered here to occur prior to behavioral strategies. In any event, future research should be designed to test the causal sequence or prepotency of these various self-verifying strategies.

Consistent with prior research in perception, Swann's (1987; 1990) first cognitive strategy designed to maintain one's stable sense of self involves selective attention to self-confirming information. According to this perspective, individuals should be more apt to seek out information that will confirm their self-conceptions relative to information that will disconfirm their self views. Swann and Read (1981b, Study 1), for example, found that subjects who had previously described themselves as particularly likable spent more time examining remarks made by a perceiver who was also thought to hold favorable impressions of the subject relative to the statements made by perceivers who thought the subject was dislikable. Moreover, in contrast to what might be expected from a self-enhancement perspective, self-described dislikable subjects spent more time reading statements made by perceivers holding negative views than statements made by more favorably disposed perceivers. A similar perspective and supporting research was described by Pyszczynski and Greenberg (1987) in their analysis of depression and depressive self-focusing.

A second cognitive strategy whereby self views may be proactively maintained is through selective encoding and/or retrieval of self-consistent feedback. For example, studies by Crary (1966) and Silverman (1964) indicated better recall for tasks on which subjects received self-confirming information than for tasks on which subjects received self-discrepant feedback. When asked to recall their performance effectiveness, subjects with high self-perceived competence

overestimated, whereas those with low self-perceived competence underestimated, their actual objective level of performance (e.g. Crary, 1966; Stotland, Thorley, Thomas, Cohen, & Zander, 1957; Suinn, Osborne, & Page, 1962). Swann and Read (1981b, study 3) also reported enhanced recall for self-consistent information relative to self-discrepant information. This occurred for both self-verifying negative as well as verifying positive information, and was most pronounced when subjects anticipated that perceivers held opinions of their likability that were consistent with their own self views.

Individuals may also selectively interpret information in a manner that is consistent with their self-conceptions. For example, research has often demonstrated that people will endorse the validity and accuracy of self-relevant information only when it is consistent with their stable self-conceptions (e.g. Crary, 1966; Korman, 1968; Markus, 1977). Individuals are more confident in the perceptiveness of an evaluator when the evaluator's impressions confirm their own self views (e.g. Shrauger & Lund, 1975), and they rate self-confirming feedback as particularly diagnostic relative to self-disconfirming feedback (Swann & Read, 1981a). Swann, Griffin, Predmore, and Gaines (1987) found that subjects rated the source of self-discrepant feedback as less accurate and less competent than subjects rating the source of self-consistent feedback. Subjects were also less likely to endorse the validity of the procedure used to derive judgments of their abilities, and were more likely to attribute the cause of feedback to the source rather than to themselves, when receiving self-inconsistent compared to self-congruent information. This occurred both for subjects holding positive and for subjects holding negative views of

themselves. Baumgardner, Kaufman, and Levy (1989) reported similar results. In their study, high self-esteem subjects discredited negative feedback about their personal characteristics both privately and when their responses to the feedback were made public. Low self-esteem also discredited positive feedback, but only when their judgments of the accuracy and validity of the feedback were made in private; in public, low self-esteem subjects were reluctant to admit the positive feedback was invalid.

Indeed, a large body of research exists showing attributional differences for performance feedback among subjects holding success and failure expectancies for their own levels of effectiveness (e.g. Feather & Simon, 1971a; 1971b; 1973; Fitch, 1970; Gilmore & Minton, 1974; Ickes & Layden, 1978; Solley & Stagner, 1956). In reviewing the literature on self-serving attributions, Zuckerman (1979) noted that attributions were more often made to internal and stable causes when performance confirmed expectancies, whereas outcomes were attributed to external causes when they disconfirmed prior expectancies. Similarly, subjects high in self-esteem and those high in need for achievement most often attributed failure to external causes and success to internal causes, whereas low self-esteem and low need for achievement subjects attributed failure internally and success externally. Similar results have been reported recently by several authors (e.g. Campbell & Fairey, 1985; Kulik, Sledge, & Mahler, 1986; Schlenker, Weigold, & Hallam, 1990). Hence, given these apparent cognitive biases in the interpretation of self-relevant information, it is not surprising that individuals' self-conceptions often conflict with the opinions held by others (e.g. Felson, 1981), and that people often overestimate the

extent to which others hold opinions that confirm their own self views (e.g. Orpen & Bush, 1974). Moreover, it should be noted that the cognitive processes described by Swann (1987; 1990) are similar to self-schematic processing described by Markus (1977) and others (see Fiske & Taylor, 1991).

Cognitive biases of self-relevant feedback may often fail however, as when information undeniably disconfirms prior beliefs (cf. Hattrup, 1990). Under these conditions, people may often employ behavioral strategies designed to bring others' perceptions into line with their own self views. One such strategy described by Swann (1987; 1990) involves selectively seeking social contexts and interaction partners that provide self-confirmatory feedback (see also Secord & Backman, 1965). For example, Pervin and Rubin (1967) reported that college students were more unhappy and were more likely to drop out of school if their college had qualities that were incompatible with their own self views. Similarly, Swann, Pelham, and Krull (1989) found that subjects with negative self-conceptions were more likely to seek out interaction partners who held unfavorable, and therefore self-verifying, rather than favorable and therefore self-enhancing, opinions of their self-perceived worst attribute. Likewise, highly depressed subjects in another study (Swann, Wenzlaff, Krull, & Pelham, 1990) preferred negative over positive evaluators. Swann and Pelham (1988; 1990) have reported very similar findings. However, in these studies, subjects sought the company of others with negative impressions only when they were themselves certain of their negative self views. Uncertain subjects preferred favorable partners, or displayed no strong preference regarding possible relationships.

A second behavioral strategy designed to create a self-verifying social environment involves displaying identity cues. Here individuals attempt to create self-confirming impressions in others by "looking the part". For example, the use of cosmetics, clothing style, body posture, and demeanor, and the acquisition of material goods, such as automobiles, houses, and jewelry may all serve to convey a desired image to others (Swann, 1987; 1990). Empirical research has not yet addressed this strategy within the framework of self-verification theory, however.

A final strategy described by Swann (1987; 1990) has been termed interpersonal prompts. Using this strategy, individuals engage in behaviors designed to affirm to themselves and to others a stable self-conception. In a widely-cited study of self-verification versus behavioral confirmation of perceivers' expectancies, Swann and Ely (1984) first measured targets' self-perceived introversion/extroversion and the certainty with which targets held these self views. Subjects assigned to the perceiver role were then given information disconfirming targets' self views and were instructed to choose several experimenter-provided questions to ask the target during a conversation. Across three experimental sessions, perceivers asked an increasing number of target-self-verifying questions and rated targets in a manner that was increasingly consistent with targets' own self views, rather than consistent with their initial impressions. This occurred however, only when targets were certain of their self-perceived introversion/extroversion. Uncertain targets elicited perceiver impressions that were neither predominantly consistent with self views nor confirming of perceivers' initial impressions. These

self-verifying effects occurred in the absence of target knowledge regarding the perceivers' expectancies.

Studies by Swann and Read (1981b, Study 2) and Hilton and Darley (1985) demonstrated more pronounced behavioral self-verification among subjects who were aware of the self-inconsistent impressions held by perceivers relative to uninformed subjects. For example, Swann and Read (1981b, Study 2) found that self-described dislikable and likable subjects elicited more self-verifying reactions from observers when initial impressions were known relative to when targets were unaware of perceivers' expectations. Hilton and Darley (1985) also found that perceivers reported greater behavioral confirmation of their expectations when targets were uninformed about the negative impressions held about their standing on a warm/cold trait. Hilton and Darley (1985) concluded that self-fulfilling prophecies may only be operative when targets are naive with respect to the manner in which they have been pre-judged.

In an effort to assess the roles of private and public self-consciousness in self-verification versus behavioral confirmation during interactions, Major, Cozarelli, Testa, and McFarlin (1988) presented perceivers with bogus information that was opposite targets' initial self-perceived sociability. Following an unstructured conversation, perceivers continued to see targets in a manner that was consistent with initial impressions, despite being inconsistent with targets' self views. However, when targets were high in dispositional self-focused attention, perceivers' positive impressions of self-described low-sociable targets were disconfirmed. No other self-verifying effects were found in perceivers' judgments of targets

following the interaction. Targets' own self-ratings changed in the direction of perceivers' initial self-inconsistent impressions only when the targets were high in public self-consciousness, or public-focused attention. Although these results suggest limits to the self-verifying effect, it should be noted that targets were unaware of perceivers' expectancies during the interaction. Moreover, the fact that self-verification only occurred among targets who held negative self-conceptions provides particularly compelling support for a potential self-consistency process underlying human motivation.

It should noted that although the above studies provide strong support a self-verifying motive in social interaction, interpretation of the results of this research are problematic given the fact that perceivers initially held impressions of targets and subsequently provided dependent ratings of targets following an interaction (Swann & Read, 1981b, Study 2 is an exception). Hence, the potential operation of perceptual biases in the interpretation of target behavior cannot be ignored. On the one hand, rating outcomes indicating that perceivers saw targets in a self-verifying manner following structured and unstructured interactions may be regarded as particularly robust given substantial research showing perceptual biases maintaining initial impressions in the face of both concrete and ambiguous target information (see Fiske & Neuberg, 1990; Fiske & Taylor, 1991; Hattrup, 1990 for reviews). On the other hand, perceivers may not have held impressions with great certainty and may have been willing to seek disconfirming information, or were willing to substantially revise experimenter-provided impressions following the slightest inconsistency in target behavior. Nevertheless, Swann and Ely (1984) found that

although highly certain perceivers sought more impression-confirming information that uncertain perceivers, they were no more likely to rate self-certain targets in an impression-confirming, and therefore target-self-disconfirming manner. Fortunately, several studies have addressed self-verification in a manner that does not confound perceiver cognitive biases with target self-verification processes.

Swann and Hill (1982), for example, had self-described socially dominant and submissive subjects interact with a confederate during a task requiring one participant to take a leadership and the other a follower role. Confederates then delivered social feedback that either confirmed or disconfirmed subjects' self-conceptions. When given an opportunity to respond to the confederate's assertions regarding their apparent dominance or submissiveness, subjects both resisted the discrepant feedback verbally and behaved in a manner that observers rated as significantly more confirming of their previously rated self views relative to when confederates delivered self-consistent feedback. However, when subjects' attention was immediately diverted from the confederate's statements, and opportunities to respond to self-discrepant feedback were removed, targets changed their self views in a direction that was consistent with the feedback they received.

Using a prisoner's dilemma game to assess behavioral self-verification in response to self-inconsistent social expectations, Baumeister (1982) found significantly increased cooperative performance among high self-esteem subjects who thought their performance partner held generally negative impressions relative to high self-esteem subjects who thought the other individual had not formed an impression. Likewise, low self-esteem subjects performing with partners who

ostensibly held favorable impressions adopted a more competitive, and therefore self-verifying performance strategy.

Self-verification processes have also been reported within contexts that are relevant to individuals' self-conceptions of task-relevant performance capabilities. For example, Maracek and Metee (1972) found that low self-esteem subjects performed significantly worse on a card matching task following success feedback than did subjects with high self-esteem. This apparent withdrawal of effort occurred only when subjects were certain of their low self-esteem and were led to attribute their success to ability. Low self-esteem uncertain subjects and those attributing task success to luck performed as well as high self-esteem certain and uncertain subjects. Self-perceived performance ratings showed a similar pattern across high and low, certain and uncertain self-esteem subjects. Effort withdrawal serving self-consistency motives apparently occurred only when subjects were certain of their negative self views and when performance could be construed as indicating something about the subjects' true level of ability. Similar processes were demonstrated by Baumeister and Tice (1985). In this study, high self-esteem subjects attempted to self-verify by increasing their performance on a task only when initial failure was attributed to internal causes. The performance of low self-esteem subjects remained unchanged following failure feedback in both the internal and external attribution conditions.

McFarlin et al. (1984) reported increased task persistence following initial failures among subjects with high self-esteem relative to subjects lower in self-esteem. Because the task was one in which persistence and eventual success were independent, high

self-esteem subjects ultimately performed less effectively than low self-esteem subjects who apparently spent less time attempting to complete the most difficult problems. In a follow-up investigation (McFarlin et al., 1984, Study 2), high self-esteem subjects persisted longer on unsolvable problems relative to low self-esteem participants, even after receiving instructions to skip the most difficult problems. As the authors suggest, high self-esteem apparently bolsters one's confidence in being able to manage even very difficult tasks that others have advised against attempting. In that sense, self-verification motives may ultimately result in repeated disconfirmation in the event unrealistic expectations of situational favorability are made prior to task engagement (see also Janoff-Bulman & Brickman, 1982). Enhanced task persistence and/or task performance among high, but not low, self-esteem subjects following failure feedback is a robust finding within the psychological literature (e.g. Brockner, 1979a; 1979b; Brockner et al., 1983; Perez, 1973; Shalon, 1968; Shrauger & Sorman, 1977; Weiner, 1973).

In summary, the available research provides compelling support for self-verification motives in human social behavior. Attempts to maintain consistent and stable self-conceptions occur through a variety of cognitive and behavioral strategies. Indeed, the very process of maintaining existing social relationships and behavioral routines may be seen as ultimately serving these self-consistency strivings (Swann, 1990). Self-discrepancies are often be encountered, resulting in cognitive biases of self-relevant feedback or behavioral actions designed to reassert a stable sense of self to others and to oneself. Swann (1990) describes research in which subjects receiving

self-discrepant feedback subsequently responded faster to self-descriptive statements than did subjects initially receiving self-confirming feedback. In explaining these findings, Swann (1990) suggests that disconfirming self-relevant information results in increased self-focus, thereby making self-conceptions more cognitively accessible. This increased cognitive acccessibility of self-conceptions may ultimately result in greater self-verification for both cognitive as well as motivational reasons (Swann, 1990). Considerable research evidence supports self-verification processes in social behavior; however, self-enhancement motives have also received wide-ranging empirical support (Taylor & Brown, 1988).

Conditions Regulating Self-Enhancement versus Self-Verification. Clearly, for people with favorable self views, positive feedback is both self-verifying and self-enhancing. The two perspectives make competing predictions, however, about the reactions of individuals with negative self-conceptions; self-verification predicts that they will prefer negative feedback, whereas self-enhancement predicts that they will seek positive feedback. Controversy regarding which theoretical perspective is most appropriate has existed for many years, with some authors subsuming self-enhancement within more central self-verification needs (e.g. Lecky, 1945), and others arguing that self-verification ultimately serves self-enhancement drives (e.g. Dipboye, 1977). Rather than attempting to support a parsimonious but empirically unfalsifiable "all or none" position, Swann's (1987; 1990) self-verification theory relies on Shrauger's (1975) earlier distinction between cognitive and affective reactions to feedback and, by so doing, incorporates both self-enhancement and self-verification

processes within a larger theoretical framework. Specifically, Shrauger (1975) noted in his review of feedback research that empirical evidence supported both self-consistency and self-enhancement motives. Cognitive responses to feedback typically conformed to self-consistency theory, whereas affective reactions followed the predictions of self-enhancement models. Subsequent research has largely supported Shrauger's (1975) hypothesis (e.g. McFarlin & Blascovich, 1981; Moreland & Sweeney, 1984; Swann et al., 1987).

For example, McFarlin and Blascovich (1981) reported that, consistent with self-enhancement theory, both high and low self-esteem subjects preferred success over failure. However, as would be predicted from self-verification theory, high self-esteem subjects rated their own perceived ability and predicted future performance higher following both success and failure feedback than did low self-esteem subjects. Within feedback conditions, the pattern of results conformed quite closely to both Wortman and Brehm's (1975) integrative reactance-helplessness model and propositions derivable from self-verification theory. Specifically, high self-esteem subjects appeared to react against initial failure feedback by reporting higher predictions for their future performance relative to high self-esteem subjects receiving success feedback. Though non-significant, low self-esteem subjects tended to rate their self-perceived ability and predicted performance lower following failure feedback than following successful outcomes. Moderate self-esteem subjects responded in a manner that was consistent with results reviewed above regarding reactions of self-uncertain subjects; their self-rated ability and predicted performance conformed closely to the valence of feedback they

received.

Swann et al. (1987) reported similar differences between affective and cognitive reactions to self-discrepant feedback. In this study, subjects received bogus social skills feedback that either confirmed or disconfirmed their earlier self-rated social self-esteem. As described above, when asked to evaluate the feedback and its source, subjects receiving self-disconfirming feedback rated the source as less accurate and competent, and the procedure used to derive social skills ratings as less valid and useful relative to subjects receiving self-consistent positive or negative feedback. These results were obtained despite ratings of increased negative general affect, and increased depression, hostility, and anxiety following negative as opposed to positive feedback among both high and low self-esteem subjects. Affective ratings following feedback did not vary as a function of prior self-described social esteem. Moreover, scales constructed from affective and cognitive measures were found to be remarkably independent (r = -.24) despite a significant order effect indicating method artifacts which served to depress differences between affective ratings of positive and negative feedback when these judgments followed ratings on the cognitive dimensions.

Thus, the available literature supports the notion that people strive to maximize affective value and nourish their sense of self worth through self-enhancement processes, but at the same time, seek to maintain their stable self-conceptions through processes of self-verification. In describing the psychological processes underlying reactions to self-relevant feedback, Swann (1990) argued that individuals' initial reactions are ones of emotional or affective

response. People experience generally positive affect when encountering favorable feedback, and experience generally negative emotions when feedback is unfavorable (see Weiner, 1985; 1986 for similar arguments). Following this initial basic reaction, individuals then assess the implications of feedback for their stable self-conceptions and derive a self-verifying or self-enhancing response depending on various cost-benefit considerations associated with either form of response. This process model of reactions to evaluative information is consistent with Zajonc's (1980) earlier propositions regarding the processing of emotionally laden stimuli, and with recent empirical work designed to examine affective and cognitive responses to feedback (e.g. Swann, Hixon, Stein-Seroussi, & Gilbert, 1990).

Swann (1990) describes a variety of potential personal and situational factors that may influence the perceived costs and benefits associated with responding to self-relevant feedback with self-enhancing or self-verifying reactions. Several of these are relevant to the present discussion. First, research has aptly demonstrated that people are more likely to self-verify to maintain positive or negative self views about which they are certain than views about which they are uncertain (e.g. Maracek & Metee, 1972; Swann & Ely, 1984). Self-enhancing reactions should be observed therefore, in response to feedback relevant to uncertain self-conceptions. Second, Swann (1990) suggests that individuals should attempt to verify important self attributes, or attributes that relate to one's significant plans or goals. This is similar to the perspectives on the regulation of renewed effort offered by Wortman and Brehm's (1975) reactance model and Carver and Scheier's (1990) control theory. Swann (1990) notes

however, that striving to verify important self views should lead to heightened efforts to verify negative as well as positive self-conceptions. Nevertheless, people generally regard positive self views as more important (e.g. Pelham, 1990), suggesting that verification of important views may often include self-enhancement drives at the same time.

Situations that make salient pre-existing self-conceptions should increase cognitive accessibility of such self views, leading to more pronounced self-verification processes. For example, Snyder and Swann (1976) found that asking people to think about their attitudes resulted in an increased tendency to act on these beliefs when given a subsequent opportunity to do so. A fourth moderator described by Swann (1990) is the perceived credibility of the source of discrepant feedback. Feedback that can be readily discounted as invalid would not require further behavioral self-verification aimed at reaffirming one's own view of self, but may nevertheless still stimulate efforts designed to ensure that others hold self-consistent impressions. Support for these notions has been provided in studies by Baumeister (1982) and Baumeister and Tice (1985). Specifically, attributions of failure feedback to internal causes resulted in increased task efforts among high but not low self-esteem subjects, whereas external attributions were not associated with changes in task-related effort following failure (Baumeister & Tice, 1985). Baumeister (1982) reported that subjects attempted to reaffirm positive or negative self-conceptions only when they expected that interaction partners who held prior impressions would have access to their subsequent behavioral responses. Experimental results consistent with impression management motives in

behavioral self-verification have also been reported by Baumgardner and Brownlee (1987) and DeCharms and Rosenbaum (1960).

An additional moderator of self-verification versus self-enhancement drives relates to the available situational and cognitive opportunities to engage in self-enhancing and self-verifying behaviors. Self-enhancement should be sought whenever such processes do not logically disconfirm stable self-conceptions. Thus, as Steele (1988) has noted, individuals will often enhance aspects of self that are logically unrelated to the implications of perceived negative outcomes and negative self views. For example, Steele (1975) reported that subjects who received negative feedback challenging their self-concepts later engaged in increased efforts to self-enhance on an unrelated aspect of the self. Similar results were found by Baumeister (1982). As noted above, high self-esteem subjects in this study did not attempt to alter others' impressions by directly responding to perceivers' negative views; instead, they attempted to raise impressions of unrelated aspects of their self-concept. Of course, in studies in which the manner of response to feedback is limited to direct reaction to the feedback, subjects engage in self-verification of both positive and negative self views (e.g. Hilton & Darley, 1985; Maracek & Metee, 1972; Swann & Ely, 1984; Swann & Hill, 1982; Swann & Read, 1981b). Thus, specific and directed reactions to others' self-incongruent impressions may be avoided when alternative means of self-verification of global self views are available (see Snyder & Higgins, 1988; Steele, 1988). Choosing alternative means of self-verification would clearly depend on the importance and certainty of the focal self-disconfirming feedback received from others, and the available opportunities to

self-enhance on unrelated dimensions (Steele, 1988). As Swann (1990) notes, many activities are logically constrained by self-verification needs, such as judgments of the accuracy and attributions regarding feedback (e.g. Swann et al., 1987), within-attribute feedback seeking and behavioral reactions (e.g. Swann & Read, 1981b), and choices of long term interaction partners (e.g. Huston & Levinger, 1978; Swann, 1987; Swann & Pelham, 1988; 1990).

It also follows from this perspective that self-verification requires sufficient cognitive and situational opportunities to respond in a self-consistent manner. For example, subjects placed under cognitive load or denied time to consider the self-relevant implications of feedback responded in a self-enhancing manner to negative and positive feedback (Swann et al., 1990). When later freed of cognitive load and allowed time to consider the implications of feedback, subjects eventually repudiated their initial self-enhancing responses and adopted self-verification strategies (Swann et al., 1990). Moreover, as Swann and Hill (1982) reported, individuals may behaviorally confirm self-inconsistent feedback only when denied an opportunity to consider and respond to the implications of the feedback. As Snyder and Higgins (1988) point out, at times individuals may ultimately seek to compromise with others' perceptions, and thereby forgo self-verification or self-enhancement, through a process of negotiated reality. These propositions have yet to be tested empirically, however.

Summary and Implications of Self-Verification Theory. Self-verification theory is based on the fundamental assumption that individuals seek positively valent outcomes, yet at the same time

strive to maintain the stable self-conceptions through which they perceive reality and define their own existence. Although positive outcomes are affectively self-enhancing for the person with negative self perceptions, they ultimately usurp his or her sense of prediction and control. Individuals who hold positive self-conceptions, on the other hand, regard negative feedback as both affectively and cognitively unacceptable. Self-verification theory predicts that individuals who hold negative self-conceptions of their abilities and personal characteristics withdraw task effort in the face of initial failures, whereas those with more positive self views renew task-related efforts to reassert stable self-conceptions of ability. Thus, self-verification theory leads to many of the same predictions regarding reactions to feedback that are generated from Wortman and Brehm's (1975) integrative reactance-helplessness model and from Carver and Scheier's (1990) control theory, but for very different reasons. Whereas the models proposed by Wortman and Brehm (1975) and Carver & Scheier (1990) explain effort withdrawal as resulting from decreased expectancies of success, self-verification theory describes effort withdrawal as often fulfilling drives to reaffirm negative self-conceptions.

Fundamentally, self-verification implies stability in people's self-concepts. Although an assumption that has long been held in psychology (James, 1890/1980), this basic view is in contrast to recent suggestions that individuals' self-conceptions are relatively malleable, being based on the day-to-day observations individuals make of themselves in interaction with others (e.g. Gergen, 1977; Tedeschi & Lindskold, 1976). Certainly, laboratory research has supported the

notion that self-concepts may change in response to feedback from the environment, and it is difficult to dispute the notion that reasonably-minded people change their views of the world when those views no longer conform to the implications of everyday experience. Nevertheless, outside of laboratory settings, central and defining self views are often stubbornly resistant to change (see Shrauger & Schoeneman, 1979 for a review). Therapists often note the difficulty associated with changing clients' self-conceptions (Wylie, 1979), prisoners of war succeed in resisting attempts at brainwashing (Schein, 1956), and longitudinal studies show remarkable stability in self-conceptions and personality across the life span (see Schaie & Willis, 1991 for a review).

Thus, self-rating changes in response to feedback in laboratory settings, although seemingly strong enough to upset prior self-conceptions, may not generalize to more naturalistic settings. As Swann and Hill (1982) demonstrated, such changes occur only when subjects have been deprived of opportunities to respond to the feedback. In that sense, changes observed in the laboratory may not persist long after subjects return to their normal routines, their self-verifying interaction partners, and their more central goals and values (cf. Swann, 1987; 1990). Moreover, given the multifaceted and hierarchical nature of self knowledge (Markus & Wurf, 1987), and hierarchical self-regulatory mechanisms described by Carver and Scheier (1990), self-concept changes may well be limited to specific, temporary, or uncertain self images, whereas more generalized, central self-conceptions remain stable. Self-verification theory rests on such a view of self-stability and describes a myriad of cognitive and

behavioral processes that serve to maintain this stability in the face of ambiguous and disconfirming information. The emphasis on cognitive reactions to self-relevant feedback, including the causal attributions and judgments of accuracy that are made regarding failure feedback, is perhaps the most significant contribution of this theory relative to the other theories of self-concept described in this dissertation. As is discussed below, the model of beneficiary reactions to affirmative action developed in this dissertation relies largely on the notion that reactions stem from a desire to reassert existing self-conceptions of ability.

In the next section, Bandura's theory of self-efficacy is described. Like the theories of self-reactive responses to feedback discussed to this point, self-efficacy theory leads to predictions regarding effort renewal and effort withdrawal that follow from pre-existing stable self-conceptions. However, self-efficacy theory is unique in offering a clear delineation of global and specific self views, and reciprocal causation among perceptions of personal versus environmental behavior-outcome expectancies.

Bandura's Self-Efficacy Theory

Perceptions of personal efficacy, or self-efficacy, refer to individuals' beliefs in their capabilities to mobilize the emotional, cognitive, and behavioral resources needed to exercise control over their circumstances (Bandura, 1977; 1982; 1986; Wood & Bandura, 1989b). Although conceptually similar to perceptions of global self-esteem, self-efficacy is thought to reflect perceptions of personal efficacy that are specific to performance tasks or behavioral domains. Nevertheless, as Bandura (1977) notes, perceptions of personal efficacy

that are developed through repeated success or failure experiences often generalize to a variety of seemingly unrelated behavioral domains. In this sense, esteem differs from efficacy primarily in that the former construct refers to more general feelings of self worth or personal value, whereas efficacy relates to perceptions of personal causation.

Self-efficacy perceptions differ, therefore, in magnitude, strength, and generality (Bandura, 1977). Magnitude refers to the level of performance or effectiveness that an individual believes he or she is personally capable of reaching through self-directed efforts. Strength refers to the certainty with which perceptions of effectiveness are held; and generality refers to how large a behavioral domain is included within an individual's perception of personal self-determination.

Efficacy perceptions are distinguishable from perceptions of response-outcome contingencies, or environmental favorability (e.g. Bandura, 1977; 1982). Whereas a strong sense of self-efficacy leads to the perception that one has the personal capabilities and attributes needed for the production of various responses, outcome expectancies depend on the perceived reward contingencies associated with the individual's behavioral actions. Environments that are perceived as unresponsive to individual behaviors may result in withdrawn efforts despite strong perceptions of personal efficacy. Furthermore, self-efficacy theory postulates reciprocal causation between environmental and personal sources of influence (Bandura, 1986). Situations that are viewed as uncontrollable will elicit weak and abortive behavioral responses, which ultimately result in failure. Repeated failures are

eventually internalized, resulting in lower self-efficacy perceptions and decreased perceptions of environmental control (Bandura, 1986; Wood & Bandura, 1989b).

Perceptions of self-efficacy are thought to have their primary influence on the production of behavioral responses through cognitive, affective, and emotional mediating processes. Cognitive mediators, for example, include the goals people set for themselves (e.g. Locke, Frederick, Lee, & Bobko, 1984; Wood & Bandura, 1989b), and the anticipatory scenarios individuals construct to guide their behavior (Bandura, 1986). Specifically, perceptions of significant personal efficacy result in the development of more challenging personal goals and success scenarios that provide direction for future performances (Bandura & Cervone, 1986; Cervone & Peake, 1986). Self-efficacy is also presumed to foster efficient analytic cognitions during task performance, minimizing the impact of self-doubts on task-directed attention (Bandura & Wood, 1989; Wood & Bandura, 1989b). Firmly held efficacy perceptions may also influence interpretation of self-relevant feedback. Discrepant feedback that usurps existing convictions regarding personal efficacy may be discounted or may be attributed to unstable effort or to external causes, rather than to stable internal causes, such as ability (Bandura, 1977).

Emotional processes that mediate self-efficacy beliefs in behavioral contexts include the stress and depressive reactions following negative outcomes, and the feelings of personal dissatisfaction that derive from unsuccessful performances (Bandura, 1989; Wood & Bandura, 1989b). Individuals who believe in their capabilities resist feelings of anxiety and depression in challenging

situations. They avoid dwelling on apprehensive cognitions that may disrupt effective action. People with low self-efficacy, on the other hand, dwell on their deficiencies and view their environments as overtly threatening (Ozer & Bandura, 1989). These distressing thoughts in turn, constrain and impair effective action (Bandura, 1988). Self-efficacy is also presumed to influence feelings of dissatisfaction that result from perceiving discrepancies between performance standards and behavioral outcomes (Bandura, 1977; Bandura & Cervone, 1986). People with high self-efficacy make self-reward conditional upon attaining high personal standards (Bandura, 1977).

Self-efficacy perceptions determine individuals' levels of motivation during task performance. Those who have strong perceptions of personal efficacy exert greater effort and persevere longer in the face of difficulties than people with weak self-efficacy perceptions (Bandura, 1988). When faced with difficulties and set-backs, individuals with low self-efficacy withdraw effort and settle for less effective performance, whereas those with strong beliefs in personal efficacy regard initial failures as challenges which can be mastered through greater effort (Bandura, 1982; 1989). This proposition has been supported empirically by research showing greater persistence among individuals with strong self-efficacy perceptions compared to individuals with lower self-efficacy (e.g. Bandura & Cervone, 1986; Jacobs, Prentice-Dunn, & Rogers, 1984). Research (reviewed above) that has demonstrated differences in task persistence following failure among individuals differing in global self-esteem is also consistent with this perspective. Of course, as Bandura (1982) notes, high self-efficacy will lead to renewed efforts following initial failures only

when the environment is perceived as supporting and reinforcing behavioral responses. Similar, propositions are also contained within Wortman and Brehm's (1975) reactance-helplessness model and Carver and Scheier's (1990) control theory.

Bandura's recent process model of behavioral self-regulation describes the mechanisms by which cognitive, affective, and motivational reactions combine to give rise to self-directed behavior (Wood & Bandura, 1989b). According to this perspective, affective self-evaluation follows from perceived discrepancies between performance outcomes and personal standards. Performance that falls below standards is dissatisfying, whereas performance that meets or exceeds standards is self-satisfying. Self-efficacy perceptions then determine whether discrepancies between attainments and standards are motivating or discouraging. Individuals maintain, increase, or lower their goals and standards depending on their success in attaining initial target levels of performance. Thus, self-efficacy perceptions for given levels of performance may change in the event initial goals are easily attained or appear beyond reach through perseverance (cf. Bandura, 1977).

Empirical evidence illustrates the impact of self-efficacy perceptions on behavioral responses in a variety of domains, such as social assertiveness (Kazdin, 1979), phobic dysfunctions (Bandura, 1977), physical stamina (Bandura & Cervone, 1986; Weinberg, Yukelson, & Jackson, 1980), addictions (Bandura, 1982), career choice (Betz & Hackett, 1981), and achievement strivings (Bandura & Schunk, 1981; Locke & Latham, 1990). More recently, empirical research has sought to assess the adequacy of the process model of behavioral self-regulation

described by Wood and Bandura (1989b; Bandura, 1989). For example, Bandura and Cervone (1986) examined the joint relationships of self-set goals, performance discrepancies, self-dissatisfaction, and self-efficacy on effort regulation during performance on a task involving physical exertion. In this study, dissatisfaction with performance increased as initial performance fell moderately to markedly below initial self-set standards. Self-dissatisfaction led to higher self-set goals when performance was moderately to markedly below personal standards, and subsequent efforts increased as a direct function of self-dissatisfaction, self-set goals, and positive self-efficacy. Moreover, males increased their subsequent efforts following failure, whereas females did not, suggesting that poor performance on the physical task resulted in reactance among males but not among females. Unfortunately, initial measures of self-efficacy were not obtained, precluding assessment of sex differences in initial confidence for success on the task. As would be expected given the process model described above, perceptions of self-efficacy for the subsequent task varied with initial performance discrepancies; subjects were less confident following failure than following success.

In a series of studies designed to assess behavioral self-regulation in managerial decision making, Bandura and Wood (Bandura & Wood, 1989; Wood & Bandura, 1989a; Wood & Bandura, 1989b; Wood, Bandura, & Bailey, 1990) have found evidence in support of many of the propositions derived from the process model. For example, Wood and Bandura (1989a) reported that subjects who were led to construe their managerial ability as reflecting inherent cognitive abilities, rather than acquirable skills, responded to initial failure feedback with

effort withdrawal. Moreover, they lowered their perceptions of personal efficacy, set lower goals, and employed inefficient analytic decision strategies over the course of the management simulation task. In contrast, subjects who were led to believe that their managerial performance was based on acquirable skills maintained a resilient sense of personal efficacy in the face of difficulties, employed efficient analytic problem solving strategies, and continued to set challenging goals for their performance. Wood and Bandura (1989a) explained that beliefs in the stability of intellectual capacities lead to personal and social evaluative threats when performance falls below standards, whereas beliefs in the attainability of skills create feelings of optimistic hopefulness and externalization of negative feedback (see also Dweck & Leggett, 1988).

In another study, Bandura and Wood (1989) addressed the impact of perceived environmental responsiveness on reactions to performance discrepancies. In this study, subjects who performed the management simulation with expectations of weak behavior-outcome contingencies subsequently set lower performance goals, employed inefficient analytic strategies, and performed less effectively than subjects who were led to believe the simulation offered controllable outcomes resulting directly from their behavioral choices. As predicted from the theory of reciprocal causation, uncontrollable response-outcome contingencies eventually lowered subjects' perceptions of self-efficacy. Moreover, after subjects had experienced initial feedback underscoring the complexity and difficulty of attaining optimal organizational performance in the simulation, self-efficacy perceptions related directly and independently to subsequent self-set goals and effort

expenditure in the face of difficulties.

In modeling the relationships observed across several studies among subjects' perceptions of self-efficacy, analytic strategies, personal goals, and performance, Wood and Bandura (1989b) noted consistent support for the process model of behavioral self-regulation. Self-efficacy perceptions resulted directly from previous accomplishments and had a direct impact on the development of challenging personal goals and efficient analytic strategies. Early managerial performance was a function of ability, strategies, and goals, but did not depend directly on the motivational impact of self-efficacy. However, later performance, measured after subjects had encountered ongoing feedback indicating discrepancies between their attainments and optimal organizational performance, was directly influenced by the motivational implications of self-efficacy. Subjects who had developed strong perceptions of personal efficacy continued to set challenging goals and employ efficient analytic strategies, and they continued to expend high levels of effort on the task. Subjects who had developed weaker self-efficacy perceptions withdrew effort and performed less effectively. Hence, efficacy perceptions were derived from previous accomplishments and contributed to early task effectiveness through goal setting and strategy use. Perceptions of personal efficacy were then apparently confirmed or upset by early feedback, and then internalized to provide a direct motivational guide for subsequent efforts.

Summary and Implications. Bandura's self-efficacy theory provides a perspective on human motivation that differs from the theoretical positions described above. Rather than simply regarding

task-specific behaviors as following directly from global perceptions of self-worth, self-efficacy underscores the importance of task-relevant expectations of personal control. In that sense, self-efficacy resembles the specific and temporary self-images that are described in the summary of self-verification theory provided above. Hence, individuals may possess stable and central self-perceptions that define, at a general level, the type of person they consider themselves. However, their expectations for task success in any one endeavor depend more directly on their beliefs of personal causation in that domain of behavior. This does not imply, however, that perceptions of efficacy in specific behavioral domains are necessarily uncertain and malleable. Indeed, Bandura (1977) notes that self-disconfirming feedback may be cognitively discounted in the event it usurps well-established and certain self-efficacy perceptions. It is therefore not surprising that individuals with strong perceptions of self-efficacy continue to persevere in the face of difficulties, whereas those with less firmly established perceptions of personal control withdraw efforts after initial failures. It should also be noted that Bandura's self-efficacy theory is quite consistent with Carver and Scheier's (1990) recent reformulation of hierarchical value-driven control, despite Bandura's (1982; Wood & Bandura, 1989b) criticisms of earlier versions of control theory. In both theories, and as would be predicted from self-verification theory, failures lead to a renewal of effort whenever task performance has implications for central and valued self-conceptions.

Bandura's theory is also unique in the present context in clearly delineating internal and external sources of outcome expectancies.

Whereas self-efficacy perceptions derive from personal sources of influence, behavior-outcome expectancies depend on the perceived responsiveness or favorability of the environment. Strong perceptions of personal efficacy may or may not lead to renewed efforts in the face of failures depending on whether the environment is perceived as facilitating or impeding behavioral outcomes, and whether it provides reinforcements for effective action (see Vroom, 1964 for a related perspective). As noted above, perceptions of environmental behavior-outcome contingencies are implicit in Wortman and Brehm's (1975) reactance-helplessness model and Carver and Scheier's (1990) control theory. However, the notion of reciprocal causation between personal and environmental sources of influence is unique to Bandura's self-efficacy theory.

Recently, a very different perspective on self-reactive influences in human motivation has been developed, primarily through the work of Jones and Berglas (1978) and Snyder and Smith (1982). According to this view, individuals may often adopt self-handicaps for their behavior, presumably to minimize the implications of failure for their tentatively-held self-conceptions (see Arkin & Baumgardner, 1985a; Rhodewalt, 1990; Self, 1990; Snyder, 1990 for reviews). In this sense, reactions to previous failures or the threat of imminent failure take the form of excuses made to oneself and to others, or in some cases, overt behavioral impediments to success (Snyder & Higgins, 1988). Although self-handicaps are thought to have their primary influence on cognitive reactions to self-relevant feedback, they may also impact task-directed behavior directly.

Self-Handicapping Theory

Berglas and Jones (1978) defined the self-handicap as "any action or choice of performance setting that enhances the opportunity to externalize (or excuse) failure and to internalize (reasonably accept credit for) success" (p. 406). In other words, individuals adopt self-handicaps to weaken the perceived attributional linkage between ability and unsuccessful performance, while at the same time, strengthening the linkage between ability and successful performance (Snyder, 1990). Arkin and Baumgardner (1985a) and others (e.g. Leary & Shepperd, 1986; Snyder, 1990) note that self-handicaps often take the form of observable behavioral impediments, such as decreased effort on challenging tasks (e.g. Baumeister, Hamilton, & Tice, 1985; Pyszczynski & Greenberg, 1983), drug or alcohol ingestion (e.g. Berglas & Jones, 1978), or choices of distracting or success-impeding task environments (e.g. Frankel & Snyder, 1978). Alternatively, self-reported handicaps may also be claimed by individuals prior to ego-involving task performances. Examples of self-reported handicaps include task-interfering illness (Smith, Snyder, & Perkins, 1983), social anxiety (Snyder & Smith, 1986), test anxiety (Smith, Snyder, & Handelsman, 1982), negative mood (Baumgardner, Lake, & Arkin, 1985), or traumatic life events (DeGree & Snyder, 1985).

In all cases, self-handicapping is thought to serve ego-protective needs by obscuring the causal linkage between negative outcomes and the individual's overall positive sense of self (Snyder, 1990). For example, the individual who decides to withhold effort on an ego-involving task minimizes the negative consequences associated with attributing potential failures to internal and stable causes, such

as ability. Successes, on the other hand, may imply significant personal abilities when little effort has been directed towards task accomplishment (Snyder & Higgins, 1988). In studies designed to examine the impact of self-handicapping on actual task effectiveness, handicapping behaviors have been shown to result in performance decrements (e.g. Higgins & Snyder, 1989; Springsteen & Chafe, 1987), performance benefits (Rhodewalt & Davison, 1986; Rhodewalt, Saltzman, & Wittmer, 1984), and no differential performance effects (e.g. Harris & Snyder, 1986; Smith, Snyder, & Handelsman, 1982). Thus, merely claiming an excuse, or even choosing to perform under adverse task conditions, does not necessarily result in poor performance. This emphasizes, then, the primary ego-protective function of attributional ambiguity, irrespective of whether individuals actually seek failure under threatening circumstances. Clearly, one should expect performance decrements when the handicap that is chosen behaviorally or cognitively prevents successful performance.

Although self-handicapping is usually more pronounced in public than in private performance settings, most researchers agree that the motive to protect of one's self-esteem is usually sufficiently strong to elicit handicapping responses in private (Higgins, 1990; Self, 1990; Snyder, 1990). Self (1990) argued that excuses may serve to convince individuals that their own failure cannot be attributed internally, whereas other perceivers may require more observable performance impediments to be convinced of the attributional ambiguity surrounding an individual's performance. Thus, in private, individuals may use attributional ploys to discount their failures, whereas in public they may adopt overt behavioral handicaps, such as insufficient practice,

drug or alcohol consumption, or performance-inhibiting behavioral environments.

Fundamental to the self-handicapping strategy is the desire to protect relatively positive, but uncertain, self-conceptions (Rhodewalt, 1990). Hence, individuals who are certain of either possessing or completely lacking task-relevant abilities avoid self-handicapping strategies during task performance (e.g. Harris & Snyder, 1986). In this sense, individuals with confidence in their abilities put forth substantial efforts to attain success, and are not overly disturbed by failures, whereas those who are certain of their incompetence have nothing to protect through handicapping strategies.

Uncertainty regarding individual abilities has been both experimentally manipulated and assessed as a stable individual difference variable in self-handicapping research. Experimental manipulation of uncertainty has typically involved providing subjects with non-contingent success feedback prior to performance on an ostensibly related task (e.g. Berglas & Jones, 1978; Mayerson & Rhodewalt, 1988). In these studies, subjects adopt self-handicapping strategies following non-contingent success, presumably in order to maintain attributional uncertainties rather than risk discovering that they lack certain ego-relevant abilities. A primary individual difference variable that predicts self-handicapping behavior is the level of self-uncertainty surrounding performance-relevant attributes. For example, Harris and Snyder (1986) found increased self-handicapping among self-uncertain subjects, independent of subjects' levels of global self-esteem. However, a variety of stable individual symptoms or characteristics, such as test and social anxiety and hypochondriasis

have been shown to provide individuals with subjective excuses for potential failure in ego-involving performance contexts (see Rhodewalt, 1990 for a review). In these studies, simply providing subjects with a challenging task, or initial failure feedback prior to performance on a related, but not exactly equivalent task, resulted in increased reporting of individual symptoms as a defense against internal attributions of insufficient ability (Self, 1990).

Recently, attention has been devoted to identifying and documenting the effects of individual differences in generalized preferences for self-handicapping in evaluative contexts. The Self-Handicapping Scale (SHS) constructed for this purpose contains 25 items that probe individual tendencies to use self-handicapping behavioral strategies, such as withdrawn effort and procrastination, and cognitive excuses, such as illness or emotional upsettedness during evaluative performances. The psychometric characteristics of the scale are discussed in more detail in the Method section below. In an early study of self-handicapping preferences, Rhodewalt (1984) found a significant tendency for subjects scoring high on the SHS to report underachievement of their true abilities in academic pursuits (cf. Jones & Berglas, 1978), and to practice less than low self-handicappers prior to important sporting competitions (Rhodewalt et al., 1984). Moreover, high self-handicappers rated the performance conditions of important sporting competitions as significantly less favorable for successful performance than did low self-handicappers (Rhodewalt et al., 1984). In another study (Rhodewalt & Fairfield, 1989), subjects scoring high on the SHS reported that they intended to exert less effort on a test of general intelligence than did low

self-handicappers. Scores on the SHS have been found to correlate negatively with self-esteem (average $\underline{r}$ = -.43), although SHS scores have continued to predict handicapping behaviors after self-esteem has been statistically covaried (e.g. Rhodewalt & Fairfield, 1989; Strube, 1985). Given research demonstrating significant relationships between low self-esteem and high self-uncertainty (e.g. Baumgardner, 1990; Campbell, 1990), it is not surprising that SHS also correlates with self-esteem; high self-uncertain subjects would be expected to adopt self-handicapping in an effort to prevent further losses to their self-esteem. Despite the apparent covariation between scores on the SHS and self-esteem, the constructs are both conceptually and empirically independent (see Rhodewalt, 1990 for a more thorough discussion).

Research has demonstrated a variety of self-handicapping ploys in behavioral contexts (see Arkin & Baumgardner, 1985a; Snyder, 1990 for reviews). Perhaps most relevant to the present discussion are studies showing defensive performance attributions in ego-involving contexts. For example, Smith et al. (1982) reported that subjects high in dispositional test anxiety retrospectively claimed more anxiety during a previous ability test when this attribution had not been ruled out by the experimenter relative to low test anxiety subjects. Similarly, Strube (1985) found that high SHS subjects reported significantly more extenuating factors being present both prior to and following an ego-involving test.

Mayerson and Rhodewalt (1988) also reported attributional biases among high and low SHS subjects for success and failure outcomes on an ostensible test of general intelligence. In this study, high self-handicappers made greater external attributions for both success and

failure compared to low self-handicappers. Although high and low self-handicappers did not differ in their external attributions for failure, high SHS subjects were more likely to defensively attribute success as being due to external rather than internal factors. Moreover, in an apparent attempt to distance themselves from the implications of potential future failures, high self-handicappers more often attributed previous failures as being due to stable factors beyond their control, whereas low SHS subjects reported that failure was caused by unstable factors. Finally, as the level of ego-relevance associated with the subsequent task increased, high self-handicappers made significantly more external and stable attributions for initial failures than did low SHS subjects. These results were obtained after covarying the effects of subjects' global self-esteem. Thus, individuals with a generalized propensity to self-handicap in evaluative contexts appear to employ defensive attributions to external, rather than internal causes, such as ability or task effort. High self-handicappers also seek protection of their self-conceptions from the implications of future failures by attributing previous failures to external and stable factors that are beyond their control and likely to impede their performance in future performance settings.

Summary and Implications. Taken together, results from a variety of experimental contexts provide support for the notion that individuals who lack confidence in their abilities, but are not certain of their incompetence, employ behavioral and cognitive handicaps to protect themselves from potentially threatening feedback. The tendency to handicap one's own performance by employing behavioral strategies, such as reduced effort and practice, or to claim stable external

impediments or internal symptoms, appears to vary as a function of dispositional preferences for such self-protective strategies in evaluative contexts. Thus, self-handicapping provides a unique perspective on behavioral self-regulation in performance contexts. Whereas Wortman and Brehm's (1975) integrative reactance-learned helplessness model, Carver and Scheier's (1990) control theory, and Bandura's (1977; 1982; 1989) self-efficacy theory underscore the importance of expectancies of future success in evaluative contexts (however derived), and Swann's (1987; 1990) self-verification theory describes underlying self-enhancement and self-consistency motives in behavioral self-regulation, self-handicapping theory suggests that reactions to self-relevant feedback may often take the form of ego protection, even when such excuse making undermines future performances. The protection of generally positive, but uncertain self-conceptions, therefore, provides a plausible alternative explanation for effort withdrawal following initial task failures. Such self-protection should be observed most often among subjects who are uncertain of their abilities and/or among those who possess generalized preferences for self-handicapping behavioral strategies. Taken together, the theories of self-concept that are reviewed in this dissertation suggest a variety of potential reactions to affirmative action hiring in organizational contexts. The section below provides a potential integration of these theories and describes implications for beneficiary reactions to the implicit message regarding inadequate qualifications that is inherent in affirmative action self-labelling.

Implications of Self-Concept Theories for Beneficiary Reactions to Affirmative Action

The relevance of theories of self-regulatory reactions to failure feedback to the potential reactions following one's own preferential treatment in hiring is predicated on the notion that affirmative action labelling implies lower perceived performance on the pre-employment selection devices used determine qualifications for employment. Inferences that one is likely to have lower measured pre-employment qualifications if hired preferentially makes intuitive sense and has been supported empirically. As reviewed above, subjects report possessing fewer job-related qualifications (Heilman et al., 1991), and lower selection test performance (Barnes Nacoste, 1991; Heilman et al., 1990; 1991; Nacoste, 1989) when they perceive that their own hiring decision was based on sex rather than test score alone. Thus, reactions to such implicit messages of inadequate job-relevant capabilities may well resemble the processes of behavioral self-regulation following feedback indicating failure that have been reviewed above. As stated above, a primary purpose of this dissertation is to examine the utility of these theories for explaining potential psychological processes underlying responses to preferential treatment in hiring.

Wortman and Brehm's (1975) reactance-learned helplessness model provided an early account of the potential behavioral responses to feedback suggesting inadequate personal attributes or performance capabilities. This model underscored the importance of expectations of control over future performance outcomes. However, little was offered in the way of theoretical explication of the antecedents of future

performance expectancies. Nevertheless, research has long since illustrated the importance of self-esteem in moderating task persistence following initial failure feedback (Cohen, 1959), and later formulations of the reactance-helplessness framework emphasized the role of attributions for failure in mediating perceptions of control following initial task failures (Abramson et al., 1978; Miller & Norman, 1979).

Carver and Scheier's (1990; Scheier & Carver, 1988) control theory offers an account of the mechanisms underlying judgments of the importance or value of renewed effort in the event of initial setbacks. Importance of proximal task outcomes derive from the hierarchical organization of personal reference standards. Thus, performance difficulties are seen as resulting in renewed efforts in the event discrepancies with task goals imply failure to attain higher level principles and standards, such as competence and personal self-worth. However, withdrawal of task efforts would be expected to occur whenever future successes given perseverance are seen as unlikely, or when alternative means of value attainment are possible (see Steele, 1988 for a similar view). Nevertheless, the processes by which perceptions of future expectancies are generated are not well described by control theory. Moreover, the seemingly paradoxical requirement that overshooting of reference values results in effort withdrawal is neither supported with well-articulated logical reasoning, nor with empirical demonstrations of the effect.

Swann's (1983; 1987; 1990) self-verification theory provides a comprehensive model of human self-regulation that incorporates control theory's overshooting hypothesis, self-enhancement motives, potential

self-fulfilling prophecies, and the desire to maintain stable and consistent self-conceptions. Self-verification of positive or negative self views is seen as deriving from a fundamental need for prediction and control of self-perceived reality, and to maintain interpersonal harmony. The theory is unique in implicating both cognitive and behavioral reactions to self-relevant feedback. Moreover, it emphasizes stability in individuals' core self-conceptions, although specific and temporary task-specific self images may be malleable under circumstances providing relevant feedback.

Bandura's (1977; 1982; 1989; Wood & Bandura, 1989b) self-efficacy theory emphasizes the specific nature of expectations of personal self determinism in performance contexts. Moreover, through the notion of reciprocal causation, the theory outlines processes by which future expectancies of personal efficacy and environmental responsiveness may be developed. Fundamentally, the theory underscores the cognitive and behavioral resiliency of high self-efficacy individuals in contexts providing failure feedback, whereas those with weak efficacy perceptions become anxious and withdraw efforts in the face of difficulties.

Finally, self-handicapping theory (Jones & Berglas, 1978; Snyder, 1990; Snyder & Smith, 1982) provides a very different account of motivations underlying effort withdrawal in evaluative settings. According to this theory, individuals may withdraw effort, choose debilitating performance contexts, or simply claim personal handicaps in order to weaken the perceived attributional linkage between potential failures and their performance capabilities and personal attributes. The establishment of attributional ambiguity serves to

protect the person's ego in the event of failure, and bolster it if weak and abortive efforts nevertheless result in success. Although individuals who harbor doubts about their abilities are those most likely to adopt self-handicapping ploys (Harris & Snyder, 1986), handicapping responses have also been demonstrated among individuals facing initial performance difficulties and particularly among those who possess generalized preferences for self-handicapping in evaluative contexts (Self, 1990).

Taken together, the self-concept theories reviewed in the sections above suggest a variety of responses to feedback implying personal inadequacies, including feedback indicating special preference rather than merit in organizational hiring. Fundamentally, preferential treatment in hiring should lead to uncertainties regarding an individual's true level of performance capabilities or personal attributes needed for successful job performance. To the extent such uncertainties are taken as supporting pre-existing doubts about self-efficacy for task accomplishment, cognitive and behavioral self-verification of negative conceptions of ability should follow. Preferential hires who lack task confidence should accept the validity and appropriateness of the implicit message regarding their relatively lower abilities (cf. Swann et al., 1987), and withdraw subsequent job-related efforts, both because the implicit message of preference in hiring maintains self-consistency motives (cf. Maracek & Metee, 1972; McFarlin et al., 1984), and because these individuals internalize low expectancies for their eventual success (cf. Carver & Scheier, 1990; Miller & Norman, 1979; Wood & Bandura, 1989b; Wortman & Brehm, 1975).

On the other hand, individuals who approach the job with certainty regarding their performance capabilities should cognitively reject the implications of preference in hiring for their job-relevant qualifications (cf. Swann, 1990). Cognitive discounting of the accuracy and appropriateness of feedback regarding their pre-employment selection test performance should serve to maintain individuals' stable self views of personal efficacy, and reduce the need to behaviorally reaffirm to oneself a stable self-conception of ability and competence (cf. Baumeister & Tice, 1985; Swann, 1990). Nevertheless, additional behavioral attempts at self-verification would be expected whenever the individual feels compelled to reassert a sense of self to others (cf. Baumeister, 1982; Baumgardner & Brownlee, 1987), or when behavioral self-verification serves to reaffirm notions of self-determinism (cf. Wortman & Brehm, 1975), or maintain progress toward higher level values or principles (cf. Carver & Scheier, 1990).

Despite self-consistency determinants of reactions to the ability messages implicit in preferential hiring, individuals may yet employ self-handicapping strategies to protect the self-concept from further damages to self-perceived determinism (cf. Snyder, 1990). In this sense, individuals, particularly those who possess generalized preferences for self-handicapping strategies in evaluative contexts, might search for excuses and withdraw efforts rather than risk learning that their abilities are indeed insufficient for effective job performance. Thus, a complex sequence of cognitive and behavioral reactions should be expected to follow affirmative action self-labelling. These reactions are necessarily contingent on pre-existing self views and expectations regarding future treatment within the

organization. Although others (e.g. Barnes Nacoste, 1990; 1991) have suggested that perceptions of fairness associated with affirmative action ultimately determine beneficiary reactions in hiring contexts, and early studies of overcompensation inequity in hiring contexts appear supportive of these notions, the above review should make clear the potential for self-reactive influences that derive from self-regulatory, self-enhancement, and self-consistency processes. In the section that follows, a model is proposed describing specific linkages hypothesized among antecedent self-perceptions and cognitive and behavioral reactions to preferential hiring in organizational contexts.

A Model of Beneficiary Reactions to Preferential Treatment in Organizational Hiring

Figure 1 presents the hypothesized model describing relationships among antecedent perceptions of self and contextual circumstances, and consequent cognitive and behavioral reactions to preferential treatment in hiring. Specific hypotheses are presented in Figure 2. This section describes hypothesized linkages among variables that have been identified in the literature reviewed above. It should be noted that the focus of the present research is on the reactions of women to preferential treatment in their own hiring. Because previous research in the area of affirmative action has examined reactions among women rather than among members of racial minorities (see Barnes Nacoste, 1991 for an exception), the present research can be seen as building on this existing empirical base. Moreover, because research suggests the possibility that Blacks and women may differ in their reactions to feedback from White evaluators (e.g. Crocker, Voekl, Testa, & Major, 1991), the present model applies, strictly speaking, to the reactions

of women, and not necessarily Blacks or other minorities, to affirmative action. Nevertheless, race differences in the applicability of the present model are not expected to be profound, and the choice of female beneficiaries for the present study was driven primarily by availability of a subject population and the desire to build on existing empirical research.

Preferential Treatment in Hiring

As noted above, preferential treatment is hypothesized to imply to beneficiaries of such programs that they possess lower qualifications than those hired on the basis of merit. These inferences have been supported in research by Heilman and colleagues (Heilman et al., 1987; 1990; 1991) and by Barnes Nacoste (1991; Nacoste, 1989). This research consistently shows lower self-perceived selection test performance and lower perceived qualifications among those benefitting from affirmative action hiring. Although the level of qualifications inferred by beneficiaries has been shown to depend on hirees' pre-existing perceptions of the fairness of affirmative action per se (Barnes Nacoste, 1991; Nacoste, 1989), these findings may simply represent misconceptions regarding how subgroup status and qualifications are typically weighted in employment decisions. Nevertheless, main effects of hiring conditions in this previous research support the notion that beneficiaries infer lower qualifications irrespective of how fair they consider affirmative action programs in general. Moreover, the present study included an experimental manipulation of preferential treatment that was designed to emphasize generally lower qualifications of women hired under the affirmative action program. Available research indicates that

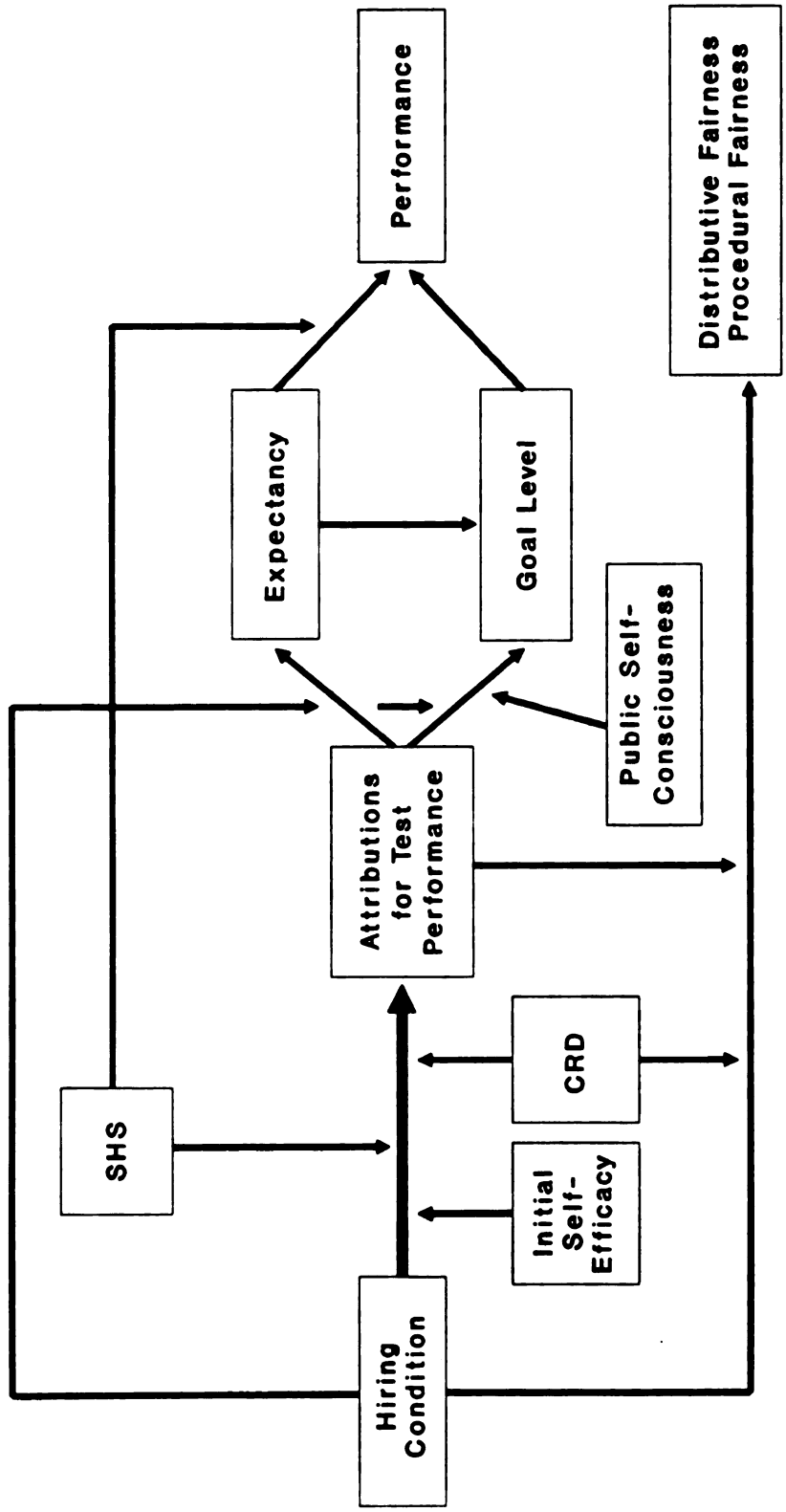


Figure 1. A Model of Beneficiary Reactions to Affirmative Action in Organizational Hiring

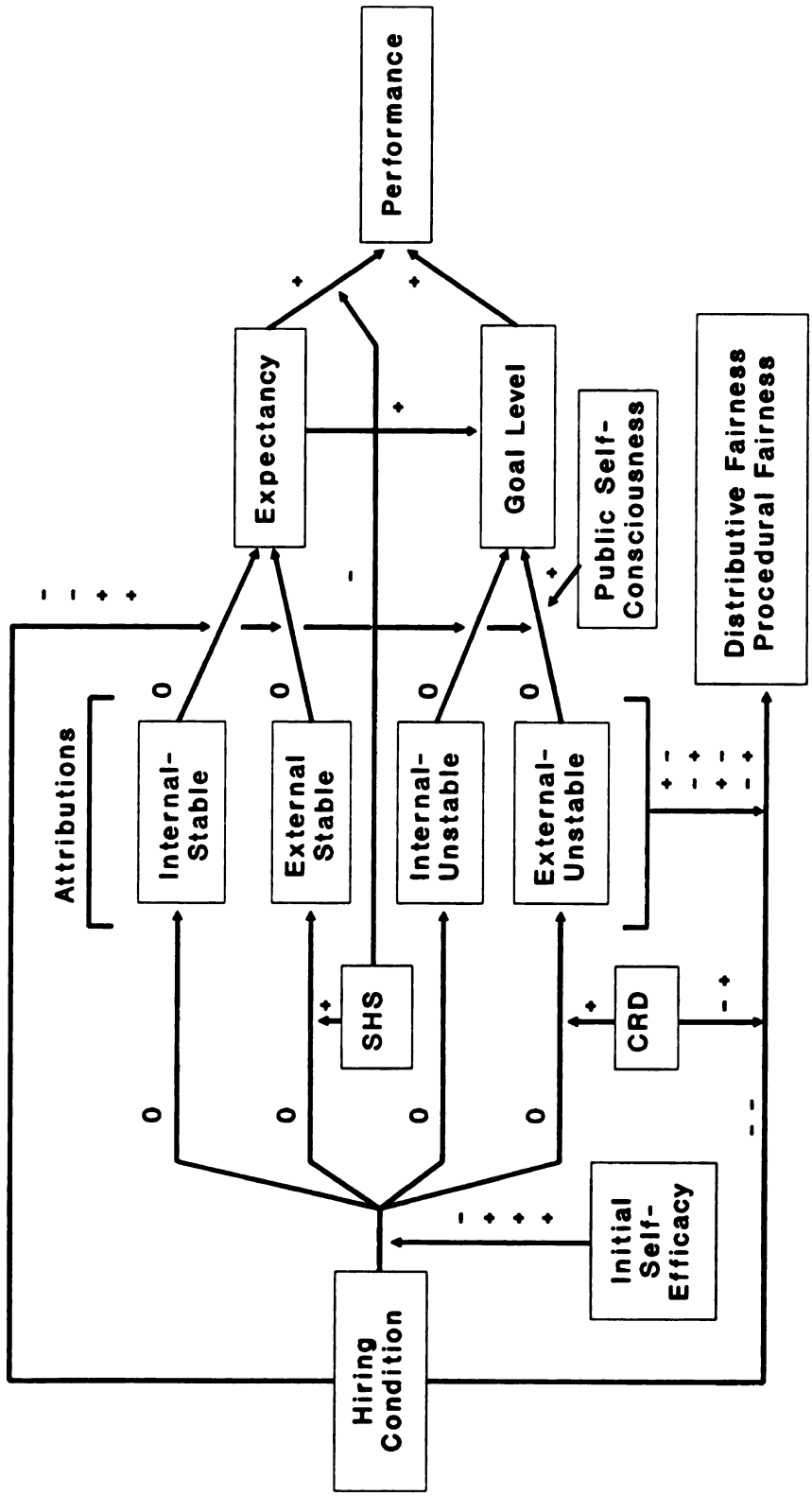


Figure 2. Hypothesized Relationships in the Self-Concept Model

affirmative action beneficiaries infer that their own test scores are lower when receiving such feedback about the overall performance of their subgroup (Heilman et al., 1987; 1990; 1991; Nacoste, 1989). Despite these empirical and conceptual bases for expecting inferences regarding lower measured qualifications among affirmative action beneficiaries, the present research directly assessed participants' inferred test scores and included in analyses only those subjects who reported that their test scores were consistent with the apparent hiring policy implemented in their own case (see Method section below).

Preferential hiring is expected to lead to attributions regarding the causes of one's performance in the pre-employment selection process. Substantial research demonstrates egocentric biases in the interpretation of positive and negative feedback (see Fiske & Taylor, 1991; Taylor & Brown, 1988; Zuckerman, 1979 for reviews). Thus, individuals hired without receiving messages regarding preferential treatment may attribute their successful outcomes to internal and stable factors, such as ability, more often than individuals hired under preferential treatment conditions. Nevertheless, the effects of preferential versus standard merit hiring on attributions of selection test performance depend fundamentally on pre-existing conceptions of self-efficacy, and perceptions of collective relative deprivation (CRD), and self-handicapping style (SHS). These important moderating factors are described next.

Initial Self-Efficacy

Pre-existing conceptions of global self-esteem and task-specific self-efficacy are fundamental in Wortman and Brehm's (1975) reactance-helplessness model, Swann's (1987; 1990) self-verification theory, and

Bandura's (1977; 1982; 1989; Wood & Bandura, 1989b) theory of behavioral self-regulation. Initial self-conceptions are therefore expected to moderate individuals' attributions regarding their inferred performance on pre-employment selection devices in varying hiring contexts. Specifically, individuals who harbor deeply rooted doubts about their capabilities should attribute lower inferred test performance in preferential hiring circumstances to internal and stable causes, such as insufficient ability. This hypothesis follows from research showing internal attributions of the causes of failure among individuals with low initial self-esteem (e.g. Campbell & Fairey, 1985; Feather & Simon, 1971a; 1971b; 1973; Fitch, 1970; Gilmore & Minton, 1974; Ickes & Laydon, 1978; Kulik et al., 1986; Schlenker et al., 1990; Solley & Stagner, 1956; Zuckerman, 1979). Research illustrating self-verifying cognitive interpretations of negative feedback (McFarlin & Blascovich, 1981; Swann et al., 1987; see also Taylor & Brown, 1988) also supports this hypothesis. Figure 3 provides an illustration of the form of interaction expected between initial self-efficacy and attributions to internal stable causes. As can be seen in the figure, for two forms of hiring conditions, preferential treatment and merit hiring, internal attributions were expected in the present research to be higher among high self-efficacy participants selected under merit conditions, but lower among high self-efficacy individuals selected under affirmative action. The reverse trend was expected for low self-efficacy individuals.

Individuals who possess high self-efficacy should resist the implications of preferential hiring for their task-relevant abilities. Instead, these individuals should attribute the need to grant them

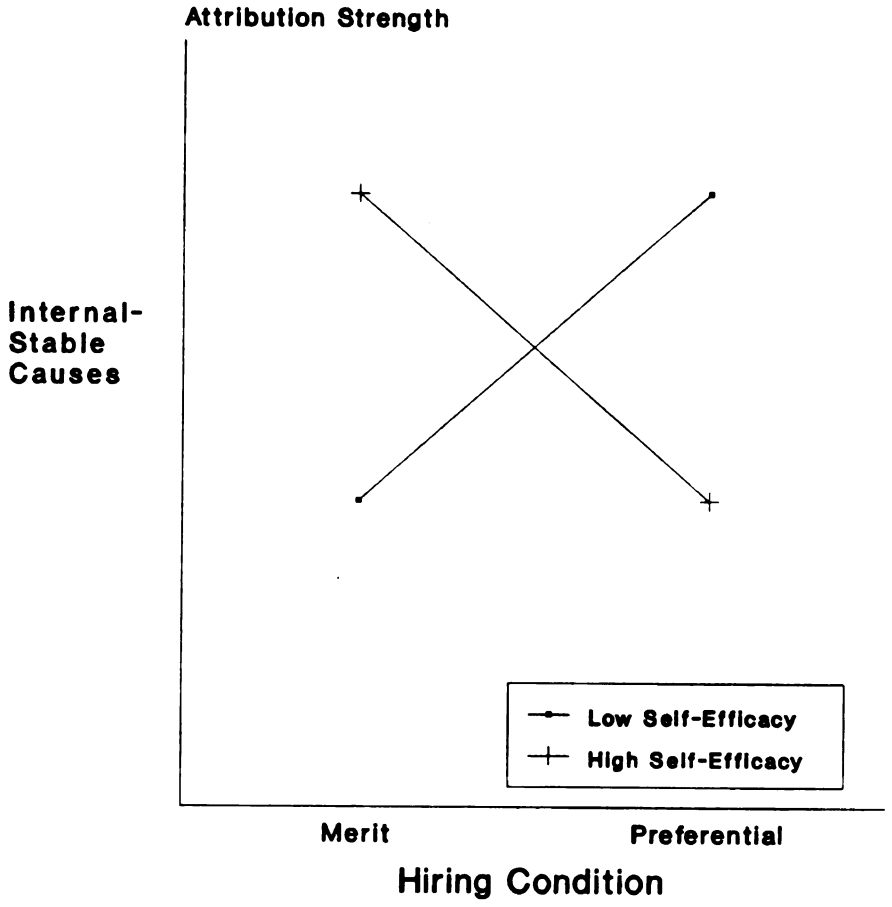


Figure 3. Hypothesized Form of Interaction Involving Initial Self-Efficacy and Hiring Condition in Influencing Attributions to Internal-Stable Causes

preference in hiring to external sources, such as test bias or historical discrimination, or to internal, but unstable sources, such as insufficient effort on the test. External attributions may be stable, such as historical biases against their subgroup, or unstable, such as biases within the selection process itself. The primary difference between stable and unstable external attributions is the extent to which factors that resulted in poor performance in the selection process are expected to continue to constrain or facilitate the individual's performance in the future. Whereas bias in the selection process may impair an individual's measured performance during employment screening only, persistent biases against women or minorities would continue to constrain an individual's likelihood of future job success. Ultimately, high self-efficacy and high self-esteem should increase the tendency for individuals to attribute failure implied by preferential treatment to external or unstable internal sources. Again, this hypothesis derives from research showing self-esteem differences in attributions for failure feedback, and self-verification in the cognitive interpretation of self-relevant information. Figure 4 presents the hypothesized form of interactions involving initial self-efficacy and unstable internal and stable and unstable external attributions. The logic outlined in this section implies attributions that show an opposite relation to initial self-efficacy than stable internal attributions described above. Factors that further determine whether external attributions are made to stable or unstable factors are described in more detail below.

It should be noted that attributional resistance to pre-screening failure feedback may depend on the certainty with which positive

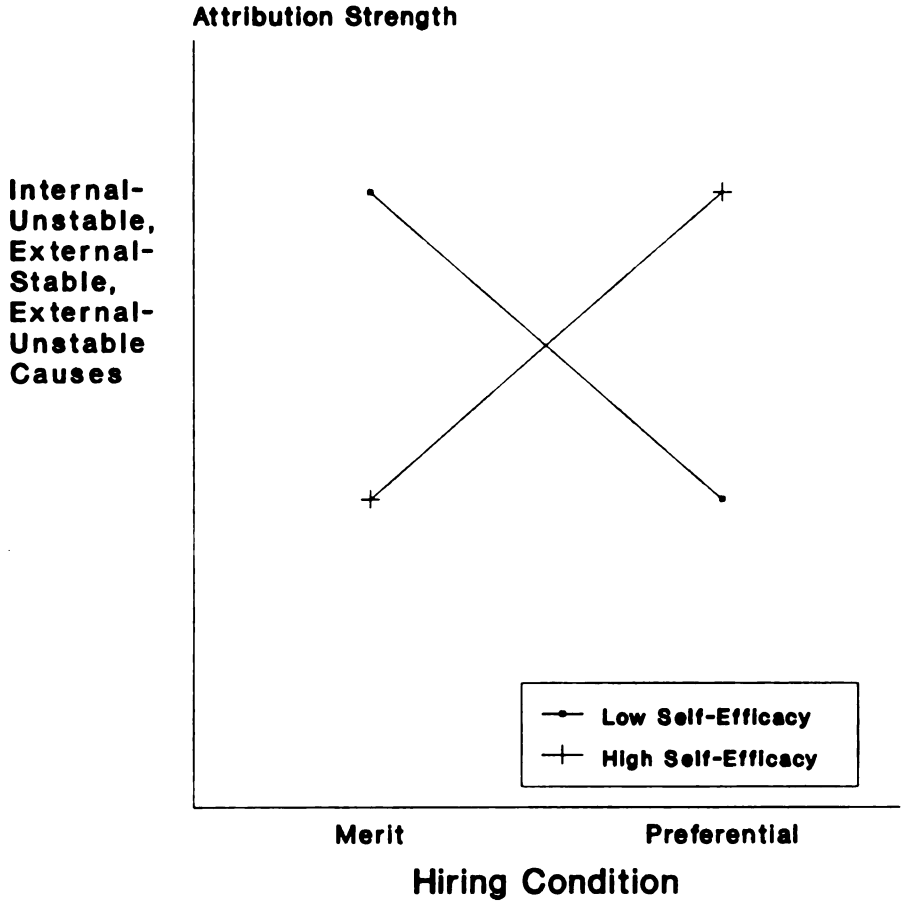


Figure 4. Hypothesized Form of Interactions Involving Initial Self-Efficacy and Hiring Condition in Influencing Attributions to Internal-Unstable, External-Stable, and External-Unstable Causes

self-conceptions are held (Swann, 1990; Swann & Ely, 1984). Specifically, the more uncertain participants are of their task specific confidence, the more likely they are to accept the failure feedback implied by preferential hiring. Hence, a three-way interaction might be expected between initial self-efficacy, certainty of self-efficacy, and attributions for performance in the selection process. Swann (1990) notes however, that extreme responses to ratings of perceived self views imply self-certainty. Considerable empirical evidence indicates that members of traditionally stigmatized groups do not automatically internalize negative feedback communicated by majority group members and often defensively attribute such unfavorable information to external sources, such as the evaluator's sexism or racism (see Crocker & Major, 1989; Crocker et al., 1991). Therefore, it was expected that many individuals would seek to reassert positive self views and a sense of self-determination in spite of some uncertainty regarding their likely success.

It should also be noted that the placement of the attributional "filter" in this model derives from previous research in social perception. Specifically, social perception researchers emphasize the role of cognitive interpretation of information in determining behavioral responses (see Fiske & Taylor, 1991; Fiske & Neuberg, 1990). Thus, the model presented in Figure 1, and more thoroughly explicated in Figure 2, follows from this theoretical perspective on human behavior, despite being inconsistent with Swann's (1990) recent propositions regarding the prepotency of cognitive and behavioral strategies of self-verification (see review above). Hence, the position taken here regards attributions of previous performance as

providing a basis on which future behaviors may follow. As discussed below, this perspective is consistent with Weiner's (1985; 1986) attribution theory of achievement motivation. Before describing the implications of attributions for pre-employment test performance for subsequent cognitive and behavioral responses, additional moderators of specific external attributions are described.

The Role of Collective Relative Deprivation (CRD)

As noted above, several recent empirical investigations of reactions to affirmative action in hiring have demonstrated greater advocacy of affirmative action programs (e.g. Tougas & Veilleux, 1988), and more positive general affect and attraction to an organization after receiving preferential treatment (e.g. Nacoste, 1985; 1987; Nacoste & Lehman, 1987), when there had existed some perception of historical justification for affirmative action programs providing greater organizational access to women. Moreover, as noted above, sex differences in perceptions of fairness associated with receiving preference in hiring (Heilman et al., 1991) may also be interpreted as indicating gender differences in perceived historical justifications for taking affirmative action in favor of women.

Perceptions of collective relative deprivation (CRD) refer to individuals' beliefs regarding historic social inequalities operating against their group, and the negative affect associated with these perceived inequalities (Dube & Guimond, 1986; Tougas & Veilleux, 1988). A large number of studies have shown enhanced social activism among individuals perceiving such collective inequities (see Dion, 1986; Dube & Guimond, 1986 for reviews). Perceptions of personal discriminatory treatment however, do not typically result in social protest,

presumably because perceptions of discriminatory treatment against a collective are needed to provide justification for action (Dube & Guimond, 1986). As Tougas and Veilleux (1988) reported, such perceptions of CRD appeared to provide the historical justification for social action in the form of affirmative action.

Hence, it is expected that perceptions of collective relative deprivation will enhance participants' feelings of justification for their own preferential treatment in hiring. CRD was therefore hypothesized in the present research to moderate external attributions for performance in the pre-employment selection process among preferential, relative to merit-hired participants. Specifically, high CRD should increase the extent to which beneficiaries attribute the implicit message regarding lower selection test performance to factors that are inherent in the selection process that work against members of their own group, relative to individuals hired under a merit policy. The most likely attribution would be that the selection process is biased against members of the beneficiary's group, and is therefore not an appropriate mechanism for measuring true qualifications. Feelings that one's group has been deprived in the past, and that one was hired on the basis of group status despite having lower qualifications, should lead to the attribution that procedures used to select members of one's group have been poor measures of ability in the past, and because preference was given in the present case, these procedures must still be biased relative to merit conditions, in which selection should imply appropriate consideration of applicants qualifications. Figure 5 presents the hypothesized impact of perceptions of CRD on attributions to unstable external causes.

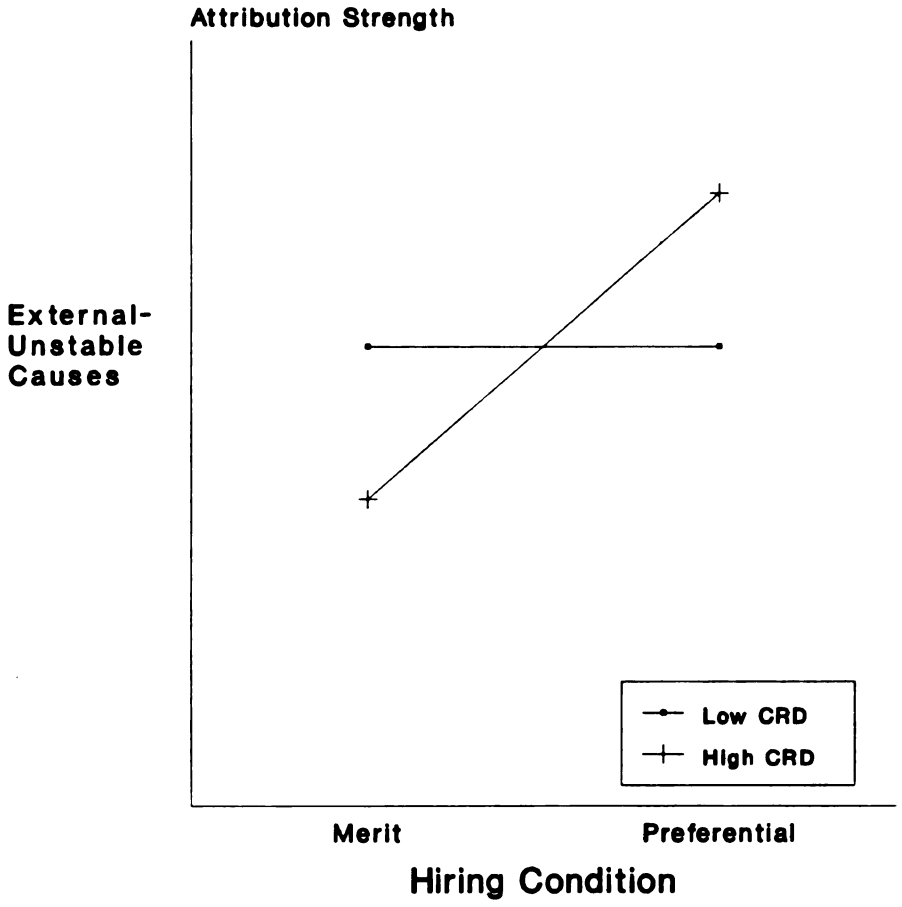


Figure 5. Hypothesized Form of Interaction Involving CRD and Hiring Condition in Influencing Attributions to External-Unstable Causes

Justifiable social action in the form of affirmative action should imply that the organization is committed to unbiased treatment of women and minorities, thus minimizing external-stable attributions to ongoing discrimination in the organization against members of the beneficiaries' subgroup. This follows from Nacoste and Lehman's (1987) finding that the presence of an historical justification for affirmative action reduced uncertainties regarding the manner in which beneficiaries would likely be treated in the future. Thus, the presence of perceived CRD should facilitate external-unstable attributions of poor performance in the selection process, whereas the absence of such historical justifications should allow uncertainties surrounding future unbiased treatment (cf. Nacoste & Lehman, 1987), though not necessarily increasing external-stable attributions for performance in the selection process itself. It should be noted however, that the effects of historical justifications for affirmative action on attributions of beneficiary performance in selection processes have not been empirically examined, and may best be considered exploratory here.

Figure 2 also shows a moderated relationship between preferential hiring, CRD, and perceptions of fairness associated with the procedure used to determine qualifications and the final distribution of job assignments. Specifically, it was hypothesized that increased CRD would justify the decision to hire on the basis of sex or race, and undermine perceptions of the fairness associated with the pre-employment testing and measurement procedures relative to merit hiring. As is discussed in more detail below, perceptions of fairness of the selection procedure and one's own hiring decision are expected to

depend primarily on attributions made about one's performance during the pre-employment selection process. However, it is also expected that perceptions of fairness in general, that is, of the measurement procedures and decisions to grant preference to other members of one's subgroup, depend more directly on CRD.

The relationship of CRD to fairness judgments, particularly distributive fairness associated with the final decision to hire, resembles the individual needs principle described in organizational justice literature (e.g. Deutsch, 1975; Leventhal, 1976; Schwinger, 1986). From this perspective, perceptions of fairness deviate from pure equity or equality principles when it can be inferred that beneficiaries in general have been previously disadvantaged or are in greater need (cf. Schwinger, 1986). Hence, high CRD should minimize the extent to which preferential hiring is seen as distributively unfair. It is also expected, following the logic outlined above, that CRD will undermine the perceived relevance of the selection procedure used to determine beneficiaries' true employment qualifications. Therefore, irrespective of whether the individual attributes his or her own performance in the selection process to internal, external, stable, or unstable factors, he/she is expected to judge the overall fairness of the pre-employment testing and measurement procedures and the decision to allocate jobs on the basis of subgroup status according to pre-existing perceptions of CRD operating against his or her own group. Figures 6 and 7 present the form of hypothesized interactions involving preferential hiring, CRD, and perceptions of distributive fairness and procedural fairness, respectively.

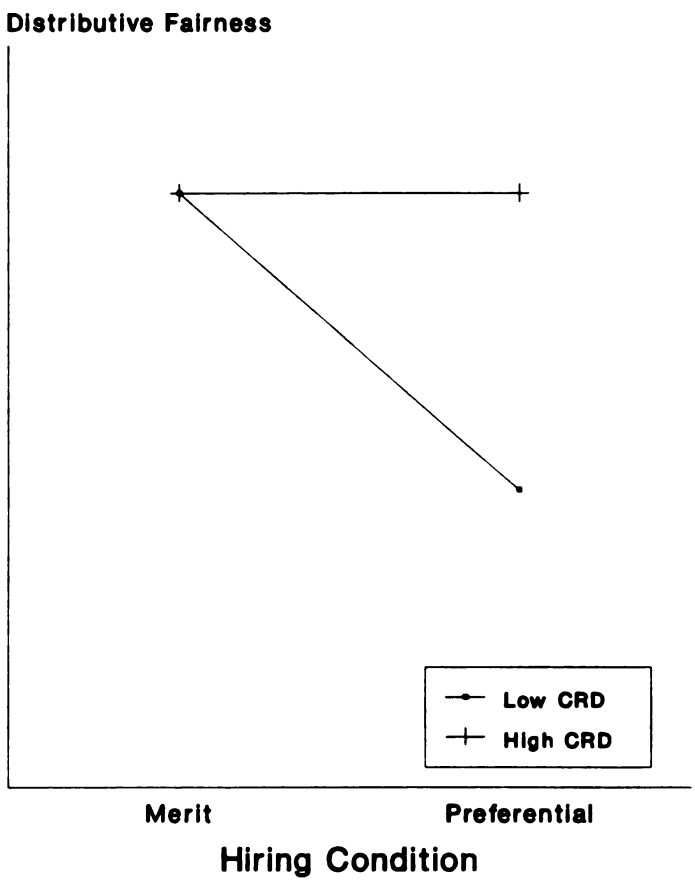


Figure 6. Hypothesized Form of Interaction Involving CRD and Hiring Condition in Influencing Perceptions of Distributive Fairness

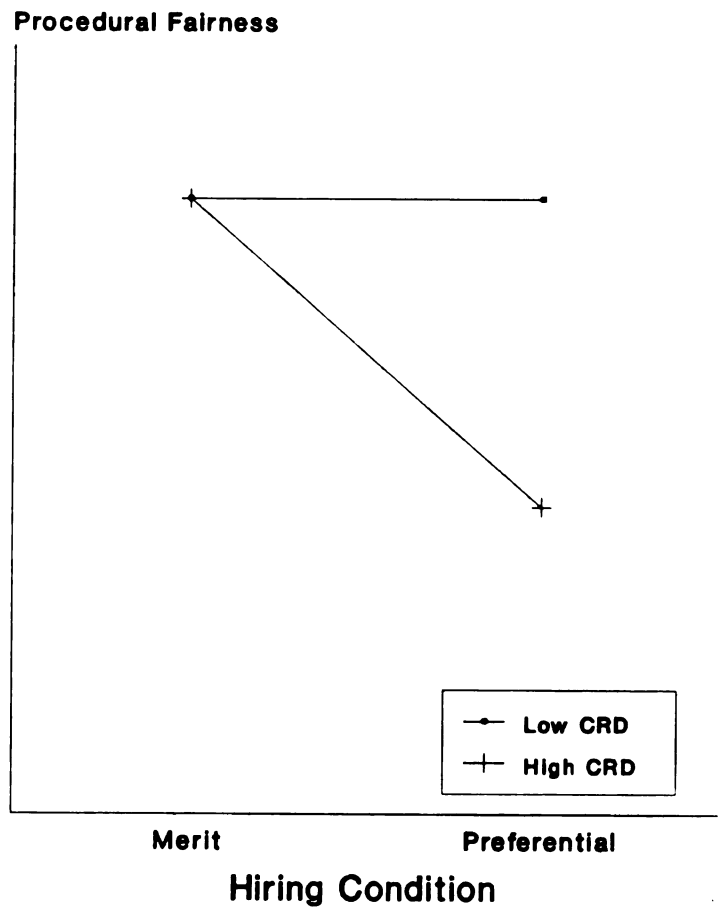


Figure 7. Hypothesized Form of Interaction Involving CRD and Hiring Condition in Influencing Perceptions of Procedural Fairness

Self-Handicapping Style (SHS)

As described above, individuals differ in their generalized preferences for self-handicapping strategies in evaluative contexts (Jones & Rhodewalt, 1982). Self-handicapping style has been shown to relate to effort withdrawal both prior to and during evaluative performances, and to correlate with self-perceived academic underachievement (Rhodewalt, 1984; Rhodewalt & Fairfield, 1989; Rhodewalt et al., 1984). Mayerson and Rhodewalt (1988) reported marked tendencies for high self-handicappers to attribute previous failures to external-stable causes when related subsequent performances had implications for self-conceptions of ability. Apparently, initial failures were sufficient to enhance motives among high self-handicappers' to protect their self-conceptions from the implications of future unsuccessful performances. Thus, it is expected that self-handicapping style (SHS) will moderate the reporting of external-stable attributions of poor performance in the selection process among preferentially hired individuals. Those who typically adopt self-handicapping strategies in performance contexts are expected to claim stable external excuses for their performance in the selection process when hired under a preferential relative to a merit policy. Examples of such external stable attributions might include persistent bias against women, sex-type of the task, and/or other factors beyond the control of the individual. The hypothesized form of interaction between self-handicapping style and hiring condition in influencing attributions to stable external causes is presented in Figure 8.

Additionally, given research demonstrating that self-handicaps often do not impair performance, and sometimes actually improve it, it

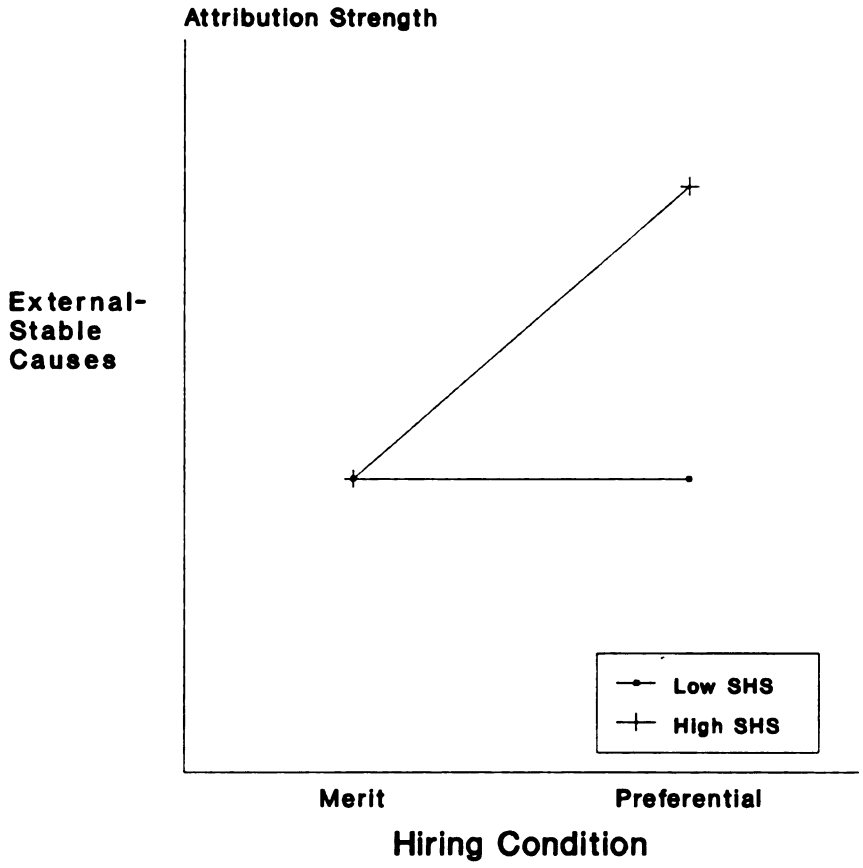


Figure 8. Hypothesized Form of Interaction Involving SHS and Hiring Condition in Influencing Attributions to External-Stable Causes

was also hypothesized that SHS would moderate the relationship between expectancies of success and actual task performance (described below). High self-handicappers may be quick to point out external impediments to their future performance and indicate little expectancy of success, and by so doing free themselves from the attributional implications of task failure. Once so freed, high self-handicappers may feel less anxious during task performance, and ultimately perform quite adequately. These processes have been supported empirically in studies showing no differences in task performances among individuals with and without claimed self-handicaps (Greenberg, Pyszczynski, & Paisley, 1985; Smith et al., 1982), and enhanced performance among individuals choosing performance inhibiting environments (Rhodewalt & Davison, 1986) or claiming self-handicapping personal circumstances (Arkin & Baumgardner, 1985b). As noted above, the detrimental effects of self-handicapping on eventual performance should be expected to occur primarily in those situations in which the chosen handicap actually interferes with task effectiveness. Simply claiming lower expectancies of future success does not necessarily implicate lower eventual effectiveness. Thus, the direct linkage between expectancies of success and task performance among high self-handicappers may be substantially weakened. It should also be noted at this juncture that a primary reason for including a measure of global self-esteem in the present research is to covary the effects of esteem from the effects of self-handicapping style (see Mayerson & Rhodewalt, 1988).

The Attributional Filter

As described above, behavioral reactions are expected to follow cognitive responses to the implications of affirmative action hiring.

This perspective is consistent with Weiner's (1985; 1986) attribution theory of motivation in achievement contexts. According to Weiner (1985; 1986), attributions regarding the causes of previous outcomes result in emotional reactions, such as anger or frustration, and, more relevant for the present model, expectations of future success. Specifically, causes that are perceived as being stable are expected to continue to influence behavior in the future. Therefore, failure attributed to stable causes leads to the expectation that future efforts will also result in unsuccessful outcomes (Weiner, 1985). As described above, this proposition is implicit in Wortman and Brehm's (1975) reactance-helplessness model, Carver and Scheier's (1990) control theory, and Bandura's (1989; Wood & Bandura, 1989b) theory of behavioral self-regulation. Widespread empirical support exists for the notion that unsuccessful performances that are attributed to stable causes result in lowered expectancies of future success (e.g. Brockner & Guare, 1983; Covington & Omelich, 1979; see also Fiske & Taylor, 1991; Weiner, 1985; 1986 for reviews). Experimental results reported by Mikulincer (1988) and by Bandura and Wood (1989; Wood & Bandura, 1989a) which were reviewed above are also consistent with these propositions. Hence, the conditions under which individuals are hired are expected to moderate the relationship between stable attributions and expectancies regarding future performance. Specifically, stable attributions regarding implicit failure in preferential hiring contexts should increase the tendency for individuals to report lower expectancies relative to merit hiring, which implies success during pre-employment selection hurdles. Lower attributions to stable causes should have a negligible effect on expectancies under preferential

relative to merit hiring.

Attributions to unstable causes are presumed by Weiner (1985; 1986) to create uncertainties regarding future outcomes. Failure that is perceived as being caused by unstable internal or external factors neither strengthens nor weakens future expectancies. From the perspectives of the theories of self-concept reviewed in this dissertation, future expectancies would then derive principally from intentions for future levels of performance, where such intentions are based on self-regulatory processes designed to reaffirm perceptions of self-determinism (Wortman & Brehm, 1975), progress towards valued principles (Carver & Scheier, 1990), or a stable sense of self (Swann, 1990). Reactance, self-regulatory attempts at discrepancy reduction, or behavioral attempts at self-verification occur in failure situations, therefore, when those previous failures are attributed to unstable, and therefore potentially controllable factors. Attributions of success to stable factors would not be expected to increase attempts at behavioral self-regulation. Hence, the conditions under which individuals are hired are also expected to moderate linkages between internal and external unstable attributions and attempts at behavioral reactance or self-regulation. Specifically, individuals who attribute affirmative action hiring to unstable factors should show an increased tendency towards behavioral reactance and self-verification relative to merit hiring, whereas lower unstable attributions should have a negligible, or negative effect on reactance under preferential relative to merit hiring.

Several issues are relevant to the operation of attributions in mediating behavioral reactions to preferential hiring in organizational

contexts. First, at least minimal similarity must be perceived in the underlying personal characteristics required for performance during the selection process and for subsequent task performance for the attributional filter to operate as proposed in Figures 1 and 2. Internal attributions to an uncontrollable lack of ability will result in helplessness and behavioral withdrawal only when initial performance during pre-employment testing is seen as requiring the same abilities as eventual job performance (see Wortman & Brehm, 1975).

Second, direct reactance is expected only when performance during selection is attributed to internal unstable factors, such as insufficient effort. When attributions are made to external unstable causes (for whatever reason; see above), the self-concept is not implicated in initial failures (Mikulincer, 1988; Swann, 1990; Weiner, 1985; 1986), therefore reducing motives to reassert self determination (Wortman & Brehm, 1975) and/or a stable self-conception (Swann, 1990) through enhanced efforts. Thus, increased efforts following preferential hiring would be expected only when attributions for poor selection performance are made to unstable internal causes.

Nevertheless, behavioral disconfirmation of others' impressions may be elicited when individuals feel compelled to manage a desired impression. Thus, as shown in Figure 2, a concern over impression management, or public self-consciousness (Fenigstein, Scheier, & Buss, 1975), is expected to elicit enhanced effort directed at self-verification following external unstable attributions regarding the causes of one's own performance in pre-employment selection hurdles. Figure 9 presents the hypothesized nature of this interaction. As discussed above, impression management processes in self-verification

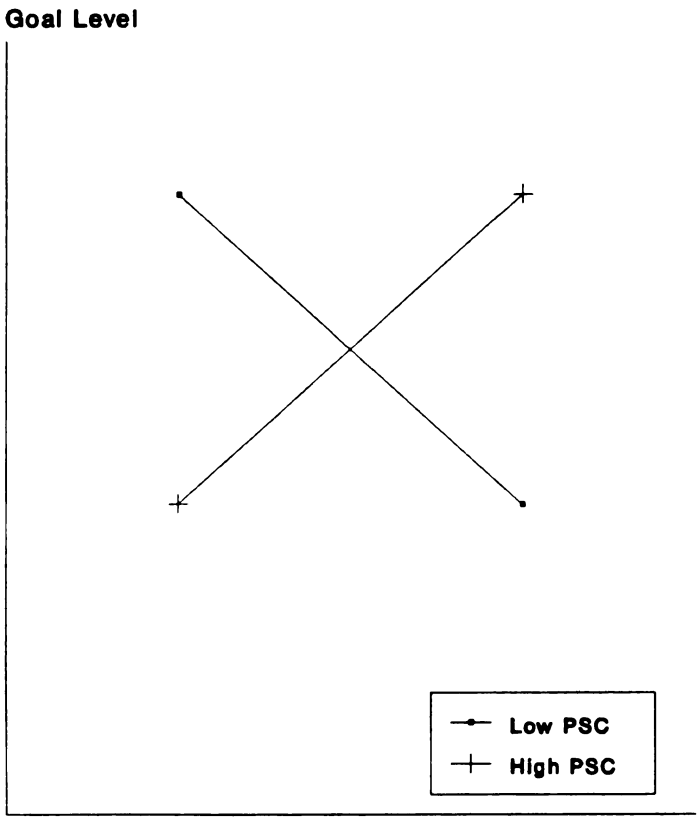


Figure 9. Hypothesized Form of Interaction Involving External-Unstable Attribution Strength and Public Self-Consciousness (PSC) in Influencing Goal Level

are presumed to derive from desires for interpersonal harmony, and to ensure for reasons of perceived personal control and predictability that others see one in a self-consistent manner (Swann, 1990). Such impression management motives in self-verification have been supported in empirical research by Baumeister (1982) and Baumgardner and Brownlee (1987) and are described in more detail above. Outside of self-verification theory, substantial research shows that individuals engage in impression management following public task failures or embarrassments (see Leary & Kowalski, 1990 for a review). Nevertheless, the impact of impression management concerns on effort expenditures following external unstable attributions are not expected to further depend on the valence of feedback received during pre-employment hiring procedures. That is, it is expected that external unstable attributions lead to doubts regarding the appropriateness of being hired for employment, regardless of the implemented employment policy, and should therefore result in enhanced efforts among high publicly self-conscious individuals.

Self-verification theory is unique among the five self-regulation theories reviewed in this dissertation in postulating enhanced behavioral reactance to failure feedback in public performance settings. Hence, by including the impression management moderator in the present model, reactions to hiring conditions may be more clearly understood depending on whether they appear to implicate only motives for reaffirmation of self-determinism and/or regulation of performance-outcome discrepancies in various hiring situations, or also include public self-verification or impression management motives. Of course, self-handicapping research suggests greater effort withdrawal in public

than in private, presumably in order to protect publicly communicated self-conceptions. However, because the present model allows for attributional excuses in private settings only, it is not expected the effects of self-handicapping will further depend on the perceived publicity of performance, or public self-consciousness. Future research can easily be designed to address public self-handicapping motives in affirmative action contexts.

Third, motives for reactance and/or self-verification are postulated to be translated into subsequent self-set goals following attributions for performance on pre-employment selection hurdles. Previous research has traditionally assessed reactance and self-verification solely through behavioral responses, such as effort expenditure following failure (e.g. Maracek & Metee, 1972; McFarlin et al., 1984; Mikulincer, 1988) or perceiver ratings of behavioral self-verification (e.g. Swann & Ely, 1984; Swann & Read, 1981b). The use of goal level as a mediating determinant of behavioral reactance and verification motives is consistent, however, with research by Bandura (e.g. Bandura & Cervone, 1986; Bandura & Wood, 1989; Wood & Bandura, 1989a). For example, Bandura and Cervone (1986) reported that self-set goals for subsequent task performance increased as a function of participants' self-dissatisfaction at attaining moderately to markedly substandard initial task performance. Thus, following unstable attributions for implied poor selection test performance in affirmative action contexts, self-dissatisfaction, and corresponding motivations to reassert self-determination (Wortman & Brehm, 1975), reduce behavior-outcome discrepancies (Carver & Scheier, 1990), and/or verify stable self-conceptions should result in higher self-set goals for subsequent

task performances.

Finally, direct paths are not expected between unstable attributions and expectancies of future success, or between stable attributions and subsequent self-set goals. As Weiner (1985; 1986) argues, unstable attributions create uncertainties regarding likely future outcomes. Individuals do not necessarily raise or lower expectations when causes are seen as unstable (Weiner, 1985). As noted above, expectancies following unstable attributions would therefore depend primarily on intentions for future effort expenditures. However, the likelihood of future success is by no means certain given renewed efforts. Indeed, empirical research does not support the notion that perceptions of personal sources of efficacy are raised following initial failures; if anything, the reverse occurs (cf. Bandura, 1977; 1982; 1989). For example, Bandura and Cervone (1986) found that although self-efficacy perceptions declined following initial failure feedback, self-dissatisfaction with substandard performances resulted in increased self-set goals and eventual task performance. Thus, one would not be expected to risk future threats to self-esteem by raising expectations of success in uncertain ego-relevant performance contexts.

This does not imply however, that individuals will not strive to reassert self-determination, minimize goal discrepancies, or reaffirm a stable self-conception despite minimal increases in their perceived expectancies of success. Empirical research supports these propositions. Specifically, Carver et al. (1979) reported that subjects experiencing initial task failures persisted longer on a subsequent task, even though their self-rated expectancies of future

success were equivalent to the expectancies of individuals who withdrew efforts. On the other hand, as described above, McFarlin and Blascovich (1981) reported increased expectancies of future task success among high self-esteem individuals following initial failures relative to those receiving success feedback. However, subjects in their study provided expectations for a subsequent task that was clearly unrelated to that on which they initially experienced success or failure; hence, subjects' self-rated expectancies cannot be considered directly relevant to the implications of the feedback they received.

The effects of attributions to stable causes on subsequent self-set goals, on the other hand, are expected to be entirely mediated by future expectancies of success. Here, expectations of future success are reduced following stable attributions of negative outcomes during pre-employment screening, thus providing a basis on which to set subsequent performance goals. Although affective reactions may follow stable causal attributions (cf. Weiner, 1985; 1986), subsequent goals are postulated to follow primarily from the cognitive responses to stable causes, transmitted principally through future expectancies of success.

As shown in Figures 1 and 2, the attributional filter is also postulated to moderate perceptions of fairness associated with the selection procedure and final hiring decision. Before turning to fairness perceptions, the effects of expectancies and goals on subsequent task performance are briefly described.

Performance Outcomes

Both expectancies of success and self-set goals are hypothesized to lead directly to subsequent performance outcomes. Both of these linkages are based on sound theoretical foundations and substantial empirical evidence. Specifically, a variety of theories postulate direct motivational effects of expectancies for future performance (e.g. Campbell & Pritchard, 1976; Mitchell, 1974; Naylor, Pritchard, & Ilgen, 1980; Vroom, 1964). Moreover, theories of behavioral self-regulation reviewed in this dissertation also predict direct effects of expectancies on subsequent task efforts (Bandura, 1977; 1982; 1989; Carver & Scheier, 1990; Wood & Bandura, 1989b; Wortman & Brehm, 1975). This linkage therefore follows directly from existing research in human motivation.

The effects of goals on subsequent performance are also well documented (see Locke & Latham, 1990; Locke, Shaw, Saari, & Latham, 1981 for reviews). Higher self-set goals consistently result in higher subsequent task performance, presumably through their effects on the direction and intensity of task-related efforts and their effects on self-evaluation of performance feedback (Carver & Scheier, 1990; Locke & Latham, 1990; Scheier & Carver, 1988). However, it should be noted that goals may impair performance on complex tasks (Locke & Latham, 1990). This occurs because goals for specific levels of distal performance impair the development of proximal subgoals and effective task strategies (see Wood & Locke, 1990 for a review). Moreover, recent research suggests distal goals may interfere with task-related cognitions needed for task learning and strategy development (e.g. Kanfer & Ackerman, 1989). Hence, strictly speaking, the present model

applies only to tasks that are fairly simple; self-regulation and self-verification motives following affirmative action self-labelling may ultimately impair performance on complex tasks if efforts are not directed towards the development of effective task strategies. Support for this notion within the context of self-verification was provided in a study by McFarlin et al. (1984). As described above, high self-esteem individuals in this study persisted longer on tasks after receiving failure feedback, though their eventual performance effectiveness was lower than individuals who did not attempt to solve the most difficult problems in an effort to verify self-conceptions of competence.

Perceived Procedural and Distributive Fairness

As noted above, and as is evident in Figures 1 and 2, the effects of hiring condition on perceptions of fairness are expected to be partially mediated by attributions regarding the causes of individual performance during the pre-employment selection process. The more direct, moderated effect of preferential treatment on fairness perceptions was described above. In this section, the effects of attributions on fairness judgments are described.

Researchers interested in organizational justice distinguish between perceptions of fairness associated with decision outcomes, or distributive fairness, and with the procedures used to determine allocation decisions (e.g. Greenberg, 1987; 1990). In discussing principles, or rules, upon which judgments of procedural fairness are based, Leventhal (1980) noted that procedures will be judged fair when they, among other things, (1) follow consistent rules, (2) are based on accurate information, (3) employ safeguards against bias, (4) allow for

appeals to be heard, and (5) are based on prevailing moral and ethical standards. Most discussions of distributive justice refer to perceptions of the extent to which rules of equity, equality, or special needs have been satisfied (e.g. Adams, 1965; Deutsch, 1975; Homans, 1961; Lerner, 1982; Walster, Berscheid, & Walster, 1973). Thus, for the present purposes, judgments of procedural fairness are expected to relate primarily to individuals' perceptions of the pre-employment selection techniques, such as the extent to which measurement tools were unbiased and valid, and were applied consistently across applicants. Distributive fairness judgments are postulated to relate more directly to the final hiring decision, including the inferred weighing of qualifications and subgroup membership in this decision. Of course, perceptions of the weights used to determine affirmative action decisions may influence judgments of procedural fairness. Such judgments might be based on violations of the consistency principle of procedural justice described by Leventhal (1980). Moreover, previous empirical research has demonstrated lower procedural fairness perceptions among beneficiaries of affirmative action hiring programs. However, without exception, measurement instruments used to assess fairness in this previous research employed single-item global questionnaires of distributive and/or procedural dimensions, thereby potentially confounding perceptions of the two dimensions. It is expected that techniques used to measure qualifications during pre-employment screening will be more salient in judgments of procedural fairness, whereas judgments of distributive justice will reflect perceptions of final decisions, however information was weighed in those decisions. Of course, future

experimental research might be used to further tease apart this apparent conceptual overlap.

Indeed, perceptions of procedural and distributive fairness are conceptually related in that distributions cannot often be considered fair when principles of procedural justice have been violated (cf. Folger & Greenberg, 1985; Greenberg, 1987; 1990; Leventhal, 1980). Thus, seemingly unfavorable outcomes may nevertheless be judged fair when procedures have been applied consistently and without apparent bias (e.g. Leung & Li, 1990). In selection contexts then, perceptions that pre-employment selection processes are fair should result in judgments that distributions of job assignments based on these procedures are also just. Likewise, perceptions that selection processes are unfair should undermine the perceived fairness of decisions to reject applicants.

Ultimately, perceptions of the fairness associated with the pre-employment selection process and final allocation decisions are postulated to derive primarily from individuals' attributions regarding the causes of their performance during selection hurdles. This hypothesis follows from Cohen's (1982) analysis of the psychological processes underlying organizational justice perceptions, and from cognitive biases in the interpretation of self-relevant information reviewed above (see also Taylor & Brown, 1988). According to Cohen (1982), justice associated with allocation decisions depends on perceptions of deservingness. Attributions of cause lead to judgments of the deservingness of outcomes, which then determine justice perceptions associated with these outcomes. Evidence of these underlying processes comes from research demonstrating the effects of

unexplained negative outcomes on derogation of victims (Lerner & Miller, 1978). From this perspective, the need to maintain beliefs in a just world causes perceivers to attribute responsibility to victims when other explanations are not available (Lerner, 1970). Thus, by derogating victims, attaching blame for negative outcomes to the actions of recipients, perceivers maintain perceptions of justice.

Additional empirical evidence supporting Cohen's (1982) attributional perspective includes studies which show perceptions of causal attributions mediating reactions to allocation decisions (e.g. Lawler & Thompson, 1978), and negative reactions to allocators who are perceived as causing unfavorable distributive outcomes (e.g. Leventhal, Weiss, & Long, 1969; Libby & Garrett, 1974; McClintock & Keil, 1982). Moreover, Cohen (1982) argues that differences in distributive fairness judgments among recipients and observers (cf. Leventhal, 1976), and differences in perceptions of equity when judgments are made regarding outcomes received by distant and intimate others (cf. Campbell & Pritchard, 1976), may well be the result of attributional biases. Specifically, the fundamental attribution error (Jones & Nisbett, 1972), whereby actors attribute their own negative outcomes to external factors and positive outcomes to internal factors, whereas others are seen as causing negative outcomes and being less responsible for positive outcomes, could explain biases in distributive fairness judgments. Likewise, because perceivers are more aware of their own actions and intentions and those of other intimate associates, they may perceive favorable outcomes more as the result of intentioned action and unfavorable outcomes as unintentioned relative to distant others, thereby biasing their judgments of the fairness of positive and

negative outcomes.

Furthermore, as reviewed above, considerable empirical evidence demonstrates cognitive biases in the interpretation of the validity and accuracy of self-relevant feedback (e.g. Baumgardner et al., 1989; Crary, 1966; Korman, 1968; Markus, 1977; Shrauger & Lund, 1975; Swann & Read, 1981a; Swann et al., 1987) and self-consistency biases in attributions of positive and negative feedback (see Zuckerman, 1979 for a review). It is expected, therefore, that self-reactive processes in the attributions of cause for perceived performance during pre-employment selection will moderate subsequent judgments of fairness. Individuals who attribute preferential treatment as deriving from causes associated with external factors beyond their control (both stable and unstable causes), will perceive the pre-employment selection sequence as procedurally unfair relative to merit hiring, and in addition, distributively no less fair than merit selection. In other words, these individuals are expected to place blame for their inferred lower performance on characteristics of the selection process that, by implication, are unfair. Because the hiring decision was caused by external factors, distributions under preferential and merit selection should be seen as equally fair under preferential and merit selection. Distributions should be seen as unfair in preferential relative to merit conditions only when attributions are not made to external sources.

On the other hand, selection processes that result in measured performances that are attributed to stable or unstable internal factors are likely to be perceived as equally fair under merit and preferential selection. When preference is granted despite internal causes of

failure, judgments of distributive fairness should be lower relative to merit selection. Lower perceptions of internal causes of selection performance should undermine the perceived fairness associated with preferential relative to merit selection, and result in distributive judgments that are equivalent in merit and preferential conditions. It is also possible, however, that individuals who perceive their preferential treatment in hiring as caused by internal factors may nevertheless defensively perceive the final distributive judgment as fair rather than risk the threat to their self-esteem that may result from the inference that they have benefitted from a distributively unfair decision. Figures 10 and 11 depict the hypothesized forms of interactions involving hiring condition and attributions on perceptions of the distributive and procedural fairness, respectively, of selection decisions.

Finally, perceptions of distributive and procedural fairness are not expected to relate directly to performance. Although undercompensation inequities have been shown to result in withdrawn effort in some cases (see Campbell & Pritchard, 1976; Greenberg, 1982 for reviews), the present model deals primarily with potential overcompensation effects (see discussion above). That is, preferential treatment represents an overcompensation rather than an undercompensation in job allocations. Moreover, despite evidence of undercompensation inequity effects on performance, outcomes associated with judgments of distributive and procedural fairness in organizational contexts have been limited primarily to affective outcomes, such as organizational commitment, pay satisfaction, satisfaction and trust in supervision (Folger & Konovsky, 1989; Fryxell

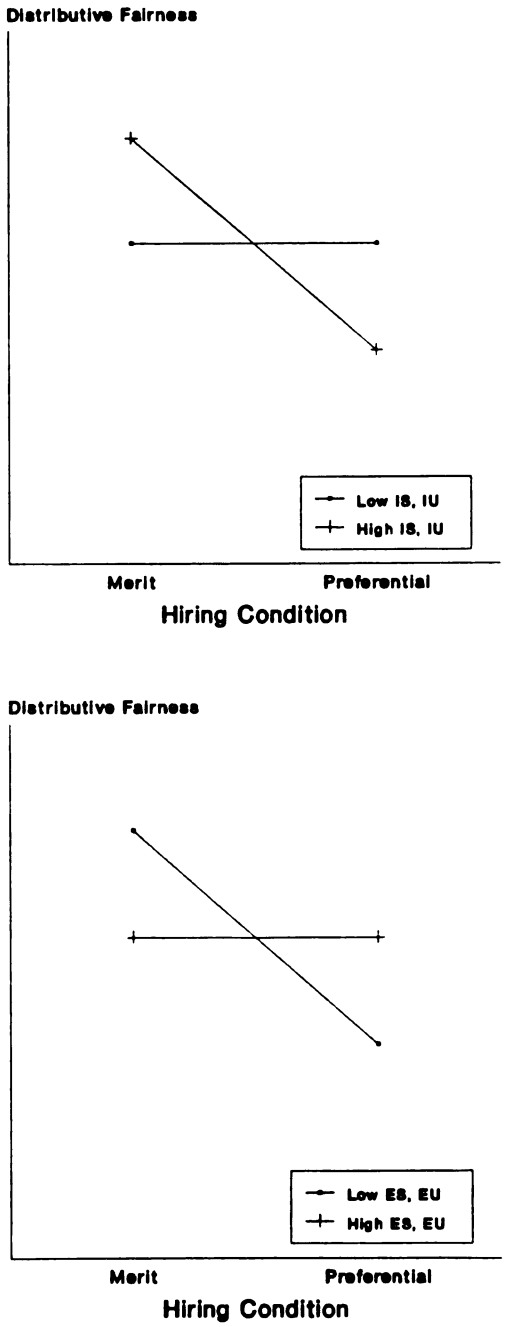
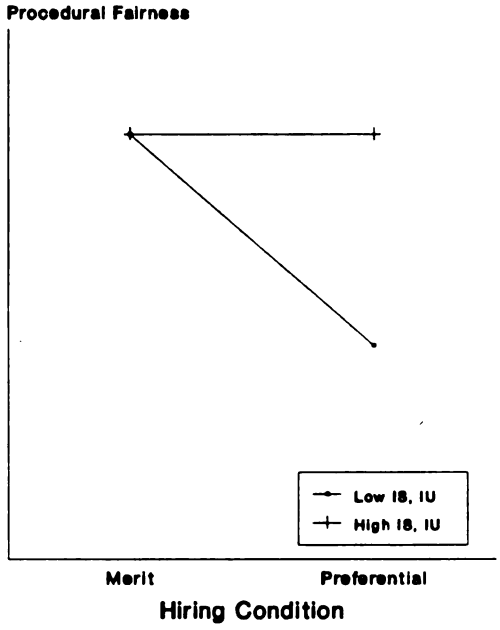


Figure 10. Hypothesized Form of Interactions Involving Attributions to Internal-Stable (IS), Internal-Unstable (IU), External-Stable (ES), and External-Unstable (EU) Causes and Hiring Condition in Influencing Perceptions of Distributive Fairness



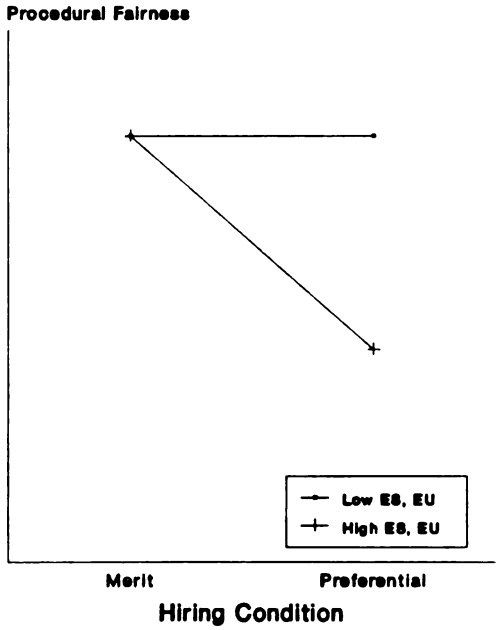


Figure 11. Hypothesized Form of Interactions Involving Attributions to Interan-Stable (IS), Internal-Unstable (IU), External-Stable (ES), and External-Unstable (EU) Causes and Hiring Condition in Influencing Perceptions of Procedural Fairness

& Gordon, 1989), and organizational citizenship behaviors (Moorman, 1991). These outcomes resemble in many ways outcomes that have been associated with job satisfaction, to which judgments of organizational fairness are conceptually related. Therefore, like satisfaction or dissatisfaction with one's job, perceptions of fairness or unfairness are not expected to relate directly to job performance.

The model presented in Figure 1, and thoroughly explicated in Figure 2, is based on the notion that self-reactive cognitive processes in the attribution of inferred pre-employment selection performance are causally prior to judgments of fairness associated with one's preferential treatment in hiring. Attributional reactions are then postulated to mediate behavioral reactions to preferential hiring. This view is in contrast to previous suggestions that perceptions of fairness mediate reactions to one's own preferential treatment in affirmative action hiring contexts (e.g. Barnes Nacoste, 1990; 1991). The fairness perspective is based on the notion that beneficiaries of preferential treatment react to such messages on the basis of their judgments of whether the conditions under which they were hired violated norms of distributive justice (cf. Lind & Tyler, 1988). Perceptions of injustice associated with preferential treatment then result in evaluation apprehension, self-imposed isolation, and efforts to compensate for the favored treatment one received during the hiring process. A more fully articulated model based on such a justice perspective of reactions to preferential hiring is presented in Figure 12. The perspective taken in this dissertation however, regards the processes illustrated in this alternative model as unlikely given the voluminous body of research underscoring self-consistency and

self-regulatory processes in reactions to self-relevant feedback, the type of feedback that is also inherent in affirmative action self-labelling. Nevertheless, the alternative model provides a competing set of predictions against which the model presented in Figures 1 and 2 may be tested. The alternative model is described briefly in the next section.

An Alternative Justice-Based Model

As noted, the justice-based model postulates fairness perceptions as causally occurring prior to behavioral reactions to affirmative action in organizational hiring contexts. Reactions follow from feelings of evaluation apprehension and guilt that derive from judgments of whether procedures used to determine job qualifications and final allocation decisions are fair and just. Figure 12 presents a proposed model describing these justice-based processes.

In the figure, preferential treatment is postulated to result in differing perceptions of distributive and procedural fairness relative to standard merit hiring. Given previous research demonstrating that beneficiaries often consider affirmative action unfair (see Barnes Nacoste, 1991 for a review), preference in job allocations on the basis of sex or race may lead to lowered perceptions of distributive fairness. However, the strength of this relationship is expected to depend on beneficiaries' pre-existing perceptions of collective relative deprivation (cf. Tougas & Veilleux, 1988). Specifically, individuals who perceive that their own group has been relatively disadvantaged in the past would be more accepting of the fairness of affirmative action hiring in their own circumstances. This follows from research reported by Tougas and Veilleux (1988) and Heilman et al.

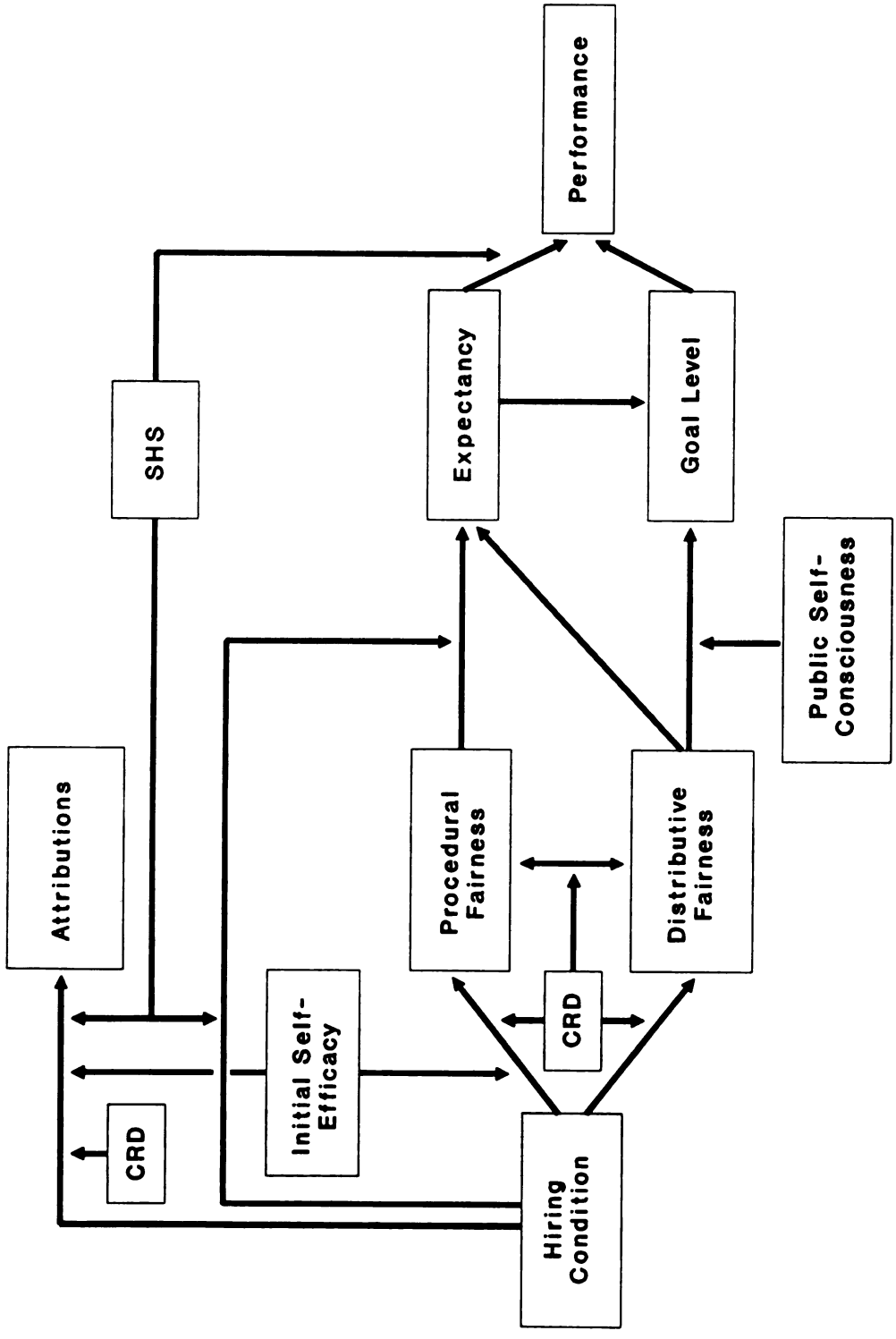


Figure 12. An Alternative Justice-Based Model of Beneficiary Reactions to Affirmative Action in Organizational Hiring

(1991).

Preferential treatment may also relate directly to perceptions of procedural fairness associated with the techniques used to measure employment qualifications. Specifically, individuals may infer from preferential treatment that measurement tools are necessarily biased against the group receiving advantage through affirmative action hiring. In other words, preferential treatment may raise uncertainties regarding the validity and fairness of measurement tools; affirmative action should not be required if measurement tools are accurate and fair. Again, perceptions of CRD are expected to moderate this direct path. Beneficiaries who perceive historical disadvantages operating against their group would be more likely to infer that measurement tools have been traditionally biased and remain so in the present case.

As described in the previous section, judgments of procedural and distributive fairness are positively correlated in most situations. That is, distributions cannot be perceptually justified if procedures are judged unfair. However, perceptions that preferential treatment is distributively fair may imply that selection procedures are not accurate and reliable indicators of true abilities. Hence, distributive and procedural fairness may show a negative relationship when preferential hiring distributions are justified on the basis of unfair hiring procedures. At any rate, the relationship between distributive and procedural fairness is expected to be reciprocal, with both perceptions of procedural and distributive fairness influencing each other simultaneously. Again, however, CRD is likely to provide an additional moderating influence on the reciprocal path between perceptions of distributive and procedural fairness. Beneficiaries who

perceive significant CRD operating against their group should be willing to judge preferential treatment as distributively just, despite perceptually fair pre-employment selection procedures. Likewise, individuals hired under merit policies should not depend on perceptions of procedural fairness to justify hiring distributions if they perceive historical disadvantages operating against their group.

As in the self-consistency model explicated in Figure 2, initial perceptions of task-relevant self-efficacy and global self-esteem may moderate perceptions of validity and accuracy associated with pre-employment selection procedures. Specifically, beneficiaries who hold initial high levels of confidence in their job-relevant capabilities might infer that preferential treatment was required because measurement procedures were themselves unfair. They should be less likely than those who have initial doubts in their abilities to accept the validity of the message implicit in preferential hiring that they lack sufficient job qualifications. This may then undermine perceptions of procedural fairness among high self-efficacy beneficiaries.

Perceptions that the selection procedure used to determine qualifications was valid and unbiased are expected to then lower expectancies of personal efficacy for subsequent task performance among those hired preferentially. Beneficiaries who accept the procedural fairness of selection hurdles should internalize lower expectancies for their future performance. In contrast, individuals hired under an apparent merit policy may regard procedurally fair decisions as affirmation of performance qualifications. Hence, hiring condition should moderate the relationship between perceptions of procedural

fairness and expectancies regarding future success. This path may be further moderated, however, by self-handicapping style. That is, individuals who have a generalized preference for self-handicapping in evaluative settings may use the perceived fairness associated with preferential selection procedures as an excuse for lowered expectancies of future success. By so doing, high self-handicappers create protection against losses to their self-conceptions of ability should they indeed perform unsuccessfully on the job. Moreover, high self-handicappers may be less willing than low self-handicappers to regard procedurally fair merit hiring policies as reason to raise expectancies regarding future success. Hence, a three-way interaction is expected between hiring condition, procedural fairness, and self-handicapping in influencing performance expectancies. Figure 13 presents the hypothesized form of this interaction. As in the model explicated in Figure 2, self-handicapping tendency should also weaken the relationship of self-perceived expectancies to task performance. This follows from the logic outlined in detail above.

Perceptions of distributive fairness associated with the hiring decision may also relate directly to future expectancies of success. Newly hired employees who perceive that preferential treatment is distributively unjustifiable may question the organization's commitment to fairness and their likely treatment in future organizational decisions. This follows from Nacoste and Lehman's (1987) finding that individuals became more uncertain of the fairness with which they expected to be treated in future decisions when historical justifications for preferential treatment in their own hiring had not been provided. Individuals who perceive hiring policies as resulting

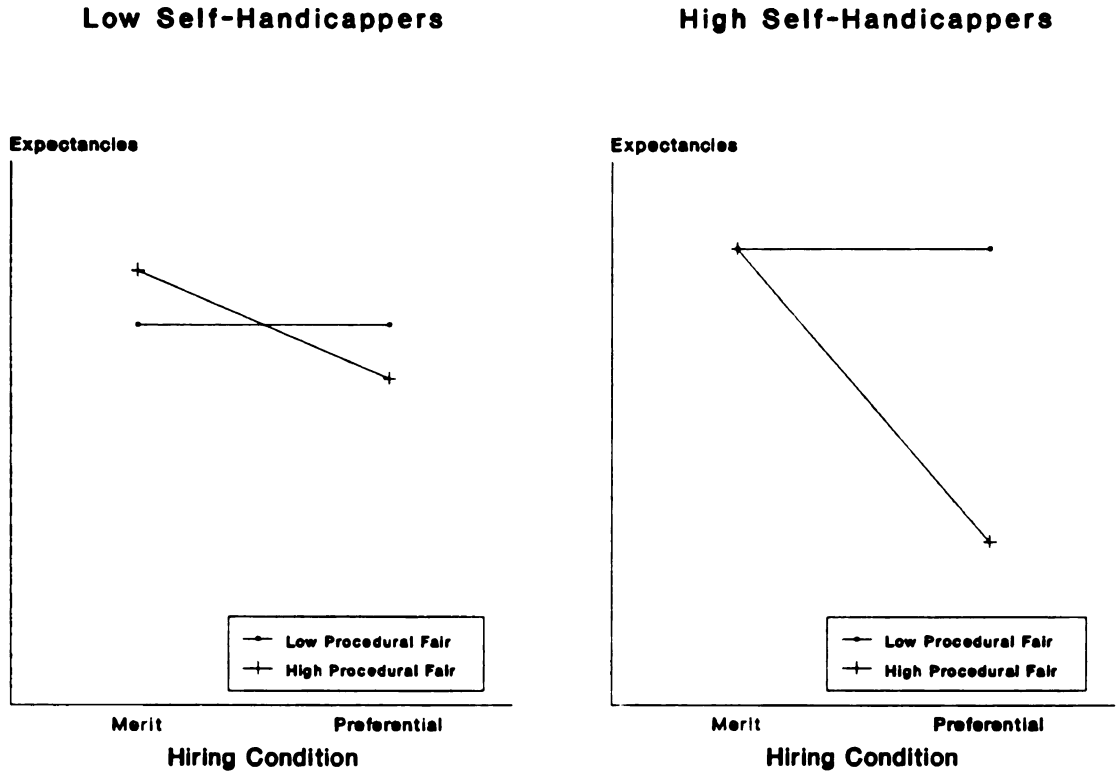


Figure 13. Hypothesized Form of Interaction Involving Hiring Condition, Perceptions of Procedural Fairness, and Self-Handicapping Style in Influencing Expectancies

in distributively just outcomes may feel more confident in the organization's ultimate commitment to fairness. These causal linkages are not expected to depend on whether merit or preferential hiring was used.

A direct path between distributive fairness perceptions and subsequent self-set goals may reflect the operation of guilt resulting from overcompensation inequity (cf. Adams, 1965), or desires to compensate for violations of perceived group justice norms (cf. Barnes Nacoste, 1991; Lind & Tyler, 1988). Hence, individuals who perceive that their hiring decision was distributively unfair may subsequently set higher performance goals, reflecting their desire to make up for hiring inequities operating in their favor. Individuals who perceive that their hiring decision was distributively fair would not be motivated to set higher goals in compensation for receiving employment opportunities. This direct path would likely be moderated by the impression management motivations, however. That is, individuals who feel less concern for the impression they make on others should feel less compelled to compensate for perceived injustices in their hiring decision. In contrast, feelings of guilt and/or violation of group justice norms should find their behavioral manifestation primarily when individuals feel compelled to insure they make favorable impressions on others.

Finally, direct paths are postulated between expectations of success and subsequent self-set goals, and between task performance and expectations and self-set goals. These linkages follow directly from the logic outlined in the previous section and are expected to operate in a similar fashion in this alternative justice-based model.

Attributions for pre-employment test performance are not expected to be causally important in this model, although they should follow from hiring conditions as described in the previous section.

In summary, two competing models were hypothesized as potentially underlying beneficiary reactions to affirmative action in organizational hiring. The self-consistency model presented in Figures 1 and 2 is derived from previous literature addressing reactions to self-relevant feedback, whereas the justice-based model presented in Figure 12 derives from the alternative possibility that reactions follow principally from perceptions of distributive and procedural fairness. As noted above, the perspective taken here regards self-reactive processes as causally prior and more important than fairness perceptions. These self-regulatory and self-consistency processes resemble esteem maintenance motives found to underlie reactions to overcompensation inequity in hiring demonstrated in early tests of Adam's (1965) equity theory. Nevertheless, the alternative model presented in Figure 12 allows a more thorough assessment of the relative utility of proposed psychological mediators of reactions to preferential treatment in organizational hiring. In the next section, the methodology utilized in examining these issues is described.

METHOD

Overview

The models presented in Figures 1, 2, and 12 incorporate a variety of individual difference variables, one experimental manipulation, and several perceptual and behavioral responses. The experiment designed to test these processes involved recruiting participants for an ostensible temporary job for which they were to receive monetary compensation. The participant sample was restricted to females given that preferential hiring is less relevant to majority group males. Women were recruited for the temporary job, and upon applying for work were given an ostensible pre-employment test of general abilities. Following a brief delay, during which the "hiring supervisor" scored participants' pre-employment tests, one half of the participants received feedback informing them that, although women in general had been scoring below a pre-established cutoff on the test, an affirmative action policy was in place to ensure equal representation of women and men for the task. The remainder were informed that they passed the test and were qualified for the position. Participants then completed several questionnaires and were immediately assigned to perform the task.

Hence, the study used a single factor design with two levels (preferential hiring versus merit hiring). Questionnaires were administered at several points during the experimental session.

Pretesting was conducted to establish the psychometric quality of the measures, to provide initial validation of the affirmative action manipulation, and to gather normative data on task performance.

Pretests

Method

Pilot testing of experimental materials, manipulations, and the experimental task was conducted in four waves. All pretesting was conducted in group sessions with female subjects who were similar to the sample used in the primary investigation. In the first pilot study, 54 women were recruited from undergraduate psychology courses and asked to complete the Self-Handicapping, Collective Relative Deprivation, and Rosenberg (1965) Self-Esteem scales (see descriptions of measures below). This wave of testing was performed to allow an assessment of the psychometric characteristics of these instruments. Upon arrival, subjects were greeted and asked to complete a consent form. Following completion of the informed consent, subjects worked at their own pace through the three questionnaires.

In the second pilot study, 30 female undergraduates completed the Pre-Employment Abilities Test, and the Attributions, Self-Handicapping, Collective Relative Deprivation, and Rosenberg (1965) Self-Esteem measures. Upon arrival and after completing the informed consent, subjects were given 15 minutes to read and study the Air Defense Task Instruction Manual (described below). The time constraints for studying this material, and for the subsequent test based on this material, were designed to be similar to those used in the primary study. After the 15 minutes for studying had elapsed, instruction manuals were collected and subjects were given an additional 15 minutes

to complete the Pre-Employment Test. Subjects were then administered the Attributions, Self-Handicapping, Collective Relative Deprivation, and Rosenberg Self-Esteem questionnaires. The purpose of this pilot study was to generate data regarding the psychometric characteristics of these instruments.

During the third pilot study, 44 women recruited from introductory psychology courses were asked to role play a hiring procedure applied in their own selection for a hypothetical job. After completing the informed consent, subjects were asked to imagine that they were seeking employment as Navy Air Defense Radar operators from the experimenter, and to respond to the hiring process and questionnaires as they would in a real situation. Subjects were then administered the instruction manual and Pre-Employment Test as described for the second pilot study.

Upon completion of the knowledge test, subjects in the third pilot were then administered the Rosenberg Self-Esteem Scale and the twenty-item Self-Efficacy Scale described in the section below. When subjects had finished the questionnaires, they were randomly distributed pieces of paper containing bogus feedback regarding the outcome of their hiring decision. This feedback represented the manipulation of hiring policy (merit or preferential). Twenty two subjects received the affirmative action statement presented below, whereas the remainder received the merit statement. Subjects were then asked to infer their likely pre-employment test performance relative to a pre-established cut-off, and to complete the Attributions, Expectancy, Goal, and Fairness questionnaires.

In essence, this third phase of pretesting involved eliciting reactions to hypothetical affirmative action hiring policies. This procedure was similar to the role play methodologies employed in previous affirmative action research (e.g. Nacoste, 1985; 1987; 1989; Nacoste & Lehman, 1987). The primary purposes of this third wave of pretesting were to provide validation of the implicit message regarding lower abilities that was expected to be inherent in affirmative action hiring, and to provide evidence of the psychometric characteristics of the initial Self-Efficacy, Rosenberg Self-Esteem, Attributions, Fairness, and Expectancy scales. A small sample of subjects were used during this wave of pilot work however, to ensure that rumors regarding this research did not become widespread, and to ensure a sufficient number of naive participants were available for the main investigation.

The final wave of pretesting provided normative information on task performance. Ten female participants were recruited from introductory psychology courses to perform the Air Defense Task under the same time constraints applied in the main study. No pre-employment screening or hiring manipulations were used during this wave of pretesting. However, subjects were provided with the same task training period provided to subjects in the main investigation, and were asked to complete the twenty-item Self-Efficacy Scale. Results of this phase of pilot testing provided performance levels for the Self-Efficacy Inventory and Goal questionnaire used in the main study (see description of these measures below), and to provide further evidence of the psychometric characteristics of the 20-item Self-Efficacy Scale.

Results

As pointed out above, the primary purposes of pretesting were to ensure adequate psychometric quality of the measures to be used in the main investigation and to validate the effect of the preferential hiring manipulation on inferred pre-employment test performance. Factor analyses and final scale construction were not performed due to the small subject-to-item ratio for many of the measures. Hence, except for the Attributions scales, alpha reliabilities for total questionnaire scores were computed to provide initial evidence that later scale construction would result in psychometrically sound instruments. Separate alphas were computed for each of the four a priori scales constructed to measure the four primary cells of Weiner's (1985) attribution theory. An overall alpha for the Attribution questionnaire was not computed owing to its expected high degree of multidimensionality.

Tables 1 and 2 present the alpha reliabilities and intercorrelations of the scales examined in pilot testing. As can be seen in Table 1, most of the scales evidenced adequate internal consistency based on their full length. The original 25-item Self-Handicapping Scale developed by Jones and Rhodewalt (1982) had a low alpha as did the 50-item knowledge test. However, given the substantial length of these measures, subsequent scale revision was likely to yield adequate final measures. Moreover, the conceptually most important measures showed encouraging alpha reliabilities. Intercorrelations among the full length scales were also reasonable, suggesting that constructs were perceptually distinct, at least based on pretest results. These results provided initial support for the use

Table 1

Scale Reliabilities Based on Pretest Samples

Scale	Number of Items	Alpha Reliability	N
Test	50	.63	84
Self-Efficacy Scale	20	.83	54
CRD	25	.93	82
Self-Handicapping (Original)	25	.68	83
Self-Handicapping (Sexism)	10	.88	83
RSE	10	.86	104
Attributions (IS)	6	.82	74
Attributions (ES)	6	.79	74
Attributions (IU)	6	.81	74
Attributions (EU)	6	.78	74
Expectancy	25	.90	43
Distributive Fairness	20	.95	43
Procedural Fairness	25	.85	42

Table 2

Means, Standard Deviations, and Intercorrelations Among Scales Examined in Pretests

		Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1.	Test	13.42	11.53												
2.	Self-Efficacy	3.48	.42	.28*											
3.	CRD	4.37	.71	-.09	-										
4.	SHS (Original)	3.47	.45	.04	-	.22*									
5.	SHS (Sexism)	2.55	.86	-.11	-	.43**	.16								
6.	RSE	4.02	.66	.07	.17	.09	-.24	-.20							
7.	Attribs. (IS)	2.53	.84	-.03	.26	.39*	.16	.17	.01						
8.	Attribs. (ES)	2.43	.71	.07	-.02	.48**	.11	.26	-.16	.48**					
9.	Attribs. (IU)	3.19	.82	-.07	-.08	.04	.12	.05	-.21	.17	-.14				
10.	Attribs. (EU)	3.29	.78	-.04	-.14	-.39**	-.03	-.28	-.14	-.35**	-.09	.12			
11.	Expectancy	3.18	.52	.28	.56**	-	-	-	.25	.36*	-.09	-.39*	-.22		
12.	Distributive Fair.	3.10	.85	-.20	.43**	-	-	-	.19	.25	-.12	-.42**	-.32*	.37*	
13.	Procedural Fair.	3.05	.53	-.19	-.06	-	-	-	.19	.02	.21	-.28	-.01	.08	.44**

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

of scales derived from these questionnaires in the main investigation.

As expected, the affirmative action manipulation resulted in lower inferred test performance (M = 52.96) relative to the merit hiring message (M = 69.91; r = -.51, $p < .01$) among subjects participating in the role play exercise in the third pilot study. Of the 22 subjects in the preferential treatment condition, 16 inferred test scores below the pre-established cutoff of 65% correct, and only 5 of 22 subjects inferred scores below the cutoff in the merit condition. These differences are highly significant (X^2 = 11.02, $p < .001$). Hence, in support of previous research (e.g. Heilman et al., 1987; 1990; 1991; Nacoste, 1989), subjects who learned that they had benefitted from an affirmative action policy that provided preference to lower scoring women came to believe that their own scores must also be below pre-established test cutoffs. This occurred in the absence of specific feedback regarding their own test performance.

Primary Investigation

Participants

A total of 266 female participants were recruited from advertisements for temporary employment printed in the classified section of the campus newspaper. Participant ages ranged from 18 to 39 years with a mean of 21 years. The majority of the sample (90%) was White, 6% was Black, and 4% was comprised of members of other minority groups. Participants were randomly assigned to conditions and run individually in isolated rooms. Participants received $15.00 at the conclusion of their sessions.

As described below, participants were asked to infer their likely score on the pre-employment test of qualifications after receiving the

hiring manipulation. This inferred score served as a basis for eliminating from analysis the data collected from participants who failed the experimental manipulation. Overall, 12 participants in the merit condition reported test scores below the pre-established cutoff, and 16 participants in the preferential treatment condition inferred that their test scores were above the cutoff. Several participants failed to complete questionnaires, or left during the two and one half hour session. In all, nineteen participants had incomplete data on one or more of the important study variables. Path analytic tests of the models presented in Figures 2 and 12 were performed using only those cases with complete data. Hence, the final sample used in tests of the models consisted of 103 participants in the merit hiring condition and 116 in the preferential treatment condition. However, to maximize statistical power and facilitate stability of factor analytic results, analyses of the measurement properties of the questionnaires developed for use in this research were performed using all of the available data in the primary investigation.

Materials

Scale Construction Strategy. Final scales measuring each construct were developed using several criteria. First, for each construct, item scores were submitted to principal axis factor analysis with varimax rotation. An examination of eigenvalues and scree plots was used to determine several potential factor solutions, and the factor analyses re-run constraining the number of extracted factors. Items were then retained within each potential derived factor if their loadings exceeded .30 on that factor and were at least .15 larger than loadings on alternative factors. Item content was then examined to

provide conceptual interpretation of the meaning of potential factor solutions. This process continued iteratively until conceptually distinct and meaningful factors were created where the number of derived factors was consistent with results of scree plots.

Second, analyses of the internal consistency (alpha) of derived scales were performed to generate measures that contained high average inter-item correlations. Item content, item-total correlations, and changes in alpha reliabilities were used to delete items within each scale in order to create maximally reliable measures. Finally, scale scores, computed by taking the mean of items within scales, were intercorrelated for each construct to assess collinearity among indicators of a given construct. In some cases, high correlations among scales resulted in collapsing seemingly distinct indicators. In these cases, internal consistency analyses were rerun to create a final set of unique measures of the variables hypothesized in this research. In the section that follows, experimental materials and derived scales are described. In all cases, analyses of factor structures, scale reliabilities, and intercorrelations are based on the total set of available data in the main study, including those participants who failed the manipulation check. It should also be pointed out that two of the measures used in the present research, namely the Rosenberg (1965) Self-Esteem Scale, and Fenigstein et al's (1975) Public Self-Consciousness Scale, have well-established psychometric properties and were not revised in the present research. Nevertheless, internal consistency reliabilities were computed and are reported here.

Employment Application and Statement of Employment Contract. A short, one-page employment application was used to collect background information and to enhance the realism of the hiring scenario. The application also included a detailed statement of employment contract which described the nature of participants' employment conditions, work, and pay schedule. Participants' signatures at the bottom of the statement were taken as consent to participate according to the policies outlined in the statement. The application also included a line indicating an affirmative action/equal opportunity employment policy was being implemented. Previous research has shown that individuals are sensitive to similar statements of employment policy (e.g. Garcia et al., 1981; Rosen & Mericle, 1979). The employment application and contract appear in Appendix A.

Instruction Manual. An instruction manual was used to describe the nature and requirements of the Air Defense Task that participants were to perform. Participants were allowed an opportunity to read and study the manual as part of initial training on the task. The instruction booklet is contained in Appendix B.

Pre-employment General Abilities Test. A 50-item multiple choice test of the extent to which participants benefitted from training on the Air Defense simulator was used. Items were written to reflect material contained in the Air Defense Task Instruction Manual. Principal factors analysis extracted two interpretable factors, together accounting for 14.0% of the item variance. The first reflected participants' ability to correctly identify the threat associated with target attributes (i.e. Speed, Altitude, Angle, etc.) that were within the range of possible attribute values, whereas the

second factor included items that referred to attribute values that were out of the possible range of values contained in the computer simulation.

However, because the test was developed for research in other contexts (e.g. Hollenbeck, Sego, Ilgen, & Major, 1991) and was used solely to enhance the realism of the hiring scenario and to provide a general ability covariate, all 50 items were summed to create a single test score. The internal consistency reliability of the test was .74. The 50-item Pre-Employment General Abilities Test is included as Appendix C.

Initial Self-Efficacy Measures. An inventory adapted from previous research in self-efficacy was used to establish participants' initial levels of expected personal efficacy for the task. As in previous research, the inventory required participants to indicate which of eight ascending levels of performance they felt they could reach on the task. Participants were also asked to indicate how certain they were of being able to reach each level of performance. Pilot work established the levels of performance that served as anchors for this scale. In previous research, scores have often been computed by summing certainty values across each level of performance (e.g. Wood et al., 1990) or by taking certainty values for a given performance level (e.g. Bandura & Cervone, 1986). In the present research, certainty values were multiplied by values assigned to increasing performance levels in an attempt to provide a more sensitive measure of the certainty and magnitude dimensions of self-efficacy (cf. Bandura, 1977).

Table 3 presents the intercorrelations among these two methods of deriving self-efficacy scores along with the correlation of these scores with the alternative Self-Efficacy Scale constructed from an original pool of 20 items (described below). As can be seen in the table, different methods of deriving self-efficacy scores on the inventory resulted in highly redundant measures ($\underline{r}$ = .88), suggesting that the more commonly used method of summing certainty values should be used. The Self-Efficacy Inventory is presented in Appendix D.

A 20-item questionnaire was also constructed to ensure effective measurement of participants' initial self-efficacy for performance on the Air Defense Task. Participants responded to the 20-item instrument using a 5-point Likert format scale anchored, "Strongly Agree" to "Strongly Disagree". Factor analysis of the items in this second self-efficacy scale extracted one interpretable factor accounting for 39.7% of the item variance. Three items were subsequently deleted from the original set of 20 to create a highly reliable (Alpha = .92) alternative measure of participants' self-efficacy. As can be seen in Table 3, this alternative measure of self-efficacy correlated highly with the inventory derived from previous research. Appendix E presents the initial set of self-efficacy questionnaire items and the 17 items retained in the final scale.

The use of alternative measures of the self-efficacy construct was driven by the criticality of the self-efficacy construct in the models described above. However, several weaknesses were apparent in the use of the original Self-Efficacy Inventory. First, no measure of reliability of the instrument is possible given the nature of the items. Second, approximately one fourth of the study sample

Table 3

Alpha Reliabilities and Intercorrelations

Among Measures of Initial Self-Efficacy

		1	2	3
Self-Efficacy Inventory				
1.	Sum of Certainties Across Levels	---		
2.	Product of Certainties And Level Values	.88**	---	
Self-Efficacy Scale				
3.	Scale Score	.47**	.48**	(.92)

* $p < .05$

** $p < .01$

N=264

Alpha reliabilities are presented along the diagonal.
--- indicates a reliability that could not be estimated.

spontaneously reported having difficulties understanding the instructions for the inventory, suggesting that an unknown percent of respondents also felt some uncertainties regarding how to complete the instrument. Therefore, given the high reliability of the 17-item Self-Efficacy Scale constructed specifically for this research, and its high correlation with the inventory, the former was used in tests of the model described below. This decision was supported by high similarity in the patterns of correlations of the two alternative measures with other variables in this study, and by similarities in the results of path analytic tests using the two different instruments.

Collective Relative Deprivation Scale (CRD). Twenty-five items were written to assess participants' perceptions of CRD, or the extent to which women have received relative disadvantage in employment and societal conditions. Items were written to reflect both the cognitive and affective components of CRD. Participants respond to this measure using a 6-point scale anchored "Disagree Very Much" to "Agree Very Much". Principal factors analysis extracted one meaningful factor accounting for 43.3 percent of item variance. Subsequent internal consistency analyses and inspection of item content and item-total correlations suggested that reliability would be increased through deletion of 4 items. This resulted in a final 21-item scale with an Alpha equal to .95. Appendix F provides the original CRD measure and the final set of items retained in this instrument.

Self-Handicapping Scales (SHS). The 25-item SHS developed by Jones and Rhodewalt (1982) was used. Previous factor analytic assessment of this scale extracted seven factors with eigen values greater than 1.0, together accounting for 52.3% of the item variance

(Rhodewalt, 1984). However, Rhodewalt (1990) reported that only two meaningful factors were derived in this previous research. The first reflected a proclivity for excuse making and external attributions and included items such as "When I do something wrong, my first impulse is to blame the circumstances." The second factor reflected, instead, a tendency to avoid effort expenditure under various task situations. This factor included items such as "I would do a lot better if I tried harder." Although Rhodewalt (1990) did not report reliabilities or intercorrelations of scales derived from these factors, adequate internal consistency (alpha = .79) of the total scale was reported (Rhodewalt, 1990). As described above, previous validation of the scale indicated that individuals scoring high on the SHS tended to score low on measures of self-esteem, and tended to make situational attributions for their outcomes.

In the present research, ten additional items designed to assess the extent to which participants dispositionally attribute outcomes to sexism were also included in the instrument. Participants responded to the 35-item instrument using a 6-point scale anchored, "Disagree Very Much" to "Agree Very Much". Due to the recency of the development of the original SHS scale, the lack of empirical evidence of its psychometric characteristics, and the small amount of research regarding its relationship with other behavioral or cognitive outcomes, all 35 items were submitted to principal axis factoring and final scale revision.

A principal factors analysis extracted 3 factors which corresponded closely to the two described by Rhodewalt (1990) plus a sexism factor. Together, these three factors accounted for 33.7% of

item variance. Reliability analyses and inspection of item content and item-total correlations facilitated final scale revision. Table 4 presents the alpha reliabilities and intercorrelations among the three final scales. The first scale is labelled here "SHS: Sexism" and contains 8 of the original set of 10 sexism items. The second scale corresponds roughly to Rhodewalt's (1990) excuse making, or externalizing factor, and is labelled here "SHS: Externalizing". It includes 12 items. Finally, a 7-item scale derived from the third factor is similar to Rhodewalt's effort avoidance and is labelled here "SHS: Avoidance".

In large measure, the patterns of item loadings for the original set of 25 SHS items were similar to those reported by Rhodewalt (1990). A comparison of scales derived from the earlier factor analytic research with those created in the present study resulted in superior psychometric quality of the newer scales, however. Specifically, scales constructed using item loadings reported by Rhodewalt (1990) resulted in alpha reliabilities in the present sample of .69 and .52 for the Externalizing (9 items) and Avoidance (5 items) scales, and an intercorrelation of .50 between the two measures. Hence, although an attempt was made in the present research to use existing scales wherever possible, results of analyses of psychometric quality of the self-handicapping measures required revisions in Rhodewalt's (1990) set of scales. The Self-Handicapping questionnaire and final items in each scale are presented in Appendix G.

It should be noted that previous research has emphasized the importance of controlling for self-esteem in studies of the effects of self-handicapping style (see Rhodewalt, 1990). Hence, in all path

Table 4

Alpha Reliabilities, Intercorrelations

Among Raw and Residualized Measures of Self-Handicapping,

and Correlations of Self-Esteem with Raw Self-Handicapping Scores

		1	2	3
1.	SH:Sexism	(.89)	.21**	-.04
2.	SH:Externalizing	.26**	(.73)	.16**
3.	SH:Avoidance	.03	.33**	(.72)
4.	Rosenberg Self-Esteem	-.17**	-.52**	-.39**

* $p < .05$

** $p < .01$

N = 266

Alpha reliabilities are presented along the diagonal.
Correlations among raw Self-Handicapping scores are presented below the diagonal; correlations among residualized Self-Handicapping scores are presented above the diagonal.

analyses of effects associated with the self-handicapping construct,self-esteem scores were partialled from measures of self-handicapping prior to least squares regression analyses. Intercorrelations among the self-handicapping scales after removing the influences of self-esteem are reported in the top half of Table 4. Correlations of self-esteem with each raw-score self-handicapping measure are reported in the bottom row of Table 4.

Self-Esteem Scale. Rosenberg's (1965) 10-item Self-Esteem Scale was used. Items in this instrument employ a five-point likert format and ask respondents to indicate their agreement or disagreement with statements about their perceived self-worth and confidence. Internal consistency analyses in the present sample supported the reliability of this scale (alpha = .89). The purpose of the self-esteem scale was to provide statistical control to ensure unconfounded assessment of the effects of self-handicapping style. Rosenberg's (1965) self-esteem scale is presented in Appendix H.

Public Self-Consciousness Scale. The Public Self-Consciousness Scale developed by Fenigstein et al. (1975) was used as a measure of participants' impression management motivation. This instrument includes 8 items that refer to individuals' concern about their appearance, style of behavior, and the impression they make on others. Previous research has supported the expectation that participants high in public self-consciousness take behavioral steps to manage impressions and conform in social situations (see Buss, 1980). Participants responded to this instrument using a 5-point scale anchored "Disagree Very Much" to "Agree Very Much". The eight-item measure showed high internal consistency in the present research sample

(alpha = .86) and psychometric independence from the self-esteem measure (r = -.30, p < .01). The instrument is included as Appendix I.

Attributions Measures. Seven items were written for each of the four dimensions of causal attributions presented in Figure 2. These items were adapted from the Causal Attributions Scale developed by Russell (1982) in an earlier study designed to explore the measurement issues surrounding Weiner's (1985; 1986) attribution theory, and to develop unique measures of the four generic causal dimensions presented in Figure 2. Specifically, an attempt was made in the present research to probe directly participants' perceptions of the role of the four causal dimensions, independent of the specific causal manifestations of these dimensions. This approach was driven by recognized limitations in the measurement of causal attributions in previous research (e.g. Elig & Frieze, 1979; Russell, 1982). For example, Russell (1982) noted that while Weiner's (1985; 1986) theory is predicated on notions of internality and stability of causes for performance outcomes, previous research has failed to directly measure participants' perceptions of these dimensions in their causal explanations of events. Instead, previous research has typically asked whether perceived causes included ability, effort, task difficulty, or luck. These explanations have then been assumed to reflect the internal stable, internal unstable, external stable, and external unstable attribution dimensions, respectively. However, as Weiner (1979) notes, specific causal attributions may not map directly onto the causal dimensions for all persons, in all situations. That is, effort may be seen by some as a more stable personality characteristic than an unstable state. Although some factor analytic and multidimensional scaling evidence

supports the a priori mapping of specific attributions onto the four primary causal dimensions (e.g. Passer, 1977; Meyer, 1980), a preferred measurement strategy would involve having respondents do the mapping themselves (Russell, 1982). It should be noted, however, that Russell's (1982) attribution scales were not desirable for the present investigation given their ipsative nature.

Hence, participants were asked to report the extent to which the causes of their performance on the Pre-Employment General Abilities Test were due to internal stable, internal unstable, external stable, and external unstable causes. To ensure participants understood the nature of this rating task, an introductory page of instructions was included on the questionnaire that described the four causal dimensions and provided examples of causes reflecting these dimensions. In addition, an introductory question asked participants to indicate their likely score on the Pre-Employment General Abilities Test prior to completing this questionnaire. This inferred test score provided a basis for, and target of, participants' causal attributions, and served as a check of the affirmative action manipulation. Within the questionnaire itself, 6 items written to assess each of the four causal dimensions were clustered in separate blocks, and item wording was as parallel as possible across the four dimensions. One additional reverse-worded item was written for each dimension and included in a fifth block of items. Participants reported their agreement or disagreement with each potential cause using a 5-point scale anchored "Strongly Agree" to "Strongly Disagree".

In addition to the generic dimension items, 28 items were written to reflect specific causal attributions for participants' inferred test

performance. These items included attributions to ability, effort on the test, interest in the Air Defense Task, stable and unstable luck, characteristics of the test, and sex bias in the selection process. These items were included to assess the extent to which these specific causal attributions loaded on the generic dimensions as presumed by Weiner's (1985; 1986) theory, and to ensure psychometrically adequate measurement of causal attributions in the present research. Participants used a 5-point scale, anchored "Extremely Unlikely" to "Extremely Likely", to indicate the extent to which these specific attributions contributed to their inferred score on the Pre-Employment Abilities Test.

To assess the psychometric characteristics of the attributions items, principal factors analysis was performed on the full set of 56 items. Factor analysis extracted nine meaningful factors, together accounting for 62.4% of item variance. These factors corresponded closely to the a priori factors contained in the full length attributions questionnaire. Internal consistency and item-total correlation analyses resulted in the development of final scales with acceptable reliability and relatively low between-scale correlations. Table 5 provides the alpha reliabilities and inter-scale correlations of the nine measures. As can be seen in the table, the first four scales derived from the factor solutions reflected exactly the four a priori attribution dimensions. Each scale included the six original positively worded items and each evidenced high internal consistency. Intercorrelations among these four measures supported their conceptual foundation. Specifically, the highest correlations were among the two stable and the two unstable attribution dimensions, whereas a negative

Table 5

Alpha Reliabilities and Intercorrelations

Among Measures of Attributions

		1	2	3	4	5	6	7	8	9
1.	Internal Stable	(.87)								
2.	External Stable	.32**	(.85)							
3.	Internal Unstable	-.34**	.01	(.78)						
4.	External Unstable	-.28**	.06	.28**	(.87)					
5.	Ability	.49**	.30**	-.11	-.25**	(.78)				
6.	Sex Bias	-.08	.07	.20**	.14*	-.15*	(.94)			
7.	Motivation	.35**	.10	-.14*	-.14*	.55**	-.10	(.91)		
8.	Luck	.05	.04	.06	.11	.11	.13*	.18**	(.75)	
9.	Test Characteristics	-.01	.09	.03	.17**	.23**	.16**	.27**	.12*	(.64)

* $p < .05$

** $p < .01$

N = 262 Alpha reliabilities are presented along the diagonal.

correlation was observed between the internal stable and internal unstable attributions.

The remaining five factors reflected attributions of test performance to ability (2 items); motivation, both specific to the test and to the Air Defense Task itself (7 items); characteristics of the test, such as difficulty and test length (4 items); luck, both stable and unstable (2 items); and sex bias in the selection process (10 items). As can be seen in Table 5, scales developed from these additional five factors evidenced generally high internal consistency and acceptable inter-scale correlations. The alpha reliabilities for the luck and test characteristics scales were somewhat low, primarily due to the small numbers of items in these scales. Appendix J presents the original Attributions questionnaire and the items retained in each factor.

It should be noted that factor analysis did not result in the loading of the specific causal attributions on the four generic dimension factors as hoped. This was not entirely surprising given the differing formats used on the first and second halves of the Attributions questionnaire. Nevertheless, inter-scale correlations were examined to assess the extent of conceptual overlap between the generic and specific attributions scales. As can be seen in Table 5, ability attributions were most highly correlated with the internal-stable scale, as expected. However, ability attributions were also highly correlated with external-stable attributions. Attributions to luck and to characteristics of the test were most highly correlated with the external-unstable attribution, as would be expected given Weiner's (1985; 1986) attribution theory. Surprisingly, attributions

of test performance to sex bias on the part of the employer were correlated with the internal-unstable attribution, and to some degree with the external-unstable scale. These correlations are inconsistent with the notion that bias is a factor that is stable within a given employment context, but external and therefore out of one's own control. They suggest instead, that sex bias is seen as caused by unique combinations of self and situation that may not generalize to other contexts. In this sense, these intercorrelations do not undermine the construct validity of the generic measures. Finally, attributions of test performance to motivation were most highly correlated with the internal-stable scale, rather than the internal-unstable scale, suggesting that motivation during the pre-employment selection process was seen as a stable factor, or personality trait.

Given the results of factor analysis of the total pool of items, and the pattern of correlations among the final set of generic and specific scales, a combination of the nine scales into measures of the four dimensions on the basis of a priori notions about the stability and internality of various specific causal attributions was clearly inappropriate. On the other hand, a combination of the specific and generic measures on the basis of the present psychometric evidence was also deemed inappropriate due to the lack of prior theoretical and empirical research regarding the mapping of specific attributions onto generic dimensions, and because of the low inter-scale correlations across the specific and generic measures. Instead, the approach taken here was to regard the generic measures as more directly relevant to the models presented in Figures 2 and 12. Therefore, the four generic dimension scales were used in all tests of hypothesized paths

associated with the alternative models, and the specific scales were dropped from consideration in path analytic tests of the models. The pattern of intercorrelations among the specific and generic measures provided some evidence of the construct validity of the generic scales, and thereby supported this approach. In large part, generic scales correlated with specific scales in a manner that was conceptually reasonable. Furthermore, as is discussed in more detail below, generic and specific causal scales showed highly similar correlations with other variables in this study. Exploratory path analyses using the specific scales in place of the generic dimension measures also showed no difference in fit of the models using the two alternative operationalizations of the attributions construct. Analyses based on the specific measures suffered from substantial multicollinearity problems however, as specific attributions to sex bias and ability were redundant with procedural fairness perceptions related to sex bias and test validity, respectively.

Expectancies Scales. An instrument was developed to assess participants' expectancies for successful performance on the Air Defense Task. The original questionnaire included 25 items designed to assess participants' expectations of their perceived likelihood of performing successfully on the Air Defense Task, receiving a favorable evaluation of their performance, and being offered the follow up assignment. Hence, this measure was designed to reflect a general perception of the likelihood of successful performance, whereas the 20-item Self-Efficacy Scale was focused more specifically on participants' perceptions of personal sources of efficacy, regardless of situation constraints or the likelihood of fair evaluation by the experimenter.

Participants responded to the questionnaire using a 5-point scale anchored "Strongly Disagree" to "Strongly Agree".

Principal factors analysis extracted two interpretable factors accounting for a total of 51.9% of item variance. The first factor reflected participants' expectations of being able to perform the Air Defense Task with success, and is labelled here "Expectancies: Performance". This factor included items referring to participants' expectations regarding objective performance on the task and their likelihood of receiving the follow-up assignment being offered to the two highest task performers. Subsequent scale revision resulted in a final measure of performance expectancies containing 19 items. A second scale was developed to measure an additional factor that contained 3 items reflecting respondents' beliefs that they would be evaluated fairly and given credit by the experimenter for their objective level of task performance. This factor is labelled "Expectancies: Credit". Internal consistency reliabilities and the correlation between the two final scales are presented in Table 6. As can be seen in the table, the two measures evidenced acceptable reliability and independence. Appendix K provides the original Expectancy questionnaire and items retained for each final scale.

Personal Goal Instrument. Participants were asked to list the level of performance that they were using as a personal goal for performance on the task. Pilot work established normative performance data on which participants were to base their goals. Performance referred to total points earned at the end of the game and was anchored with four normative levels: average, upper 25%, upper 10%, and lowest

Table 6

Alpha Reliabilities and Intercorrelation

Among Measures of Expectancies

		1	2
1.	EXP:Performance	(.95)	
2.	EXP:Credit	-.12*	(.71)

* $p < .05$

** $p < .01$

N = 260

Alpha reliabilities are presented along the diagonal.

10% of previous participants. The Goal scale is presented as Appendix L.

Distributive and Procedural Fairness Measures. A 45-item questionnaire was developed to assess participants' perceptions of the distributive and procedural fairness of the hiring process and final decision. The first 20 items on this instrument were written to elicit perceptions of the fairness of the decision to award the participant the job under the apparent circumstances. A second set of twenty-five items were written to elicit reactions to the perceived fairness of the procedures used to determine who should be hired for the Air Defense Task. Participants responded to the questionnaire using a 5-point scale anchored "Strongly Disagree" to "Strongly Agree". Principal factors analysis of the full set of 45 items extracted 4 interpretable factors, together accounting for 52.1% of the total item variance. Items loading on the first factor consisted solely of those referring to distributive fairness items, whereas procedural fairness items loaded across the remaining three factors. A final scale constructed from the first factor contained 18 of the original 20 items and resulted in an internal consistency estimate of .95.

The second factor reflected participants' perceptions of the general fairness of the selection process and included items such as "All in all, the pre-employment hiring procedures are generally fair to women" and "The procedure used in my hiring decision reflected a real interest on the part of the organization in trying to be fair". Ten items were eventually retained in this instrument, resulting in an alpha reliability of .83. The final scale developed from the third factor contained 5 items referring to the perceived validity of the

pre-employment selection test, whereas a 3-item scale was created from a fourth factor reflecting participants' perceptions of the extent of sex bias within the test and testing procedure. As can be seen in Table 7, these latter two scales evidenced very high internal consistency.

Intercorrelations among this initial set of four scales indicated high redundancy among the distributive and general procedural fairness measures (r = .67, p < .01), however. Corrected for unreliability, this correlation was very large (r_c = .75) indicating that fully 56% of the reliable variance in these two measures was, in fact, redundant. Though it might be argued that this correlation represents a very strong causal relationship between these two indicators, as originally hypothesized, a more parsimonious explanation, given the content of the items, is that the factors are perceptually identical. Indeed, the present results may suggest redundancy among constructs that have been considered perceptually independent. In other words, the results may indicate a need to reconceptualize the nature of fairness perceptions. Hence, the scales developed from the distributive and general procedural fairness factors were collapsed to form a single measure of general fairness. The majority of items addressed distributive fairness concerns. However, given that this measure included aspects of both distributive and procedural fairness, paths from this indicator included all of those originally hypothesized to follow from the two hypothetically separate distributive and procedural fairness constructs. The test validity and freedom from bias measures served as indicators of procedural fairness.

Table 7 presents the internal consistency reliabilities and intercorrelations among the final set of three fairness measures. Alpha reliabilities were uniformly high for these measures and intercorrelations indicated acceptable independence. The Fairness questionnaire and items retained in each scale are presented in Appendix M.

Air Defense Task. A computer Navy Air Defense simulation involving multiple cue probability learning served as the performance task in this experiment. The task required participants to command a US Navy sailing vessel and to render, on each of several decision trials, judgments of the potential threat associated with a target on a simulated radar screen. Each trial began with a simulated radar "blip" presented on a computer screen. Determination of the level of threat associated with the blip, and the required course of action, was based on several attributes, such as the altitude and speed of the target, and several rules regarding the manner in which attribute information was statistically combined by the computer to determine threat and an appropriate course of action. Scores were assigned on each trial according to the accuracy of the participant's final decision. Participants were given 180 seconds to complete each trial, although participants were allowed to work faster if they wished. The essential characteristics of the task and the manner in which points were awarded on each trial are presented in the instruction manual in Appendix B. Additional information regarding the characteristics of the task is provided in a report by Hollenbeck et al. (1991).

Three measures of performance were examined. The first consisted of the total number of points earned during the task performance

Table 7

Alpha Reliabilities and Intercorrelations

Among Measures of Distributive and Procedural Fairness

		1	2	3
1.	General Fairness	(.95)		
2.	Test Validity	.44**	(.85)	
3.	Free From Bias	.33**	.40**	(.86)

* $p < .05$

** $p < .01$

N = 257

Alpha reliabilities are presented along the diagonal.

period. In addition, performance quantity (the total number of blips assessed) and performance accuracy (the total score divided by the number of blips assessed) were also assessed.

Procedure

An advertisement for temporary, 2 and 1/2 hour employment, paying $15.00 was listed in the Wanted section of the classified columns of the campus newspaper. (See Appendix N for a copy of the advertisement). Readers of the ad were instructed to respond by calling the phone number listed in the ad. Callers were then instructed by an answering machine message to leave their name and phone number if they were interested in participating. The answering machine message specified that the temporary job may be over-booked, and that there was no guarantee that those who left a message would eventually be contacted. In fact, only female callers were eventually contacted and scheduled to participate.

Potential participants were contacted by phone and instructed in the general nature of the task and the conditions of the temporary employment. Specifically, contacted women were informed that the task involved working for approximately two and one-half hours to complete several questionnaires and to provide performance data on a simulated Navy air defense simulator that was being developed for use in military training contexts. Interested participants were informed that they must apply in person for the job during a scheduled time, and must pass a qualifying test to be hired. If qualified, participants would be hired immediately to work for the full 2 and 1/2 hour session. Applicants who were not hired were to receive $7.00 for their participation during approximately one-half of the session. In

reality, every woman that applied in person was eventually offered the full two and one-half hours of employment. Participants were scheduled in individual sessions in a manner that reduced the likelihood that they would have an opportunity to meet and interact with other participants.

Upon arrival, participants were greeted by the experimenter and asked to complete the Employment Application and Statement of Employment Contract described above (see Appendix A). To enhance the motivation of participants to perform the Air Defense Task (ADT), and to provide a basis for participants' expectancies of fair evaluation of objective performance on the ADT, an ostensible follow-up task was described in the Statement of Employment Contract. The follow-up task was described as a highly attractive and important assignment that would be offered to the two highest performers on the ADT. Participants in the follow-up task would receive $30 for one hour of participation, a rate that the experimenter emphasized was 5 times the rate offered for performance in the present employment context. Assignment to the follow-up task would be based solely on objective performance on the task, with computer records of performance serving as the basis for offering the follow-up assignment. In reality, two individuals were eventually selected at random to receive a $30 prize.

During the initial introduction to the employment context, the experimenter, acting as a "hiring supervisor" for the study, emphasized the need to hire only qualified participants for performance on the Air Defense Task. This requirement was ostensibly to ensure that the data collected on the ADT would be useful and meaningful for the purposes of developing the ADT as a military training exercise. Thus, participants

would need to pass a pre-employment qualifications test of the extent to which they benefitted from training to be provided on the ADT.

After explaining the nature of the task and the conditions of employment, the hiring supervisor presented the Air Defense Task Instruction Manual contained in Appendix B. Participants were informed that the manual described the essential characteristics of the task and requirements for effective operation of the air defense simulator. The supervisor indicated that the test used to determine whether the participant should be hired for the full two and one-half hour session contained material taken directly from the last page of the manual. Participants were therefore advised to study the manual carefully, as they would need to pass the Pre-Employment General Abilities Test in order to be hired for the full session. Fifteen minutes were provided for studying the manual. Participants could keep track of the time using a digital clock provided in the upper right corner of the computer screen. After 15 minutes had elapsed, the experimenter returned and provided a 10 minute training period during which the computer keyboard, simulator commands, and assignment of game points were described. Participants were then given three practice games to complete prior to taking the Pre-Employment General Abilities Test based on task requirements. The practice games were designed to mimic the actual Air Defense Task, however practice games involved the assessment of three unambiguous threatening and non-threatening targets under liberal time constraints to minimize the extent to which participants were discouraged by the potential complexity of the task. Training was performed prior to the hiring manipulation so that participants would have a basis for responding to the Pre-Employment

Abilities Test, and to ensure participants had some basis on which to judge their initial perceived efficacy for successful performance on the task.

After providing this initial exposure to the task, the supervisor then collected the instruction manual and administered the 50-item Pre-Employment General Abilities Test (Appendix C). Participants were given fifteen minutes to complete the test, and were informed that 65% correct on the test represented a passing score, and therefore a performance target on the test. Again, participants were reminded to use the digital clock to pace themselves on the exam. After fifteen minutes had elapsed, the hiring supervisor returned and collected the Pre-Employment Test. Participants were then administered several questionnaires to complete while the hiring supervisor ostensibly graded the applicant's test. The questionnaires included the Self-Efficacy Inventory (Appendix D), Self-Efficacy Scale (Appendix E), Collective Relative Deprivation Scale (Appendix F), Self-Handicapping Scales (Appendix G), Public Self-Consciousness Scale (Appendix I), and Rosenberg (1965) Self-Esteem Scale (Appendix H). The Self-Efficacy Inventory was always presented first, followed by the Self-Efficacy Scale; the remaining questionnaires followed in counterbalanced order. The hiring supervisor explained that the first two questionnaires were being included by the research team studying the Air Defense Task, whereas the remaining questionnaires were unrelated to the Navy air defense study and were being included by another researcher who was associated with the laboratory staff. As can be seen in the appendices, differing print fonts and response scales were used on these questionnaires to lend credibility to this assertion.

Participants were assured that all questionnaires would be kept strictly confidential and anonymous and would not be used in making any decisions of any kind. No names or identifying information were requested on any of the questionnaires. An empty box was placed in the room for participants to place their questionnaires when completed.

When the participants had completed the questionnaires, the experimenter returned and administered the hiring manipulation (described below). Following the hiring manipulation, participants were asked to respond to a few additional questionnaires before starting the ADT. At this point, the experimenter administered the Attributions (Appendix J), Fairness (Appendix M), Expectancy (Appendix K), and Goal measures (Appendix L), in that order. When ready, participants placed completed questionnaires in the box, were given an opportunity to ask last-minute questions, and then left alone to perform the task for 1 hour. Participants were provided a "post-it" note on the edge of the computer screen indicating the time on the digital clock at which they would be stopped by the experimenter.

At the conclusion of the performance period, the experimenter returned, ended the task, paid the promised salary ($15), and then conducted a thorough debriefing. During debriefing, the true nature of the experiment was explained, including the bogus affirmative action manipulation, the bogus test performance feedback, and the purpose of the questionnaires. A thorough explanation of existing federal legislation regarding affirmative action in organizational hiring was also provided to educate participants and dispel misconceptions about current employment practices. Participants were also informed that the follow-up assignment would be offered at random to two participants

later in the term. Participants were then given an opportunity to respond with questions or concerns which were answered thoroughly, carefully, and sincerely by the experimenter. None of the participants reported feeling angry or negative as a result of the experience.

Hiring Manipulation

Regardless of hiring condition, participants in the research were not provided specific feedback indicating their observed score on the Pre-Employment Test. Participants in the standard merit hiring condition were therefore simply informed that their performance on the test indicated they should be hired. Specifically, the hiring supervisor informed participants in the merit condition that the test had been graded and that on the basis of performance on the test, the participants were qualified for the temporary position. If interested, participants would complete a few additional questionnaires and work for an additional hour on the ADT.

In the preferential treatment, or affirmative action condition, the hiring supervisor delivered test feedback that corresponded very closely to that used in previous affirmative action research (e.g. Heilman et al., 1987; 1990; 1991; Nacoste, 1989). Specifically, participants in the affirmative action condition were told:

> Well, I have graded your test. Generally in conditions like this, employers like to use these pre-employment selection tests to hire people that meet or exceed some pre-established cutoff. As I mentioned earlier, we have been doing the same thing in our hiring because we needed to employ only qualified people for this task. That's why we established a cut-off of 65% correct on the test.
>
> However, when we looked at test scores recently, we discovered that we were not getting as many women as we had anticipated. For some reason, we were finding fewer women that were passing this test, as compared to men. Given this finding, we realized we were faced with somewhat of a

> dilemma because, for research purposes, it was important to us to have approximately equal numbers of males and females working on this task. So after discussing it, we decided to do something a little different in our hiring, and that was to go ahead and hire some women even though their test scores may have fallen below the original cut-off on the test. So we are essentially taking an affirmative action-like stance in our hiring to ensure that we have enough women working on this task. You are one of the individuals we would like to hire under this affirmative action program to work on the task today.

After delivering the affirmative action manipulation, participants were told that, if still interested in the task, they would complete additional questionnaires and then work for one hour on the ADT, after which they would receive the promised $15. Four participants in the affirmative action condition felt it was inappropriate, under the circumstances, for them to continue their participation on the ADT. All but one of these participants agreed to complete the Attributions, Fairness, Expectancy, and Goal questionnaires, however. These participants were thoroughly debriefed, paid for their participation, and thanked before being dismissed.

It should be noted that the models presented in Figures 2 and 12 describe the reactions of those who infer from their own preferential treatment that their measured qualifications are lower than those of other individuals hired in the same position. Therefore, it was necessary for participants in the present experiment to infer that their scores on the pre-employment test were below the cut-off if hired under the affirmative action policy, and to infer test scores above the cutoff when hired ostensibly on the basis of merit (see description of phase 1 pretesting above). As described above, the Attributions questionnaire elicited participants' judgments regarding their likely score on the pre-employment test. Thus, participants who inferred

scores that were incongruent with their apparent test feedback were eliminated from analyses designed to assess the paths illustrated in Figures 2 and 12. Pretesting was used to establish the validity of the affirmative action manipulation and to generate base-line date regarding failure of the manipulation. As described above, the manipulation appeared effective in pretesting in an unrealistic context. Hence, it appeared likely to work effectively among participants in a more naturalistic setting.

However, an examination of inferred test scores during early administrations of the principal experiment indicated a high failure rate in the manipulation. Specifically, among the first 22 participants in the affirmative action condition, 7 (32%) inferred scores above the pre-established 65% cut-off on the test, whereas only 3 of 21 participants (14%) in the merit condition reported scores below the cut-off. It was apparent then, that the affirmative action manipulation did not work substantially better in the primary investigation than in the more artificial pretesting context. Hence, to avoid an excessive and costly loss of participants in the research, the feedback delivered in the preferential hiring manipulation was clarified to emphasize lower test performance among participants hired under this apparent policy. Specifically, the last sentence in the preferential hiring message given above was replaced with the following:

> Because your test score was below the cut-off, we would like to hire you under this affirmative action-like policy.

The decision to strengthen the affirmative action manipulation was justified on the basis of pretesting results indicating that

beneficiaries infer lower test performance when hired under a policy providing preference to lower scoring female applicants. Moreover, as is pointed out above, substantial research (e.g. Barnes Nacoste, 1991; Heilman et al., 1990; 1991; Nacoste, 1989) demonstrates that beneficiaries of preferential hiring policies infer lower, and often insufficient, qualifications for employment. Finally, debriefing of participants who failed the original manipulation indicated that many of these participants did not understand that the affirmative action policy actually was being applied in their own case. As a result, the change in experimental manipulation allowed a lower manipulation failure rate among participants in the preferential hiring condition (7% after the change, 11% overall), and a more direct assessment of the impact of failure during pre-employment testing procedures on the cognitive and behavioral reactions included in Figures 2 and 12. Examination of the correlations among study variables indicated no significant differences when the data from the first 15 participants (for whom the manipulation was successful) in the affirmative action condition was excluded; therefore, path analytic tests of hypothesized models were performed on the full set of available data.

Analytic Strategy

Ordinary Least Squares (OLS) regression was used to estimate path coefficients contained in the hypothesized models presented in Figures 2 and 12. Path analysis proceeded in four steps. First, regression estimates of paths contained in each hypothesized model were computed and tested for significance. Empirical support for a model requires that least squares beta weights for hypothesized paths are statistically and practically significant (James, Mulaik, & Brett,

1982). Second, the "omitted parameters" test recommended by James et al. (1982) was performed to confirm whether paths hypothesized to be unimportant (that is, omitted from the model) were, in fact, non-significant, or trivial. Tests of omitted parameters involved regressing each endogenous variable on all hypothesized and omitted exogenous variables that were causally prior in the models. When results of omitted parameters tests indicate that significant or important causal relationships involving exogenous variables have been excluded in a hypothesized model, the restricted model is not supported even if all hypothesized paths are significant at the first step.

Tests of the effects of omitted endogenous variables, and of interactions involving these endogenous variables, on variables that were causally prior in the models were not performed because such tests incorporate theoretical assumptions of reciprocal causation that were not included in the present research. It should be noted that the models described above include a large number of two and three-way interactions in which lower-order main effects and interactions were not hypothesized to be causally important. Exogenous variables in these cases refer, strictly speaking, to the hypothesized interaction or product terms only, and not the main effect and lower-order interaction terms that are included in structural equations designed to test the higher-order interactions. Though tests of these lower-order effects are provided as a by-product of the OLS regression analyses for the effects of interactions on each endogenous variable, these ancillary tests are best considered exploratory and not tests of omitted exogenous variables. Nevertheless, they were examined to facilitate interpretation of the data.

As a third step, each of the models hypothesized above was assessed for overall fit using the Q statistic proposed by Pedhazur (1982). That is, whereas the first two path analytic tests involved assessment of specific hypothesized and omitted paths, overall tests were performed to assess the extent to which the restricted models provided satisfactory fit relative to the unrestricted fully recursive model involving all exogenous and endogenous variables. The Q statistic is computed by first subtracting from one the R^2 values for each endogenous variable computed during tests of hypothesized effects on endogenous constructs. The product of these residuals for each endogenous variable is then subtracted from one. The result is then subtracted from one again before comparison with an analogous value computed the residuals for the fully recursive model, created during the omitted parameters test. The index then represents the relative fit of a hypothesized restricted model compared to the fit of a fully unrestricted recursive model. The Q index ranges from 0 to one, with larger values indicating better fit. By convention (Mathieu & Hamel, 1989), values of .90 or greater indicate acceptable fit of the restricted model.

Because the two proposed models described above include all of the same endogenous and exogenous variables in similar causal sequence, each model could be tested against the same fully recursive model. That is, the differences between the two models simply involved deletion of causal paths, and not respecification of relevant variables. Therefore, the Q statistics computed for these models reference the same fully specified model, and in that sense can be compared. However, because the models are not nested in each other, no

direct tests exist for the statistical significance of differences in Qs (Pedhazur, 1982). Thus, in the absence of very large differences in the overall fit of the two models, no unambiguous judgments can be made regarding which set of hypothesized relationships provides a better account of the observed data. Nevertheless, the purpose of including the alternative justice-based model was not to ascertain whether a justice-based or self-concept framework is necessarily more valid, but rather to provide tests of alternative theoretical perspectives which may serve as a basis for future empirical research.

Finally, paths identified in the two alternative models as both statistically and practically significant were used to develop a "trimmed model" (James et al., 1982) that provided a best approximation of the observed data. The trimmed model cannot be considered a confirmatory test; rather, it was created to summarize the relevant paths identified in the first three steps, and other paths that were both conceptually meaningful and empirically supported. Nevertheless, the Q statistic was computed to indicate the overall fit of this post hoc description of the data.

Several additional points should be made about the analyses performed in this research. First, all exogenous variables were standardized prior to formation of multiplicative interaction terms and subsequent path analytic tests of the alternative models. Standardizing reduces multicollinearity among product terms and their lower-order main effects, thereby providing more meaningful and statistically stable estimates of path coefficients associated with lower-order and interaction effects (Aiken & West, 1991). Second, as pointed out above, previous research (see Rhodewalt, 1990) has

emphasized the importance of controlling for self-esteem in tests of the self-handicapping construct. Hence, residualized variables were created for each of the three self-handicapping scales, reflecting variance in these measure that was unconfounded with self-esteem. Third, because the models presented in Figures 2 and 12 represent motivational processes, scores on the Pre-Employment General Abilities Test were partialled from all variables prior to tests of paths contained in the models. This was done to remove the influences of ability on self-efficacy, expectancies, task performance, and any other variable influenced by general ability as measured by the test. As can be seen in Table 9, test scores correlated highly with performance accuracy and self-efficacy. Hence, statistical removal of test scores provided a purer test of motivational processes that were unconfounded with measured ability.

Fourth, interpretation of significant interactions was facilitated by plotting interactions from observed regression equations using the method described by Aiken and West (1991). Specifically, predicted values on the dependent variables were computed by multiplying values of the interacting exogenous variables by their estimated regression weights, and the weights estimated for the multiplicative interaction terms. When interactions involved continuous variables, values of one standard deviation above and below the mean were used to plot the form of the observed interaction. The predicted values were plotted against the two levels of the dichotomous hiring condition variable to provide direct reference to interactions illustrated in the introduction above. It should be noted that, strictly speaking, interactions must be plotted from the full

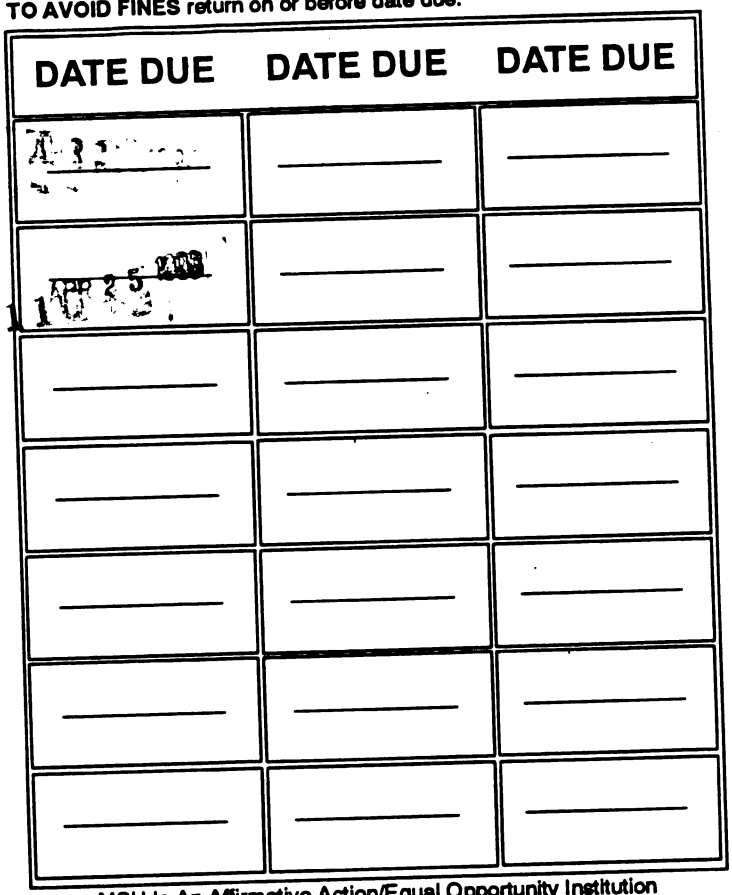
regression equation in which they are observed. Thus, plotted interactions represent the relationship among variables after statistically controlling for all other factors in the regression equation. The plots are analogous, therefore, to plots of adjusted means in analysis of covariance. The form of any given interaction may change markedly after covarying the effects of other main effects and interactions. In many cases this may make interpretation of the interactions exceedingly difficult when there are a large number of variables included in the regression equation. In the present research, significant interactions observed in tests of omitted parameters were those uncovered after adjusting for all other hypothesized, omitted, and exploratory effects, which in most cases, were numerous. Therefore, because no unambiguous interpretation of these effects was possible, they were not plotted. Instead, they were used to identify areas of mispecification in the hypothesized model, and to suggest important causal processes that were followed up in exploratory analyses conducted to develop a best post hoc trimmed model representing conceptually meaningful and empirically supported causal effects.

Fifth, a moderated reciprocal path was hypothesized between distributive and procedural fairness in the alternative justice-based model presented in Figure 12. Two-stage Least Squares Regression (TSLS) was planned to assess these hypothesized relationships, but was precluded given the number of indicators discovered as measures of these constructs. Specifically, TSLS, like path analysis in recursive models, requires just-identification or overidentification of parameters for meaningful results (Berry, 1983; James et al., 1982).

However, identification in reciprocal models is a complex issue that requires careful attention. Ultimately, while the reciprocal effects hypothesized in Figure 12 are just-identified, a measurement model resulting in an odd number of indicators of the fairness constructs results in underidentification of the moderated reciprocal paths implied by Figure 12. Therefore, because the reciprocal paths could no longer be tested, they were necessarily dropped from Model II prior to OLS path analysis. To facilitate discussion of results, the self-concept model is hereafter referred to as Model I, whereas the justice-based alternative is labelled Model II. Finally, as noted above, statistical analyses of paths contained in the models were performed using only those cases with complete data on all relevant study variables. This resulted in a final sample size for path analysis of 219 participants.

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AFFIRMATIVE ACTION IN ORGANIZATIONAL HIRING: SELF-REGULATION AND FAIRNESS PROCESSES IN BENEFICIARY REACTIONS

Volume II

By

Keith Evan Hattrup

A DISSERTATION

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RESULTS

Descriptive Statistics

Table 8 presents the means, standard deviations, and alpha reliabilities for all of the major variables in the study. Zero-order and partial correlations, after removing the influences of ability, are presented in Table 9. As can be seen in Table 9, many significant relationships were observed among study variables. Although a few of these significant correlations might be expected to occur on the basis of chance alone given the large number of statistical tests, several conceptually meaningful relationships are worth noting. Specifically, hiring condition (coded 1 for merit, 2 for preferential hiring) was associated with attributions for test performance, as was expected. Participants hired under a preferential policy attributed their inferred lower test performance less often to internal-stable causes (r_{pb} = -.37, p < .01), and more often to internal-unstable causes (r_{pb} = .30, p < .01), and external-unstable causes (r_{pb} = .21, p < .01), relative to merit hired participants. Correlations involving hiring condition and the specific attribution measures were similar, providing evidence of the construct validity of the generic dimension measures. Specifically, preferential hiring resulted in lower attributions to ability (r_{pb} = -.40, p < .01) and motivation (r_{pb} = -.43, p < .01), and higher attributions to bias in the pre-employment selection process (r_{pb} = .38, p < .01), and sex bias in the selection process (r_{pb} = .35,

Table 8

Means, Standard Deviations, and Reliabilities

of Variables in the Study

Variable	Mean	S.D.	Alpha
Hiring Condition (COND)	1.53	.50	---
TEST	27.53	5.58	.73
Self-Efficacy (SE)	3.71	.57	.92
CRD	4.49	.83	.95
SH: Sexism (SHS) (residual)	0.00	.90	.89
SH: Externalizing (SHE) (resid.)	0.00	.63	.73
SH: Avoidance (SHA) (resid.)	0.00	.77	.72
Self-Esteem (RSE)	4.11	.69	.89
Public Self-Consciousness (PSC)	3.73	.77	.86
Attributions: Internal-Stable (IS)	2.86	.92	.87
Attributions: External-Stable (ES)	2.58	.78	.85
Attributions: Internal-Unstable (IU)	3.00	.77	.78
Attributions: External-Unstable (EU)	2.93	.86	.87
Attributions: Ability (ABIL)	3.89	.92	.78
Attributions: Sex Bias (BIAS)	1.73	.76	.94
Attributions: Motivation (MOT)	3.75	.90	.91
Attributions: Luck (LUCK)	2.34	1.00	.75
Attributions: Test Chars. (AT-TEST)	3.47	.83	.64
General Fairness (GENFAIR)	3.65	.64	.95
Test Validity (PF-TEST)	3.06	.89	.85
Freedom From Bias (PF-UNBIAS)	4.12	.77	.86
Expectancies: Performance (EXP-P)	2.70	.71	.95
Expectancies: Credit (EXP-C)	3.50	.72	.71
GOAL	42.74	9.80	---
Performance Score (SCORE)	38.40	13.73	---
Performance Quantity (QUANT)	37.96	9.50	---
Performance Accuracy (ACCUR)	1.02	.30	---

Table 9

Zero-Order and Partial Correlations Among Study Variables

		1	2	3	4	5	6	7	8	9	10	11	12	13
1.	COND		-	-.11	-.10	-.05	.01	-.02	.01	-.01	-.37**	-.11	.30**	.21**
2.	TEST	.03		-	-	-	-	-	-	-	-	-	-	-
3.	SE	-.09	.28**		.08	-.05	-.18**	.07	.25**	-.20**	.08	-.01	-.24**	-.08
4.	CRD	-.10	-.10	.05		.49**	.00	.10	.00	.07	-.11	-.08	-.08	.15*
5.	SHS	-.05	-.03	-.05	.49**		.23**	-.02	.00	.05	.00	-.01	.00	.20**
6.	SHE	.01	.04	-.16*	.00	.23**		.22**	.00	.32**	.06	.01	.07	.09
7.	SHA	-.03	-.11	.03	.11	-.02	.21**		-.01	.07	.04	.01	.00	.00
8.	RSE	.01	-.06	.23**	.00	.00	.00	.00		-.30**	-.05	-.08	-.17*	-.03
9.	PSC	-.01	.02	-.18**	.07	.05	.32**	.07	-.30**		.00	-.01	.16*	.11
10.	IS	-.37**	.04	.09	-.11	.00	.06	.04	-.05	.00		.28**	-.41**	-.31**
11.	ES	-.11	-.03	-.02	-.08	.00	.01	.02	-.07	-.01	.28**		-.02	.10
12.	IU	.30**	.03	-.22**	-.09	.00	.08	-.01	-.17*	.16*	-.40**	-.02		.29**
13.	EU	.21**	-.02	-.08	.15*	.20**	.09	.01	-.02	.11	-.31**	.10	.29**	

Table 9 (Cont.)

		1	2	3	4	5	6	7	8	9	10	11	12	13
14.	ABIL	-.40**	.11	.16*	-.02	-.09	.02	.01	-.02	.02	.47**	.28**	-.16*	-.15*
15.	BIAS	.38**	-.20**	-.25**	.03	.33**	.15*	-.02	-.06	.06	-.11	.02	.18**	.20**
16.	MOT	-.43**	.03	.21**	.08	-.05	.03	.04	.08	.06	.31**	.07	-.14*	-.11
17.	LUCK	-.18**	-.18*	-.20**	.04	.10	.29**	.07	-.10	.21**	.08	.05	.03	.04
18.	AT-TEST	.02	.04	.02	.05	.02	.16*	.03	.06	.13	-.01	.11	.04	.16*
19.	GENFAIR	-.54**	.01	.31**	.03	.00	-.09	-.07	.19**	-.17*	.22**	-.05	-.19**	-.26**
20.	PF-TEST	-.46**	.03	.08	-.12	-.19**	-.14*	.03	-.01	-.08	.32**	.07	-.14*	-.26**
21.	PF-UNBIAS	-.35**	.10	.13	-.14*	-.30**	-.08	.06	.07	-.05	.21**	.00	-.16*	-.26**
22.	EXP-P	-.39**	.10	.64**	.11	.07	-.08	.01	.26**	-.19**	.22**	.06	-.25**	-.08
23.	EXP-C	-.07	.08	-.08	.02	-.19**	-.13	-.07	-.08	-.02	.06	.06	-.05	-.14*
24.	GOAL	-.25**	.11	.34**	.01	-.09	-.09	.06	.06	-.10	.06	-.05	-.19**	-.14*
25.	SCORE	-.02	.30**	.11	.01	.05	.01	-.07	-.13*	.05	.05	.03	-.05	-.07
26.	QUANT	-.08	-.14*	-.08	-.01	-.01	.13	-.01	-.06	.05	.04	.01	-.06	-.09
27.	ACCUR	.06	.51**	.19**	.01	.06	-.07	-.08	-.13	.02	.02	.00	.03	-.01

Values in this region of the table are zero-order correlations.

Table 9 (Cont.)

		14	15	16	17	18	19	20	21	22	23	24	25	26	27
1.	COND	-.40**	.40**	-.43**	-.18**	.02	-.55**	-.46**	-.35**	-.39**	-.07	-.26**	-.03	-.08	.05
2.	TEST	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.	SE	.13	-.21**	.21**	-.16*	.01	.32**	.07	.11	.64**	-.11	.33**	.03	-.04	.06
4.	CRD	-.01	.01	.08	.02	.05	.04	-.11	-.13	.12	.03	.02	.04	-.03	.07
5.	SHS	-.09	.33**	-.04	.10	.02	.00	-.18**	-.30**	.08	-.19**	-.08	.06	-.02	.09
6.	SHE	.01	.16*	.03	.31**	.16*	-.09	-.14*	-.09	-.08	-.14*	-.09	.00	.13*	-.11
7.	SHA	.02	-.04	.04	.05	.04	-.07	.03	.07	.02	-.06	.07	-.04	-.02	-.03
8.	RSE	-.01	-.07	.08	-.12	.06	.19**	-.01	.08	.27**	-.07	.07	-.12	-.07	-.11
9.	PSC	.02	.07	.06	.22**	.13	-.17*	-.08	-.05	-.19**	-.02	-.10	.05	.05	.01
10.	IS	.47**	-.11	.31**	.09	-.01	.22**	.32**	.21**	.22**	.06	.06	.04	.05	.00
11.	ES	.29**	.02	.08	.04	.11	-.05	.07	.01	.06	.06	-.04	.04	.01	.02
12.	IU	-.16*	.19**	-.14*	.03	.04	-.19**	-.14*	-.16*	-.25**	-.05	-.20**	-.07	-.06	.02
13.	EU	-.15*	.20**	-.11	.03	.16*	-.26**	-.26**	-.26**	-.08	-.14*	-.13*	-.07	-.09	-.03

Values in this region of the table are partial correlations.

Table 9 (Cont.)

		14	15	16	17	18	19	20	21	22	23	24	25	26	27
14.	ABIL		-.24**	.56**	.18**	.27**	.20**	.34**	.27**	.24**	.09	.17*	-.01	-.02	.01
15.	BIAS	-.26**		-.17*	.09	.14*	-.25**	-.26**	-.62**	-.27**	-.17*	-.26**	-.02	.04	-.06
16.	MOT	.56**	-.17*		.21**	.27**	.31**	.41**	.26**	.29**	.02	.20**	-.01	-.02	.00
17.	LUCK	.16*	.12	.20**		.14*	.11	.07	-.08	-.07	-.20**	-.06	.11	.14*	.05
18.	AT-TEST	.28**	.13	.27**	.13		-.04	-.05	-.07	-.05	-.03	-.13	-.04	.01	-.04
19.	GENFAIR	.20**	-.24**	.31**	.10	-.04		.47**	.34**	.36**	-.03	.18**	.04	.00	.00
20.	PF-TEST	.34**	-.26**	.41**	.07	-.05	.47**		.43**	.14*	.20**	.15*	-.01	.02	-.06
21.	PF-UNBIAS	.28**	-.63**	.26**	-.09	-.07	.34**	.43**		.17*	.23**	.16*	-.03	-.02	-.05
22.	EXP-P	.25**	-.29**	.29**	-.09	-.05	.36**	.15*	.18**		-.14*	.52**	.00	-.03	.00
23.	EXP-C	.10	-.18**	.03	-.21**	-.03	-.02	.20**	.23**	-.13*		-.01	.02	-.06	.05
24.	GOAL	.18**	-.27**	.20**	-.08	-.13	.18**	.15*	.17*	.52**	.00		.10	.04	.08
25.	SCORE	.02	-.08	.00	.05	-.03	.04	.00	.00	.03	.04	.13		.67**	.67**
26.	QUANT	-.04	.07	-.02	.17*	.01	.00	.01	-.03	-.05	-.08	.03	.59**		-.06
27.	ACCUR	.07	-.15*	.02	-.05	-.02	.01	-.03	.01	.05	.09	.12	.71**	-.12	

* $p < .05$ ** $p < .01$ N = 219

Zero-order correlations are below diagonal; partial correlations are above diagonal.

$p < .01$), relative to the merit policy.

Preferential hiring was also seen as generally unfair relative to merit hiring ($r_{pb} = -.54$, $p < .01$), and associated with invalid ($r_{pb} = -.46$, $p < .01$) and biased ($r_{pb} = -.35$, $p < .01$) selection testing procedures, supporting earlier empirical research (e.g. Heilman et al., 1990; Nacoste, 1985; 1987; Nacoste & Lehman, 1987). Preferential hiring resulted in lower expectancies for performance relative to merit hiring ($r_{pb} = -.39$, $p < .01$), and lower self-set goals ($r_{pb} = -.25$, $p < .05$); however, as explained above, these relationship were expected to be primarily mediated by attributions and/or perceptions of fairness.

Not surprisingly, self-efficacy was strongly correlated with expectancies regarding performance ($r = .64$, $p < .01$), reflecting the conceptual overlap between these constructs. Given the hypothesized direction of causality described above, this relationship did not impair tests of the effects of hypothesized exogenous variables on expectancies, but may have created collinearity problems in tests of omitted parameters. Moreover, preferential hiring lowered performance expectancies, but, because perceptions of initial self-efficacy were collected prior to the manipulation of hiring condition, self-efficacy was uncorrelated with merit versus preferential selection. Hence, the self-efficacy and expectancy constructs can be considered distinct for the purposes of path analytic tests of the alternative models.

A significant zero-order correlation between initial self-efficacy and decision accuracy was observed ($r = .19$, $p < .01$). This finding is consistent with Bandura's (1989) theory of self-directed motivation. However, the correlation drops substantially when the

influences of ability are removed (pr = .06, NS), suggesting that participants in the present study had accurate insights into their abilities to perform the ADT. As Bandura (1989) suggests, self-efficacy perceptions are multiply determined, with actual ability providing the input to beliefs of personal efficacy in performance contexts.

As might be expected given the nature of the sexism self-handicapping construct, subjects perceiving higher levels of personal discrimination in their own lives also perceived high levels of collective relative deprivation in the treatment of women in general (r = .49, p < .01). Sexism self-handicapping was somewhat more strongly related to external-unstable attributions for performance on the pre-employment test relative to perceptions of collective relative deprivation (r = .20, p < .01; r = .15, p < .05, respectively). Neither measure had any zero-order correlation with external-stable attributions. However, as explained above, the most important relationships involving the self-handicapping and CRD constructs were hypothesized to involve interactions with hiring condition in influencing attributions and the relationships between attributions and expectancies and between expectancies and performance. Tests of these hypotheses are presented below.

Internal-stable attributions and attributions of test performance to ability and motivation were associated with higher perceptions of the fairness of hiring decisions (rs ranged from .20 to .31 for GENFAIR) and of the hiring procedures (rs ranged from .32 to .41 for PF-TEST, and .21 to .28 for PF-UNBIAS). External attributions were significantly correlated with lower perceptions of general and

procedural fairness (*r*s ranged from -.14 to -.26). These correlations provide some support for Cohen's (1982) assertion that fairness perceptions follow attributions of cause. Attributions of test performance to bias against women were strongly correlated with lower perceptions of the extent to which the selection process was free from sex bias (*r* = -.63; corrected for unreliability, this correlation becomes -.70). This suggests strong perceptual overlap between these constructs. In that sense, an operationalization of attributions using the specific, rather than generic measures of attributions would result in improved fit of the alternative models, but for reasons that are due to shared perceptual bias.

Participants who attributed test performance to internal-stable causes reported higher performance expectancies (*r* = .22, *p* < .01), suggesting that these individuals may have perceived high self-determinism during the employment period. In contrast, participants who made internal-unstable attributions reported lower performance expectancies (*r* = -.25, *p* < .05) and set lower goals (*r* = -.19, *p* < .05). However, as described above, these relationships were hypothesized to be moderated by hiring condition. Similar zero-order correlations involving attributions to ability and motivation were observed. Although no similar relationship was observed for external-unstable attributions, individuals who attributed test performance to luck attempted to reach high scores on the ADT by playing a large number of games (*r* = .17, *p* < .05), rather than necessarily playing games more accurately (*r* = -.05, NS). These participants apparently attempted to reach high scores on the ADT by playing a large number of games in hopes of receiving favorable outcomes on the basis of chance.

In summary, a large number of statistically significant, and conceptually meaningful relationships were observed among the manipulated hiring policy, individual difference constructs, and cognitive and behavioral reactions. After removing the influences of ability from the study variables, few of the motivational and individual differences constructs had direct relationships with performance, however. This might suggest the presence of suppressors, and/or interactions in the prediction of performance in this research. Clearly, no firm conclusions can be drawn regarding the nature of underlying relationships given the zero-order and partial correlations. In the sections that follow, results of path analytic tests of the hypothesized models are described along with tests of omitted causal parameters. Model I, the self-concept-based model using the generic attribution dimensions, is described first. A description of the results of the justice-based model, Model II, then follows. Before concluding the results section, a trimmed model, which serves as a best post hoc description of the data is presented along with a summary of important causal processes identified in this research.

Path Analytic Tests of Model I

Tests of Hypothesized Paths

Figure 14 presents the self-concept model, using each of the manifest indicators uncovered in analyses of the measurement properties of the original set of questionnaires (described earlier). In the figure, standardized path coefficients (beta weights) are included for main effects only to facilitate presentation of the model. Path coefficients for all main effects and interactions, and R^2s for each of the endogenous variables, are presented in Tables 10 through 14.

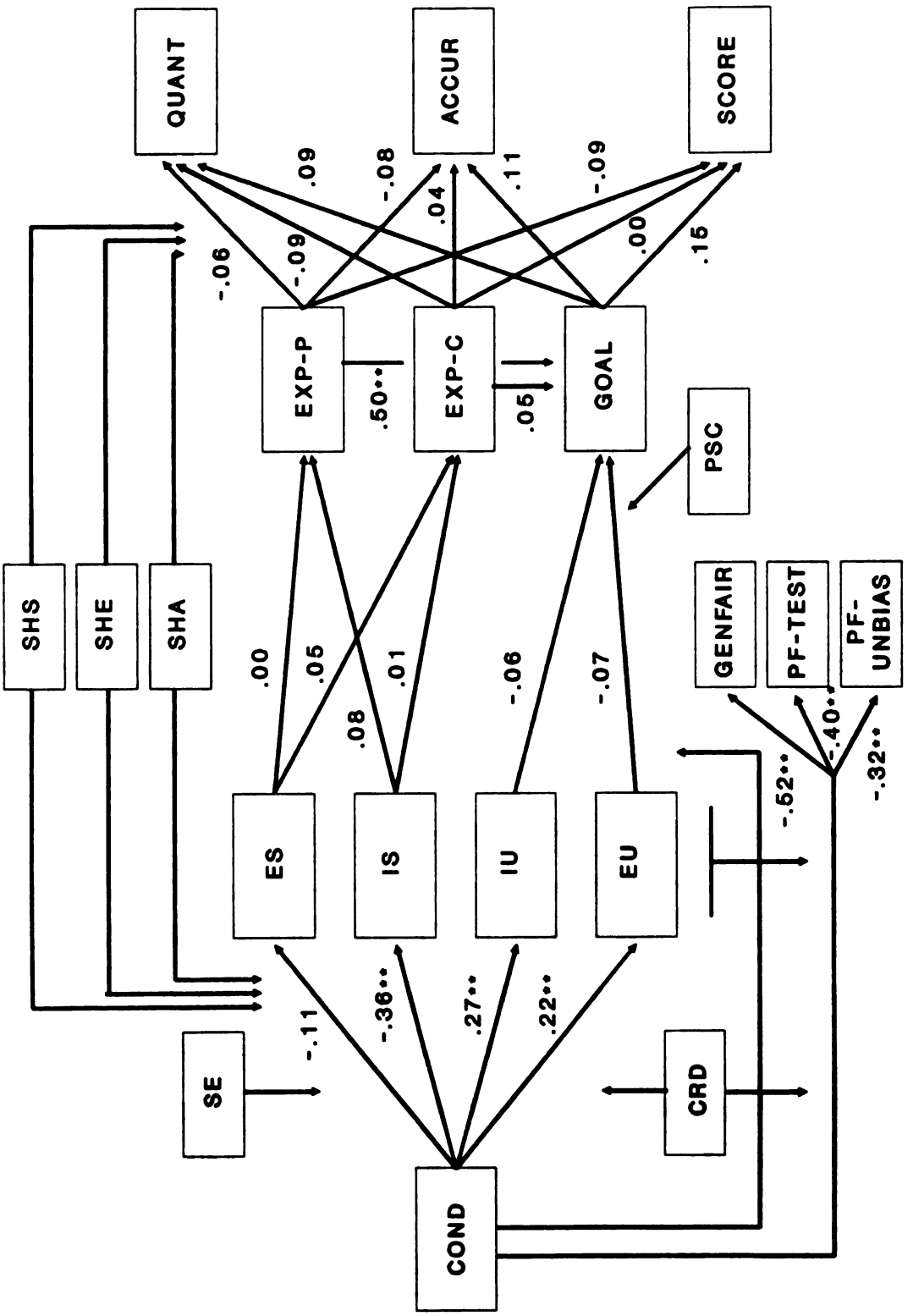


Figure 14. Model I with Estimated Path Coefficients for Main Effects

Tables 10 through 14 present only hypothesized path coefficients. Entries in these tables can be used to identify moderated relationships that were hypothesized and tested, but not illustrated in Figure 14.

As can be seen in the tables, few of the hypothesized effects were confirmed by path analysis. Specifically, looking first at the effects of exogenous variables on attributions following feedback during the selection of participants under merit and preferential policies (Table 10), attributions to internal-unstable and external-unstable causes were each significantly influenced by hiring condition. Women hired under the preferential policy were more likely than those hired in the merit condition to report unstable internal and unstable external causes for their performance on the pre-employment selection test. These results indicate that women reacted defensively in their attributions to preferential treatment in their own selection for the temporary job. In that sense, the results support prior research demonstrating egocentric biases in the interpretation of positive and negative feedback (see Fiske & Taylor, 1990; Taylor & Brown, 1988; Zuckerman, 1979 for reviews). These main effects were not qualified by significant interactions with initial self-efficacy, however, offering little support for self-consistency processes originally hypothesized to underly attributions to unstable causes.

In contrast, internal-stable causes were significantly determined by the interaction between hiring condition and initial self-efficacy. Figure 15 presents a plot of this interaction. As expected, preferential hiring was more strongly associated with lower attributions to internal-stable causes relative to merit hiring, among for participants high in initial self-efficacy for the task. In

Table 10

Models I and II:

Estimated Path Coefficients for

Hypothesized Effects on Attributions

	ES	IS	IU	EU
Main Effects				
COND[a]	-.11	-.36**	.27**	.22**
Interactions				
COND x SE	-.04	-.14*	.03	.05
COND x SHS	.01	---	---	---
COND x SHE	-.10	---	---	---
COND x SHA	-.01	---	---	---
COND x CRD	---	---	---	.12
R^2	.023	.158**	.131**	.095**
Adj. R^2	.000	.142	.115	.070

[a] abreviations are defined in Table 8

* $p < .05$

** $p < .01$

--- indicates path that was not hypothesized

essence, participants who were high in self-efficacy were more apt to attribute their inferred performance on the pre-employment test in a manner that was consistent with their initial perceptions of personal efficacy. These attributions followed the expected pattern, as illustrated in Figure 3. However, the results failed to support the expectation that low self-efficacy participants would report greater internal-stable attributions under preferential treatment relative to merit selection. Instead, they indicate that participants were unwilling to accept blame for preferential treatment, particularly if they were high in initial self-efficacy. The results therefore, support the hypothesis that responses to affirmative action hiring follow self-consistency processes among high self-efficacy beneficiaries.

The reason self-efficacy had its primary moderating effect on internal-stable attributions, rather than unstable external and internal attributions, may be due to some tendency for initial self-efficacy perceptions and internal-stable attributions to have been more perceptually congruent, and therefore likely to follow one another under varying hiring conditions. That is, participants who admittedly were less certain of their capabilities of performing the ADT may have been somewhat more willing to infer that the requirement for preferential treatment in their own hiring was due to their lack of stable capabilities to succeed. In this sense, external and unstable-internal causes are less perceptually related to beliefs that one has the capabilities to succeed, thus explaining their lack of relationship with self-efficacy following selection under hiring policies that emphasize personal capabilities or the apparent lack thereof.

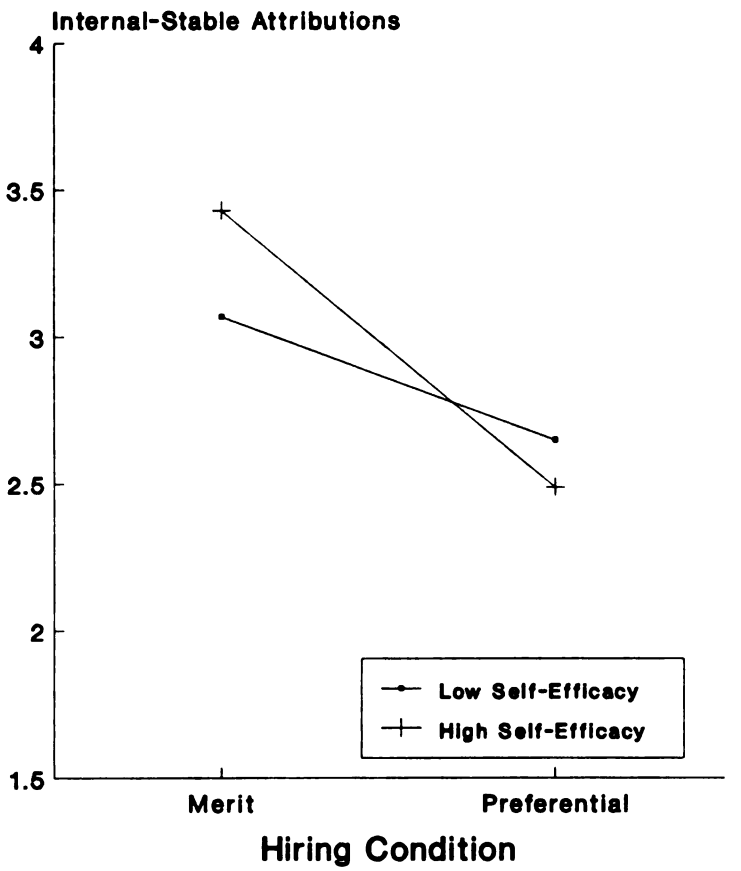


Figure 15. Observed Interaction Between Hiring Condition and Initial Self-Efficacy in Influencing Attributions to Internal-Stable Causes

Contrary to hypotheses, self-handicapping did not interact with hiring condition in influencing attributions to external causes. The reason self-handicapping did not interact as expected is not entirely clear. One possibility is that self-handicapping is more relevant in influencing perceptions of likely future success, rather than explanations for previous successes and failures. As is shown below, self-handicapping had significant relationships with expectancies in Model II, supporting this potential explanation. Nevertheless, previous research (e.g. Mayerson & Rhodewalt, 1988; Smith et al., 1982; Strube, 1985) has reported self-handicapping influences on retrospective attributions for success and failure.

The hypothesized interaction between hiring condition and CRD failed to reach statistical significance. Collective relative deprivation may not have operated as a strong determinant of external-unstable attributions due to some potential lack of relevance within the experimental context. That is, participants may have presumed fairness on the part of the present research team, and therefore felt little need for compensation for past inequities in the treatment of women in general. Alternatively, a test of the interaction effect may have suffered from low statistical power arising from the large number of main effects and interactions included in the regression equation developed for each of the attributions. This latter possibility was explored in more detail during exploratory analyses of a trimmed model, the final results of which are described below.

Overall, the R^2 for external-stable attributions failed to reach significance, although the R^2s for the remaining three attributions were each statistically significant. Exogenous variables explained a

total of 10%, 13%, and 16% of the variance in external-unstable, internal-unstable, and internal-stable attributions, respectively. The larger R^2 observed for internal-stable attributions appears to be due to the significant hypothesized interaction between hiring condition and initial self-efficacy. In all, only partial support was observed for the role of self-consistency processes in attributional reactions to preferential and merit selection.

Table 11 presents the results of path analytic tests of the effects of hiring condition, attributions, and CRD on perceptions of fairness during the hiring process. As expected, preferential hiring was associated with significantly lower perceptions of general and procedural fairness relative to merit hiring. These results support previous research demonstrating that beneficiaries perceive preferential policies as unjust (see Barnes Nacoste, 1991 for a review). However, as noted above, prior empirical work has failed to adequately separate distributive and procedural components in reactions to the fairness of affirmative action in personnel selection. The present results suggest that both pre-employment selection procedures and job allocation decisions are seen less fair under preferential policies relative to standard merit selection.

As can be seen in the table, hiring condition failed to interact with attributions in influencing fairness perceptions. These results suggest that perceptions of causality do not necessarily precede judgements of the distributive and procedural fairness, as suggested by Cohen's (1982) theory of procedural justice. It should be noted however, that all of the tests involving interactions between hiring condition and attributions may have suffered somewhat from

Table 11

Model I:

Estimated Path Coefficients for

Hypothesized Effects on Fairness Perceptions

	GENFAIR	PF-TEST	PF-UNBIAS
Main Effects			
COND	-.52**	-.40**	-.32**
Interactions			
COND x CRD	-.01	-.02	.00
COND x ES	-.10	-.10	-.13
COND x IS	-.09	.03	.03
COND x IU	.12	.05	.00
COND x EU	-.08	-.11	.02
R^2	.369**	.297**	.205**
Adj. R^2	.332	.256	.159

* $p < .05$

** $p < .01$

multicollinearity among the attribution measures, and from low statistical power due to the large number of exogenous variables included in the regression equations. These possibilities were addressed in exploratory analyses designed to identify a best post hoc trimmed model.

Collective relative deprivation also failed to interact with hiring condition in influencing hypothesized endogenous variables. Again, this variable may not have been seen by participants as directly relevant within the context of their temporary employment in this research. Overall, as indicated by the large and significant R^2s for each fairness measure, and large adjusted R^2s, substantial proportions of total variance in fairness perceptions were accounted for by exogenous variables, with main effects of hiring condition providing the only significant effects.

As can be seen in Table 12, none of the hypothesized effects on expectancies were confirmed in tests of Model I. Contrary to Weiner's (1985; 1986) theory, attributions of apparent failure to stable causes did not lower participants' expectancies of future success; nor did attributions of success to stable causes raise expectancies. Indeed, the proportion of explained variance in expectancies of receiving fair evaluation was very low, suggesting substantial misspecification in the model. In all, 17% of the variance in performance expectancies was explained by the exogenous variables contained in Model I and lower-order main effects that were not hypothesized to be causally important.

Table 13 presents the results of path analytic tests of the effects of exogenous variables in Model I on self-set goals. The only significant causal linkage among these variables is for expectancies

Table 12

Model I:

Estimated Path Coefficients for

Hypothesized Effects on Expectancies

	EXP-P	EXP-C
Main Effects		
ES	.00	.05
IS	.08	.01
Interactions		
COND x ES	-.01	-.06
COND x IS	-.02	-.12
R^2	.169**	.038
Adj. R^2	.146	.012

* $p < .05$

** $p < .01$

Table 13

Model I:

Estimated Path Coefficients for

Hypothesized Effects on Goal Level

	GOAL
Main Effects	
IU	-.06
EU	-.07
EXP-P	.50**
EXP-C	.05
Interactions	
COND x IU	-.02
COND x EU	-.07
EU x PSC	.06
R^2	.298**
Adj. R^2	.264

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

regarding performance. As hypothesized, higher performance expectancies resulted directly in higher self-set goals. This finding is consistent with the cognitive perspective on self-regulation and motivation taken in this dissertation, and with a large body of empirical evidence in research on goal setting (see Locke & Latham, 1990).

Unexpectedly, none of the interactions involving hiring condition and unstable attributions reached significance in influencing goal levels. Two potential explanations may account for these findings. First, self-set goals may have provided a poor operationalization of the behavioral reactance effect hypothesized to underly responses to affirmative action self-labelling. The strong direct effect of expectancies may suggest that goals were simply a mechanism of transmitting cognitive beliefs about the likelihood of success into action.

Reactance, on the other hand, may represent a more affective state that does not find manifestation in cognitively-dependent goal levels. As noted above, previous research assessing reactance processes (e.g. Maracek & Metee, 1972; McFarlin et al., 1984; Mikulincer, 1988) has relied on behavioral responses to ascertain reactance motivations, rather than reports of effort intentions. From this perspective, individuals may feel compelled to reassert behavioral self-determinism following affirmative action hiring in ways that are not mediated by goal levels. However, it can be noted that unstable attributions had no direct or moderated effects on performance outcomes, suggesting the total absence of reactance processes. This does not preclude the likelihood that affective forms of reactance

follow unstable attributions however. Clearly, the present research cannot address this possibility.

A second explanation for the apparent lack of reactance effect in tests of Model I is the possibility that reactance may not have been mediated by unstable attributions. As is shown below, tests of omitted parameters, and tests designed to identify a best trimmed model, showed a direct interaction effect between initial self-efficacy and hiring condition in influencing performance accuracy, in partial support of this alternative explanation. This interaction is described in more detail below. For the present, the mediated causal linkages implying reactance in Model I were clearly not supported by results of path analytic tests. A large proportion of total variance in goal levels was explained (30%), due primarily to performance expectancies, and/or lower order main-effects that were not hypothesized to be causally important.

Finally, as can be seen in Table 14, none of the hypothesized exogenous variables were significant causal determinants of performance outcomes. The effects of self-set goals failed to reach significance in the prediction of total scores ($\underline{B}$ = .15, NS). This is surprising given the large body of empirical research supporting the effectiveness of goals in enhancing performance outcomes. At least three explanations may account for the non-significant effects of goals on performance in this research. First, the ADT may have been overly complex for goals to emerge as important causal determinants of performance. As noted above, research has shown that goals are only effective when tasks are relatively simple (e.g. Wood & Locke, 1991), and they may, in fact, impair performance on complex tasks (e.g. Kanfer

Table 14

Models I and II:

Estimated Path Coefficients for

Hypothesized Effects on Performance Outcomes

	QUANT	ACCUR	SCORE
Main Effects			
EXP-P	-.06	-.08	-.09
EXP-C	-.09	.04	.00
GOAL	.09	.11	.15
Interactions			
EXP-P x SHS	-.01	-.03	-.04
EXP-P x SHE	.09	.02	.07
EXP-P x SHA	.03	-.05	-.02
EXP-C x SHS	.03	-.04	-.03
EXP-C x SHE	-.01	.08	.06
EXP-C x SHA	.11	-.09	-.01
R^2	.069	.298=	.118*
Adj. R^2	.010	.254	.063

* $p < .05$

= $p < .01$

& Ackerman, 1989). Although, based on the present results, the task did not appear complex enough to result in negative goal-performance relationships, more research on the ADT itself is needed to determine the effects of varying decision complexity on the effectiveness of goals in predicting task success.

Second, participants may have had difficulty translating their performance capabilities into appropriate goal levels. The lack of a significant correlation between test scores and goals (r = .11, NS) supports this explanation. Thus, although self-efficacy perceptions were strongly related to ability (r = .28, p < .01), high ability participants may have been more modest in setting goals. Alternatively, participants who set inappropriately high goals may have withdrawn efforts when it was clear that they could not attain their high aspirations. Finally, Locke and Latham (1990) note that self-set goals often fail to result in higher performance compared to control conditions when participants set specific goals that are not difficult to attain. In this research, the importance of goals and goal difficulty was not emphasized to participants. Hence, it is entirely possible that variance in self-set goals failed to reflect variance in participants' motivation to persist on the task. In other words, participants may have indicated their performance expectancies through the goal measure, rather than their specific intentions to achieve some score level. Clearly, more research is needed to address the causal relationships among various goal manipulations and performance on the ADT.

Contrary to hypotheses, expectancies for performance and for receiving fair evaluations from the hiring supervisor did not result in

higher performance. This is in contrast to Vroom's (1964) expectancy theory and a large number of empirical studies supporting such processes (see Locke & Latham, 1990 for a review). Of course, as Locke and Latham (1990) point out, expectancies are often measured in ways that are equivalent to self-efficacy. As noted above, a self-efficacy effect was found for performance accuracy when ability was not covaried from the two variables. Nevertheless, the lack of any zero-order correlation or path from expectancies was surprising and suggests in the present research the lack of any important causal effect of performance expectancies. This might have occurred as a function of participants having difficulty understanding the inherent complexity in the ADT, and therefore reporting unrealistic expectancies and setting unrealistic goals. These issues are addressed in more detail in the discussion section below.

Expectancies also failed to interact with self-handicapping in influencing performance. One explanation for the non-significant interaction is that self-handicapping only weakens expectancy-performance linkages when direct excuses or behavioral and situational impediments are used as handicaps, rather than when self-handicapping includes general cognitive and behavioral self-handicapping proclivities as measured by the self-handicapping scales. Nevertheless, Rhodewalt et al. (1984) reported that while high, but not low, self-handicappers failed to practice for an upcoming sporting event, the groups showed no differences in eventual performance. For the present, it is apparent that the moderating effect of self-handicapping on expectancy-performance linkages was not supported in this research.

Also noteworthy in Table 14 is the small adjusted R^2 for performance quantity. Motivational processes appeared to have their primary impact on performance through influencing decision accuracy rather than speed of work, though none of the specific paths were statistically significant in any of the performance equations. Not surprisingly, given the nature of the performance variables, the adjusted R^2 for accuracy was higher than that for total score, although both were statistically significant.

Summary of Hypothesized Effects in Model I. Many of the hypothesized paths contained in Model I failed to receive empirical support. Main effects of hiring condition emerged as significant predictors of external-unstable and internal-unstable causes, suggesting egocentric biases in the interpretation of success and failure feedback. The interaction between hiring condition and initial self-efficacy was also significant in predicting internal-stable attributions. As expected, participants who were confident in their capabilities to succeed on the ADT reported lower internal-stable causes of their performance when hired under the preferential policy relative to the merit policy. At the same time, however, the results failed to support the hypothesis that low self-efficacy participants would be more apt to attribute preferential hiring to internal-stable causes relative to merit hiring, and that self-consistency processes would operate in the determination of unstable internal and external causes. In all, only partial support was found for the hypothesized self-consistency processes in attributions to preferential and merit selection.

As originally hypothesized, perceptions of general and procedural fairness were significantly lower in the preferential relative to the merit condition. In support of previous research (Barnes Nacoste, 1991), participants in the present study reported lower fairness associated with hiring policies when they had been the beneficiary of preferential treatment. None of the hypothesized interactive effects emerged as significant predictors of fairness perceptions. Expectancies were not influenced by any of the hypothesized processes contained in the self-concept model. Performance expectancies emerged as a significant determinant of self-set goals, however. This provides some support the expected cognitive model of motivation implicit in this dissertation. Performance outcomes failed to show causal influences of expectancies and goals. Unfortunately, few of the individual differences constructs operated as originally hypothesized. Self-efficacy influenced only the relationship between hiring condition and internal-stable attributions. Collective relative deprivation, self-handicapping style, and public self-consciousness failed to emerge as a significant causal determinants of attributions, fairness perceptions, goals, and performance outcomes. Moreover, attributions failed to predict fairness perceptions, expectancies, and self-set goals.

In the section that follows, tests of omitted parameters are described. This is followed by an assessment of the overall fit of Model I, relative to the fully recursive model incorporating paths from all exogenous variables to causally subsequent endogenous variables.

Tests of Omitted Parameters

Tests of omitted parameters provide an assessment of the extent to which paths hypothesized to be non-significant are, indeed, associated with zero standardized regression coefficients. Tables 15 through 19 provide OLS estimates of path coefficients for omitted parameters in Models I and II. Because Models I and II are nested within the same non-restrictive model, omitted parameters for the competing hypothesized models are presented together. In the models tested in this research, higher-order cross-over interaction effects were often hypothesized to occur in the absence of lower-order main effects. Tests of these interactions cannot be performed without first assessing the impact of the lower-order main effects. As noted above, lower-order main effects and interactions that are partialled from exogenous two and three-way moderator variables cannot, strictly speaking, be considered additional exogenous variables. Nevertheless, because tests of the impact of these lower-order variables are provided as a by-product of OLS analyses of higher-order effects, they are included in Tables 15 through 19 as exploratory effects.

In this section, omitted parameters that were associated with significant standardized path coefficients are briefly described. Paths that were omitted from Model I, but included in Model II, are noted here, but are not interpreted in detail in this section as more thorough attention is provided to these effects in the description of results of tests of Model II. Exploratory effects that are conceptually meaningful are also described. Because of the large numbers of tests involved in these analyses, all interpretation of omitted and exploratory effects must be considered only speculative.

Moreover, as noted above, unambiguous interpretation of significant omitted and exploratory interactions is impossible when the interactions are contained in regression models containing a large number of exogenous predictors. Therefore, no attempt is made in this section to provide detailed interpretation of significant interactions. Instead, the interactions were used to identify areas of model misspecification, and potentially important processes that were followed up in exploratory analyses conducted to identify a "final" trimmed model.

All significant exploratory and omitted interactions were examined in follow-up analyses that were performed to identify a final trimmed model. In many cases, interactions failed to emerge as significant causal parameters in equations containing a restricted number of exogenous variables. This indicated collinearity among exogenous variables, and the presence of covariates that, when added to an equation, allowed otherwise unimportant effects to emerge as statistically significant. However, in the present research, covariates were not hypothesized and are conceptually uninterpretable. It was considered inappropriate, therefore, to retain effects that required the presence of conceptually meaningless covariates to produce significant results. In this section, results of tests of the stability and independence of significant omitted and exploratory effects are noted to facilitate interpretation of these omitted effects.

Looking first at the results of tests of omitted parameters when attributions were treated as endogenous variables (Table 15), it can be seen that none of the omitted exogenous variables were statistically

significant, though two exploratory main effects were observed. Collective relative deprivation was associated with lower internal-stable attributions ($\underline{B}$ = -.19, $\underline{p}$ < .05). Participants who reported substantial historical discrimination against women in general were less apt to make internal-stable causes for their performance on the pre-employment selection test. This effect was not moderated by hiring condition, suggesting that those who perceived high CRD doubted the relevance of pre-employment testing procedures in their hiring decision, regardless of how those tests were eventually used to make decisions. Similar processes were discovered in the effects of sexism self-handicapping, or personal discrimination, and are discussed in more detail below.

A main effect of self-efficacy on internal-unstable attributions was also observed ($\underline{B}$ = -.20, $\underline{p}$ < .01). Women perceiving high personal efficacy for the task reported lower internal-unstable attributions following feedback on the pre-employment selection test. This effect was not moderated by hiring condition, suggesting that individuals who perceived high personal efficacy for the task were less willing, under any circumstances, to attribute performance on a test of their task-related abilities to causes that were internal but unstable. Instead, they appear to have perceived their high performance capabilities as more stable internal factors. As a result, when preferential hiring was necessary in their own selection, they rejected the implications of the test for their internal-stable capabilities, and sought external causes for their performance feedback. Success for high self-efficacy participants implied stable, rather than unstable internal causes, whereas failure carried no internal causal implications.

Table 15

Models I and II:

Omitted Parameters and Exploratory

Effects on Attributions

	Omitted Parameters			
	ES	IS	IU	EU
Interactions				
COND x SHS	---	.07	-.07	-.10
COND x SHE	---	-.10	-.02	.10
COND x SHA	---	-.03	-.04	.05
COND x CRD	-.06	.01	.03	---
	Exploratory Effects			
Main Effects				
SE	-.01	.08	-.20**	-.05
SHS	.03	.05	.03	-.01
SHE	.00	.06	.02	.03
SHA	.03	.05	.02	-.01
CRD	-.10	-.19*	-.06	.09
R^2	.034	.206**	.141**	.134**
Adj. R^2	.000	.160	.091	.084

* $p < .05$

** $p < .01$

--- indicates a hypothesized parameter

Differences in adjusted R^2s between the hypothesized restrictive and fully recursive models ranged from zero to .018, suggesting adequate fit of this portion of the hypothesized model. Exclusion of the main effect of CRD and other paths to internal-stable attributions resulted in the largest adjusted R^2 difference at this stage of the model, whereas the omitted main effect of self-efficacy on internal-unstable attributions had little overall effect on the fit of the model to the data. (Note that the same paths were hypothesized in Model II.)

Table 16 presents results of tests of omitted exogenous and exploratory effects on fairness perceptions. A significant omitted interaction between hiring condition and avoidance self-handicapping was observed for both perceptions of test validity and procedural bias. Given the large number of variables included in the regression equations, these interactions cannot be unambiguously interpreted. However, they suggest that, rather than being determined by the interaction between hiring condition and attributions, the relationship between hiring condition and procedural fairness perceptions may be more directly moderated by avoidance self-handicapping. Follow-up analyses failed to support the inclusion of this interaction in the trimmed model however, suggesting that the effects reported in Table 16 are dependent on the presence of covariates that have little conceptual meaning, or are entirely spurious.

As can be seen in Table 16, a lower-order main effect of self-efficacy on perceptions of general fairness was also observed ($\underline{B}$ = .28, $\underline{p} < .01$). Those who reported high levels of confidence in their personal capabilities to succeed judged the hiring decision as generally more fair than those who were more doubtful of their

Table 16

Models I and II:

Omitted Parameters and Exploratory

Effects on Fairness Perceptions

Omitted Parameters

	MODEL I			MODEL II		
Interactions	GENFAIR	PF-TEST	PF-UNBIAS	GENFAIR	PF-TEST	PF-UNBIAS
COND x ES	---	---	---	-.11	-.11	-.12
COND x IS	---	---	---	-.07	.02	.03
COND x IU	---	---	---	.11	.01	-.02
COND x EU	---	---	---	-.06	-.11	.00
COND x SE	-.03	-.10	.01	---	---	---
COND x SHS	.07	-.02	-.07	.07	-.02	-.07
COND x SHE	-.04	-.04	.03	-.04	-.04	.03
COND x SHA	-.03	.14*	.14*	-.03	.14*	.14*

Table 16 (Cont.)

Exploratory Effects

Main Effects	MODEL I			MODEL II		
	GENFAIR	PF-TEST	PF-UNBIAS	GENFAIR	PF-TEST	PF-UNBIAS
SE	.28**	-.01	.03	.28*	-.01	.03
ES	-.12*	-.05	-.06	-.12*	-.05	-.06
IS	.02	.21**	.10	.02	.21**	.10
IU	.04	.08	.01	.04	.08	.01
EU	-.08	-.10	-.14	-.08	-.10	-.14
SHS	.03	-.16*	-.29**	.03	-.16*	-.29**
SHE	-.02	-.14*	-.05	-.02	-.14*	-.05
SHA	-.09	.06	.06	-.09	.06	.06
CRD	-.03	-.03	-.01	-.03	-.03	-.01
R^2	.446**	.360**	.297**	.446**	.360**	.297**
Adj. R^2	.390	.295	.227	.390	.295	.227

* $p < .05$
** $p < .01$
--- indicates a hypothesized parameter

abilities. These results suggest that those who felt confident in their capabilities to succeed accepted the hiring decision as fair, regardless of how that decision was implemented. Because they felt capable of performing effectively, any decision to hire them was generally and distributively fair. Individuals with low self-efficacy were more apt to doubt that an appropriate decision had been made.

External-stable attributions were also directly related to lower general fairness perceptions ($\underline{B} = -.12$, $\underline{p} < .05$). Women who perceived the causes of their test performance as arising from external and stable sources judged the eventual decision to hire them as generally unfair, relative to those who made lower external-stable attributions. This effect suggests that individuals who perceived the causes of their performance as due to factors over which they had little control questioned whether they should have been offered the employment position. In that sense, general fairness perceptions appeared to follow attributions of cause, with external attributions undermining perceptions of justice. Hence, these results are consistent with Cohen's (1982) attributional theory of procedural and distributive justice perceptions.

Internal-stable attributions, on the other hand, were significantly related to higher reported test validity ($\underline{B} = .21$, $\underline{p} < .01$). Individuals who perceived the causes of their pre-employment selection performance as internally determined by stable factors, judged the test as a more valid measure of their performance abilities. Those who attributed their selection performance to factors other than those that were internal and stable rejected the test as a valid measure of their abilities. Sexism self-handicapping undermined

perceptions of the validity of the test ($\underline{B}$ = -.16, $\underline{p}$ < .05) and perceptions of procedural freedom from bias ($\underline{B}$ = -.29, $\underline{p}$ < .01). Women who reported substantial personal discrimination as explanations for their previous outcomes in evaluative settings were more apt than those perceiving lower personal discrimination to reject the validity of the test and the procedural fairness of the selection process. These effects were not moderated by hiring condition, suggesting a tendency for those perceiving substantial personal sexism to question testing and selection procedures in personnel hiring contexts, regardless of how those hiring decisions were implemented.

Finally, women reporting high externalizing self-handicapping were also more apt to reject the validity of the pre-employment selection test than were low externalizers ($\underline{B}$ = -.14, $\underline{p}$ < .05). High externalizers reported lower perceptions of test validity, perhaps in an effort to distance themselves from the attributional implications of failure in the preferential condition, and to provide a buffer against potential future failures when hired under the merit policy. That is, these individuals may have felt that by rejecting the validity of the pre-employment selection test, they could reduce the perceived implications of possible poor performance when hired under a merit policy. Failure could be attributed to the use of invalid selection devices, and the selection of individuals who may only be marginally qualified. Hence, subsequent failure on a task would not entirely be the fault of the employee. Under preferential selection, high externalizers may have felt similarly compelled to seek a buffer against possible future failures, or alternatively, rejected the validity of the test to create distance between the failure carried by

the preferential decision and the implications of the failure for their self-concept.

No other significant omitted or exploratory effects contained in Model I were observed. Overall, inclusion of all possible exogenous and exploratory variables increased the adjusted R^2s by a factor of .039 to .068 for the three endogenous fairness perceptions. Although these adjusted R^2 differences are larger than those reported for the attribution measures, they still suggest reasonable fit of this portion of the hypothesized model, at least in relation to the fully recursive model.

Results of tests of omitted and exploratory effects on expectancies are summarized in Table 17. As can be seen in the table, hiring condition had a direct main effect on performance expectancies ($\underline{B}$ = -.26, $\underline{p}$ < .01). Not surprisingly, individuals hired under the preferential policy were more apt than those hired under the merit policy to report lower expectancies of future success. These results support Heilman and colleagues' earlier research (e.g. Heilman et al., 1987; 1990; 1991); however in the present research, no data were collected to examine sex differences in expectancies, as has been the focus in previous empirical work. Instead, as described in detail above, the effects of hiring condition on expectancies were hypothesized to be entirely moderated by attributions to stable causes. The present research failed to support these hypothesized processes.

Not surprisingly, an exploratory main effect for self-efficacy ($\underline{B}$ = .59, $\underline{p}$ < .01) revealed that participants who were high in self-efficacy reported higher expectancies for their eventual level of performance on the ADT. Clearly, the main effect of self-efficacy in

Table 17

Models I and II:

Omitted Parameters and Exploratory

Effects on Expectancies

Omitted Parameters

	MODEL I		MODEL II	
	EXP-P	EXP-C	EXP-P	EXP-C
Main Effects				
COND	-.26**	.00	-.26**	.00
ES	---	---	-.02	.06
IS	---	---	.10	-.05
IU	.01	.10	.01	.10
EU	.05	-.08	.05	-.08
GENFAIR	.03	.02	---	---
PF-TEST	-.08	.18*	---	---
PF-UNBIAS	.06	.06	---	---
Interactions				
COND x SE	-.09	-.08	-.09	-.08
COND x ES	---	---	-.05	-.06
COND x IS	---	---	.08	-.23**
COND x IU	.02	-.18*	.02	-.18*
COND x EU	-.03	.17*	-.03	.17*
COND x SHS	.01	.19	.01	.19
COND x SHE	-.11	-.01	-.11	-.01
COND x SHA	.01	-.06	.01	-.06
COND x CRD	-.01	-.15	-.01	-.15

Table 17 (Cont.)

Omitted Parameters

	MODEL I		MODEL II	
	EXP-P	EXP-C	EXP-P	EXP-C
Interactions				
COND x GENFAIR x SHS	.07	.11	---	---
COND x GENFAIR x SHE	.06	-.48**	---	---
COND x GENFAIR x SHA	.11	-.06	---	---
COND x PF-TEST x SHS	.06	.18*	---	---
COND x PF-TEST x SHE	.04	.19	---	---
COND x PF-TEST x SHA	-.14	-.07	---	---
COND x PF-BIAS x SHS	.06	-.21*	---	---
COND x PF-BIAS x SHE	-.04	.09	---	---
COND x PF-BIAS x SHA	.01	.03	---	---
EU x PSC	-.03	-.08	-.03	-.08
GENFAIR x PSC	.00	-.18*	.00	-.18*

Exploratory Effects

	MODEL I		MODEL II	
	EXP-P	EXP-C	EXP-P	EXP-C
Main Effects				
SE	.59**	-.17*	.59**	-.17*
SHS	.13	-.06	.13	-.06
SHE	.03	-.27**	.03	-.27*
SHA	.05	-.11	.05	-.11
CRD	-.01	.11	-.01	.11
PSC	-.10	-.03	-.10	-.03

Table 17 (Cont.)

Exploratory Effects

	MODEL I		MODEL II	
	EXP-P	EXP-C	EXP-P	EXP-C
Interactions				
COND x GENFAIR	-.05	-.13	-.05	-.13
COND x PF-TEST	-.06	.16*	-.06	.16*
COND x PF-BIAS	-.02	.06	-.02	.06
GENFAIR x SHS	.11	-.05	.11	-.05
GENFAIR x SHE	-.06	.26**	-.06	.26**
GENFAIR x SHA	-.17	.03	-.17	.03
PF-TEST x SHS	.01	.21**	.01	.21**
PF-TEST x SHE	.00	-.04	.00	-.04
PF-TEST x SHA	.08	-.24*	.08	-.24*
PF-BIAS x SHS	.07	.07	.07	.07
PF-BIAS x SHE	.02	-.24*	.02	-.24*
PF-BIAS x SHA	-.12	.13	-.12	.13
R^2	.616**	.405**	.616**	.405**
Adj. R^2	.510	.241	.510	.241

* $p < .05$

** $p < .01$

--- indicates a hypothesized parameter

this equation reduced the likelihood of finding significant omitted and exploratory effects on performance expectancies, given that much of the reliable variance in expectancies was explained by self-efficacy. Nevertheless, exploratory analyses of omitted causes of performance expectancies with self-efficacy removed from the equation revealed no more significant causal parameters than would be expected on the basis of chance alone. Moreover, self-efficacy failed to interact with hiring condition in influencing performance expectancies, as might be hypothesized given the self-consistency processes implied by Heilman et al's (1990; 1991) research, and by the failure of attributions to provide mediation of the effects of hiring condition in the present research. In all, inclusion of a main effect of self-efficacy and other omitted and exploratory effects increased the adjusted R^2 for performance expectancies from .146 to .510, suggesting substantial misspecification in this portion of the self-concept model.

Many of the omitted and exploratory effects for expectancies regarding fair evaluation were statistically significant. However, most of these were associated with lower-order omitted and exploratory main effects and 2-way interactions that were also implicated in higher-order omitted interactions. These included main effects of PF-TEST and SHE, and two-way interactions, including COND x PF-TEST, PF-TEST x SHS, and GENFAIR x SHE. Because higher-order interactions involving these effects were observed, these results cannot be directly interpreted. Three of the complex three-way interactions that were omitted from Model I, but included in Model II, were statistically significant. These were the interactions between hiring condition, general fairness, and SHE; between hiring condition, perceptions of

procedural bias, and sexism self-handicapping; and between hiring condition, perceptions of procedural bias, and sexism self-handicapping. Because these same three-way interactions were significant in tests of hypothesized paths contained in Model II, they are interpreted in the description of results for Model II below. For the present, it is clear that omission of these paths in Model I resulted in poorer fit to the data.

A main effect of self-efficacy was observed ($\underline{B} = -.17$, $\underline{p} < .05$), in the absence of any higher-order interactions involving this variable. The sign of the path coefficient indicates that participants who were high in initial self-efficacy expected to receive less fair evaluation of their objective performance on the ADT than did those lower in self-efficacy. Hence, participants who were highly confident in their abilities doubted the extent to which they would be given credit in future evaluations. This finding is counterintuitive and suggests that individuals who were highly confident in their abilities felt more capable than what their performance, or the evaluation of their performance might indicate. Of course, the overall effect was not particularly large, and may be spurious given the large number of statistical tests involved.

Several omitted two-way interactions involving hiring condition and attributions were also significant, as was an hypothesized interaction between hiring condition and internal-stable attributions that was non-significant in tests of hypothesized parameters contained in Model I. The interactions observed between hiring condition and internal-unstable and external-unstable attributions suggest the presence of direct interactive effects on expectancies that were not

hypothesized in the original self-concept model. As explained above, unstable attributions were not expected to relate directly to expectancies in the model. This was based on previous research demonstrating that individuals appear reluctant to report higher expectancies when causes of previous successes are seen as unstable, and are reluctant to report lower expectancies when there is uncertainty regarding the extent to which past causes will influence future outcomes. Exploratory follow-up analyses revealed, however, that these interactive effects failed to emerge as significant predictors of expectancies when the regression equation was limited to a smaller number of predictors. Hence, the interaction effects are likely spurious. Although non-significant in tests of the original hypothesized model, an interaction between internal-stable attributions and hiring condition emerged as a significant causal influence on credit expectancies in tests of omitted parameters. Follow-up analyses revealed that this effect was also dependent on the presence of conceptually uninterpretable covariates in the regression equation.

A statistically significant omitted interaction between perceptions of general fairness and public self-consciousness was also observed in tests of effects on credit expectancies. This interaction was originally hypothesized to affect self-set goals in Model II, with perceptions of distributive injustice leading to higher self-set goals among participants who are high in public self-consciousness. In the present analysis, the omitted effect suggests potentially important causal effects of fairness perceptions and impression management considerations on expectancies. The interaction failed to emerge as an independent causal effect on expectancies after removal of other

variables from the model, however.

Finally, exploratory lower-order interactions between perceptions of test validity and avoidance handicapping, and between perceptions of procedural bias and externalizing handicapping were observed. Again however, exploratory analyses indicated that the interactions were unstable and are therefore likely spurious in the present analyses.

In all, inclusion of omitted and exploratory effects raised the adjusted R^2 for credit expectancies by .229, suggesting substantial misspecification in this portion of Model I. The apparent misspecification was most probably a result of excluding the complex three-way interactions hypothesized in Model II, and two-way interactions involving hiring condition and attributions.

Table 18 presents results of omitted and exploratory effects on self-set goals. As is evident in the table, several omitted and exploratory effects were statistically significant. An omitted main effect of internal-stable attributions was observed ($\underline{B} = -.18$, $\underline{p} < .05$), indicating that participants reporting higher internal-stable attributions set lower performance goals than those less apt to make internal-stable attributions for their performance on the ADT. As explained above, stable attributions were originally hypothesized to influence goals only through their mediating effects on expectancies. The present results suggest that individuals may have felt less compelled to set goals as directives for their behavior when they perceived their pre-employment test performances as self-determined. That is, these individuals may have felt that goals were less relevant to their eventual likely success on the task, and that task success was more a function of their intrinsic capabilities. It must be noted

Table 18

Models I and II:

Omitted Parameters and Exploratory

Effects on Goal Level

Omitted Parameters

	MODEL I	MODEL II
	GOAL	GOAL
Main Effects		
COND	-.14	-.14
ES	-.01	-.01
IS	-.18*	-.18*
IU	---	-.13
EU	---	-.05
GENFAIR	.04	---
PF-TEST	.03	.03
PF-UNBIAS	-.07	-.07
Interactions		
COND x SE	.07	.07
COND x ES	.03	.03
COND x IS	-.11	-.11
COND x IU	---	.01
COND x EU	---	-.01
COND x SHS	.12	.12
COND x SHE	-.17	-.17
COND x SHA	-.09	-.09
COND x CRD	-.02	-.02

Table 18 (Cont.)

	Omitted Parameters	
	MODEL I	MODEL II
	GOAL	GOAL
Interactions		
COND x GENFAIR x SHS	-.08	-.08
COND x GENFAIR x SHE	-.15	-.15
COND x GENFAIR x SHA	.03	.03
COND x PF-TEST x SHS	-.03	-.03
COND x PF-TEST x SHE	.15	.15
COND x PF-TEST x SHA	.00	.00
COND x PF-BIAS x SHS	-.14	-.14
COND x PF-BIAS x SHE	-.04	-.04
COND x PF-BIAS x SHA	.08	.08
EU x PSC	---	.01
GENFAIR x PSC	-.10	---
EXP-P x SHS	-.12	-.12
EXP-P x SHE	-.07	-.07
EXP-P x SHA	.06	.06
EXP-C x SHS	.01	.01
EXP-C x SHE	-.09	-.09
EXP-C x SHA	.02	.02

Table 18 (Cont.)

Exploratory Effects

	MODEL I	MODEL II
	GOAL	GOAL
Main Effects		
SE	-.05	-.05
SHS	-.15	-.15
SHE	-.06	-.06
SHA	.11	.11
CRD	-.05	-.05
PSC	.00	.52
Interactions		
COND x GENFAIR	-.09	-.09
COND x PF-TEST	.11	.11
COND x PF-BIAS	.19*	.19*
GENFAIR x SHS	.08	.08
GENFAIR x SHE	-.03	-.03
GENFAIR x SHA	.03	.03
PF-TEST x SHS	-.04	-.04
PF-TEST x SHE	.03	.03
PF-TEST x SHA	.01	.01
PF-BIAS x SHS	.10	.10
PF-BIAS x SHE	-.13	-.13
PF-BIAS x SHA	-.18*	-.18*
R^2	.508=	.508=
Adj. R^2	.343	.343

* $p < .05$
= $p < .01$
--- indicates a hypothesized parameter

however, that the number of significant omitted and exploratory effects was no greater than that which would be expected on the basis of chance alone, suggesting that all significant effects reported in Table 18 are entirely spurious.

A significant exploratory interaction between perceptions of procedural bias and avoidance handicapping was also observed. This interaction was originally hypothesized to operate within a larger three-way interaction in influencing expectancies. Due to the large number of variables contained in the regression equation, this interaction cannot be directly interpreted, and may be spurious. Finally, an exploratory interaction between hiring condition and perceptions of procedural bias was also observed. Follow-up analyses revealed a conceptually meaningful and statistically independent moderated relationship between hiring condition and self-set goals at differing levels of procedural bias. This interaction was therefore retained in the trimmed model, and is described in more detail below.

The adjusted R^2 for goal level was .079 larger when omitted and exploratory effects were included compared to the restricted hypothesized model. Hence, this portion of the restricted model appeared to provide better fit than did hypothesized effects on expectancies. Misspecification appeared to be primarily the result of exclusion of a conceptually meaningful interactive effect of hiring condition and perceptions of procedural bias. The interaction underscores the relevance of fairness perceptions that were hypothesized to be causally unimportant in the original self-concept model.

Finally, results of tests of omitted and exploratory paths leading to performance outcomes are summarized in Table 19. As can be seen in the table, interactions between hiring condition and avoidance handicapping and between general fairness and public self-consciousness emerged as significant causal effects on performance quantity. Taken together with the results reported earlier for fairness perceptions (Table 16) and for credit expectancies (Table 17), the interactions observed these analyses suggests the presence of partial mediation of these interactive effects through perceptions of fairness and through credit expectancies, respectively. Again, however, the number of significant omitted and exploratory effects reported for performance quantity did not exceed that expected on the basis of chance alone. Moreover, follow-up analyses failed to support the importance of these effect as independent causal influences on performance outcomes.

An exploratory main effect of externalizing self-handicapping emerged as a significant causal influence on performance accuracy ($\underline{B} = -.26$, $\underline{p} < .01$). High externalizers were less accurate on the task than were participants who reported lower self-handicapping tendencies. This effect contradicts earlier research demonstrating that self-handicapping has little effect, or a slight facilitative effect, on actual task performance (Snyder, 1990). The present results suggest that individuals who seek external handicaps for performance, or utilize external attributions for task failure, performed less accurately than those who were lower in externalizing handicapping. One explanation of these results is that high externalizers avoided accuracy strategies for high overall performance on the task in an effort to minimize the implications of possible failure for their

Table 19

Models I and II:

Omitted Parameters and Exploratory

Effects on Performance Outcomes

	Omitted Parameters		
	QUANT	ACCUR	SCORE
Main Effects			
COND	-.18	.11	-.01
ES	.08	.05	.11
IS	.10	.05	-.01
IU	-.07	.12	.01
EU	-.12	-.14	-.17
GENFAIR	-.16	.32^{-}	.18
PF-TEST	.04	-.11	-.04
PF-UNBIAS	-.02	-.19*	-.16
Interactions			
COND x SE	.01	.21^{-}	.20*
COND x ES	.04	-.03	-.02
COND x IS	-.01	-.02	-.04
COND x IU	.03	-.08	-.05
COND x EU	.07	.05	.08
COND x SHS	.12	-.09	.00
COND x SHE	-.13	.23*	.15
COND x SHA	.26*	.02	.15
COND x CRD	.11	.10	.15
COND x GENFAIR x SHS	.05	.05	.08
COND x GENFAIR x SHE	-.03	-.12	-.17
COND x GENFAIR x SHA	-.08	.04	-.03
COND x PF-TEST x SHS	.05	-.03	.03
COND x PF-TEST x SHE	-.09	-.06	-.08
COND x PF-TEST x SHA	-.01	.12	.09
COND x PF-BIAS x SHS	-.09	-.08	-.17
COND x PF-BIAS x SHE	.05	.00	.04
COND x PF-BIAS x SHA	.09	.00	.07
EU x PSC	.10	-.12	-.04
GENFAIR x PSC	.19*	-.11	.02

Table 19 (Cont.)

	Exploratory Effects		
	QUANT	ACCUR	SCORE
Main Effects			
SE	.03	-.01	.01
SHS	-.01	.07	.07
SHE	.15	-.26**	-.13
SHA	-.11	.03	-.05
CRD	.01	.04	.03
PSC	-.02	.02	.03
Interactions			
COND x GENFAIR	.14	-.32**	-.15
COND x PF-TEST	-.02	.18*	.13
COND x PF-BIAS	.11	.12	.16
GENFAIR x SHS	.10	-.10	-.05
GENFAIR x SHE	-.08	.04	.01
GENFAIR x SHA	.29	-.04	.15
PF-TEST x SHS	-.13	.01	-.06
PF-TEST x SHE	-.02	.10	.06
PF-TEST x SHA	-.08	-.01	-.06
PF-BIAS x SHS	.02	.06	.06
PF-BIAS x SHE	-.11	-.06	-.14
PF-BIAS x SHA	.04	-.07	-.01
R^2	.232	.450**	.270
Adj. R^2	.000	.259	.017

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

self-concepts. Because of their tendency to avoid attributional implications of failure, they may have been reluctant to pursue a performance strategy that depended on their ability to accurately assess problems and derive appropriate solutions. Alternatively, high externalizers may have withdrawn effort early in task performance, after learning that task difficulties and decision errors were frequent. Hence, rather than risk the implications of failure, they withdrew accuracy efforts after encountering initial performance difficulties. Of course, given the large number of tests involved and the small number of significant omitted and exploratory effects, little confidence can be placed in the generalizability of this finding. For the present, it is clear that self-handicapping may implicate task performance strategies that are more complex than originally hypothesized.

A main effect of general fairness was observed, but was qualified by a significant interaction with hiring condition. Additionally, hiring condition interacted with perceptions of test validity in influencing decision accuracy. Neither of these moderated effects were hypothesized to be causally important in the self-concept model; however, the justice-based model incorporated interactive effects of hiring condition and fairness perceptions that were hypothesized to be mediated through expectancies. This suggested the importance of these fairness processes in a final trimmed model. Follow-up analyses supported the statistical independence of these effects and their conceptual meaningfulness within the conceptual framework for this research. These effects are, therefore, described in detail below. For the present, the results suggest omission from Model I of important

causal influences of fairness perceptions on performance outcomes, effects that were explicitly hypothesized to be unimportant.

Significant interactions between hiring condition and self-efficacy were observed for performance accuracy and total performance scores, as noted earlier. These effects were originally hypothesized to be mediated by attributions, expectancies, and goals. Given the significant interactive effects of self-efficacy and hiring condition observed in tests of hypothesized effects on internal-stable attributions, these results suggest the presence of partial mediation. Hiring condition and self-efficacy appeared to have direct interactive effects on performance outcomes. Follow-up analyses supported this conclusion for performance accuracy, whereas total performance scores were not causally determined by any set of meaningful and independent exogenous variables. Because the interaction between self-efficacy and hiring condition was retained in the final trimmed model, its form and meaning are described in detail below.

In all, differences in adjusted R^2s between the hypothesized restrictive effects at this stage of the model and the fully recursive model were zero for both performance quantity and performance scores, whereas the difference was .005 for performance accuracy. These differences, and the small number of significant omitted and exploratory effects, suggest reasonable fit at this stage of Models I and II in relation to the fully recursive model, even though no significant causal paths were uncovered in tests of hypothesized parameters associated with the alternative models. The significant causal paths observed for interactions involving hiring condition, self-efficacy, and fairness perceptions suggested potentially

meaningful processes that were followed-up in exploratory analyses designed to identify a best post hoc trimmed model. As is discussed in detail below, these interactions provided compelling support for the operation of self-consistency and perceived fairness processes in reactions to preferential and merit hiring.

Summary of Tests of Omitted Parameters in Model I. A large number of omitted parameters and exploratory effects were uncovered in tests of the fully recursive model. The majority of these occurred among effects on expectancies of receiving fair evaluation on the Air Defense Task. These involved several lower-order main effects and interactions that were implicated in three higher-order three-way interactions that were originally hypothesized in the justice-based model. The form of these interactions is described in detail below. Attributions, fairness perceptions, goals, and performance outcomes appeared reasonably well-specified relative to the fully recursive model. Statistically significant omitted and exploratory effects were observed at nearly every stage of the restricted model illustrated in Figures 2 and 14. However, follow-up analyses indicated that very few of these effects were statistically independent of other covariates in the regression equations. Nevertheless, they identified several potentially important causal effects that were eventually included in the final trimmed model. The results of these exploratory modelling efforts is described in detail below.

To assess the overall fit of Model I, Pedhazur's (1982) Q statistic was computed. Based on the residuals associated with each endogenous variable in the model, the self-concept model resulted in an overall fit of .066, suggesting substantial misspecification of the

model given conventional criteria for model fit (Mathieu & Hamel, 1990; Pedhazur, 1982). Misspecification appeared to be primarily the result of omitted paths leading to expectancies, although goals were also somewhat misspecified. It should be pointed out that the Q statistic does not correct for the number of paths included in a model, and the likelihood that a fully recursive model involving a large number of omitted paths may result in substantially larger R^2s due to capitalization on chance. Nevertheless, the results of tests of hypothesized and omitted parameters support the conclusion that the self-concept model received very little overall empirical support, and that several potentially important causal processes were excluded from the restricted model. Model II provided an alternative against which to compare the self-concept model. In the section that follows, results of tests of hypothesized paths contained in Model II are described, followed by a discussion of omitted and exploratory effects and overall fit of the alternative justice-based model.

Path Analytic Tests of Model II

Tests of Hypothesized Paths

Figure 16 presents the justice-based model that was developed from analyses of the measurement properties of questionnaires designed to serve as indicators of hypothesized constructs. As in Figure 14, OLS estimates of standardized path coefficients are included for main effects only to facilitate presentation. Furthermore, hypothesized paths leading to attributions are not illustrated in detail as they are redundant with those presented in Figure 14. The primary differences between Models I and II are the paths leading to fairness perceptions, expectancies, and goals. The paths leading to performance outcomes,

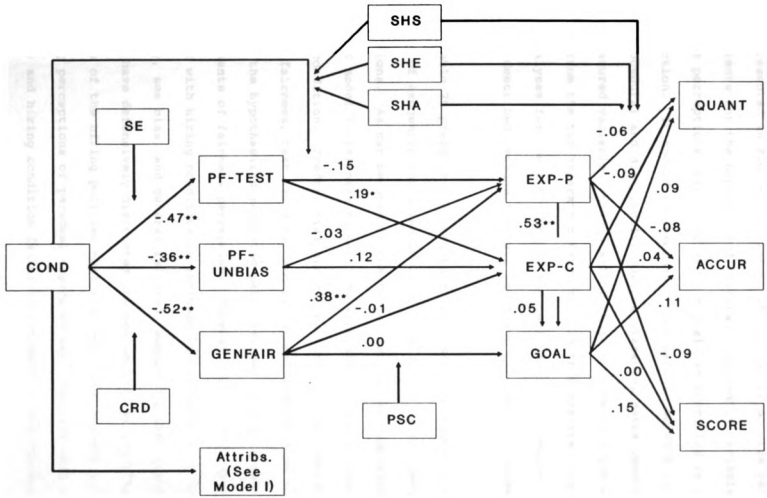


Figure 16. Model II with Estimated Path Coefficients for Main Effects

and estimates of standardized path coefficients, are identical with those presented in Figure 14. Tables 20 through 22 provide path coefficients for the hypothesized effects of exogenous variables on fairness perceptions, expectancies, and goals as specified in the introduction. It should be remembered that because GENFAIR included both procedural and distributive justice elements, paths leading from this measured variable included all of those originally hypothesized to follow from the two separate constructs. In this section, results of path analyses for the attributions and performance endogenous variables are not described because they are redundant with results presented above.

Table 20 presents the results of path analytic tests of the effects of exogenous variables included in Model II on fairness perceptions. As can be seen in the table, and as was supported in tests of Model I, fairness perceptions were significantly influenced by hiring condition. Preferential hiring resulted in lower perceptions of general fairness, test validity, and procedural freedom from bias. None of the hypothesized moderated paths emerged as significant causal determinants of fairness perceptions, however. Self-efficacy did not interact with hiring condition in influencing perceptions of test validity, sex bias, and general fairness, suggesting that participants may not have defensively discounted the procedural and distributive fairness of the hiring policies when they were inconsistent with existing perceptions of personal capabilities. The fact that self-efficacy and hiring condition failed to interact in influencing perceptions of sex bias and general fairness may also be due in part to a weak perceptual overlap between efficacy perceptions and perceptions

Table 20

Model II:

Estimated Path Coefficients for

Hypothesized Effects on Fairness Perceptions

	GENFAIR	PF-TEST	PF-UNBIAS
Main Effects			
COND	-.52=	-.47=	-.36=
Interactions			
COND x SE	-.06	-.11	-.01
COND x CRD	.00	-.03	.00
R^2	.372=	.253=	.168=
Adj. R^2	.354	.232	.145

\- $p < .05$
= $p < .01$

of test bias and general fairness. The interaction between self-efficacy and hiring condition approached significance in influencing perceptions of test validity ($\underline{B}$ = -.11, $\underline{p}$ < .07), providing some support for this explanation, and suggesting that tests of this interaction suffered from low statistical power. These possibilities were addressed in more detail in exploratory analyses directed at a final trimmed model.

Collective relative deprivation also failed to interact with hiring condition in influencing perceptions of the fairness associated with selection procedures and final selection decisions. As noted above, this may be due to some perceived lack of relevance of historical injustices for judging the fairness of policies within the present employment context. Overall, the R^2s for the three endogenous fairness perception were each statistically significant. General fairness was better explained than perceptions of sex bias and test validity, though none of the hypothesized paths for this, or for the other two endogenous variables, reached statistical significance.

Standardized path coefficients and R^2s for the hypothesized effects on expectancies are provided in Table 21. Of the effects hypothesized to influence perceptions of performance expectancies, only general fairness emerged as a statistically significant causal determinant. Participants reported higher performance expectancies under apparently fair hiring conditions relative to generally unfair policies ($\underline{B}$ = .38, $\underline{p}$ < .01). These results suggest that, as hypothesized, participants inferred a higher likelihood of success when decision outcomes were perceived as distributively just, perhaps as a result of perceiving a higher likelihood of fair treatment by the

Table 21

Model II:

Estimated Path Coefficients for

Hypothesized Effects on Expectancies

	EXP-P	EXP-C
Main Effects		
GENFAIR	.38$^{=}$	-.01
PF-TEST	-.15	.19*
PF-UNBIAS	-.03	.12
Interactions		
COND x GENFAIR x SHS	.16	.12
COND x GENFAIR x SHE	.01	-.39$^{=}$
COND x GENFAIR x SHA	.10	-.10
COND x PF-TEST x SHS	.05	.17*
COND x PF-TEST x SHE	.09	.10
COND x PF-TEST x SHA	-.17	.01
COND x PF-BIAS x SHS	.09	-.23*
COND x PF-BIAS x SHE	-.03	.11
COND x PF-BIAS x SHA	.05	.00
R^2	.363$^{=}$	.265*
Adj. R^2	.254	.139

* $p < .05$

$^{=}$ $p < .01$

organization in future promotion and follow-up decisions. However, given the nature of the two expectancy variables, such underlying processes would be expected primarily for credit, rather than performance expectancies. Therefore, an alternative explanation of the present results is that hiring decisions that were perceived as generally fair served to affirm participants' beliefs in their capabilities of success on the ADT. That is, distributively fair hiring decisions, whether based on merit or preferential principles, imply that the new hire is capable of performing effectively in his or her new job role. Decisions that are perceived as distributively unfair imply, instead, that the individual should not have been hired due to some lack of qualifications to perform. Given the omitted causal effect of self-efficacy on perceptions of general fairness reported above, these results also imply that hiring decisions were seen as appropriate among those who believed they could perform effectively. The causal implications of these perceptions were addressed in exploratory analyses to develop a final trimmed model, and are discussed in detail below. In all, a significant proportion of the variance in performance expectancies was explained by the set of exogenous main effects and interactions hypothesized as causal determinants in Model II.

Expectancies of receiving a fair evaluation of performance by the research team were less well explained overall; however, three of the hypothesized complex exogenous three-way interactions were statistically significant. Figure 17 presents a plot of the significant three-way interaction between hiring condition, perceptions of general fairness, and externalizing self-handicapping. As can be

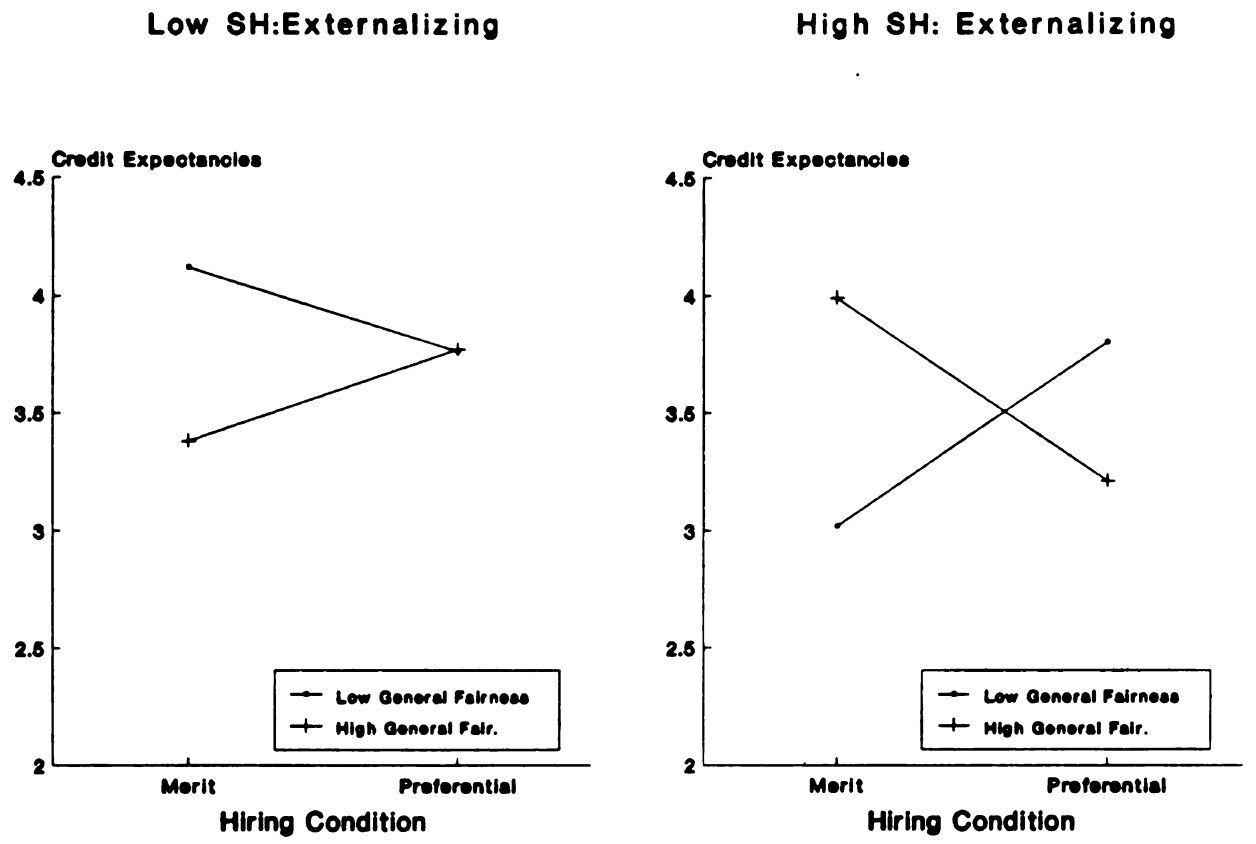


Figure 17. Observed Interaction Between Hiring Condition, Perceptions of General Fairness, and Externalizing Self-Handicapping in Influencing Expectancies of Receiving Credit

seen in the figure, hiring condition and perceptions of the general fairness of the hiring policy and final decision had very different effects on expectancies for participants who were low in externalizing handicapping, relative to those who were high in externalizing, and were very different in their effects than what was originally hypothesized (see Figure 13). Participants who were low in handicapping tendencies reported somewhat lower expectancies of receiving fair evaluations of their performance when they perceived the merit decision as generally fair, relative to when they perceived the merit selection as unfair. As reported above, and as was supported in follow-up analyses, initial self-efficacy predicted perceptions of general fairness. In these analyses general fairness perceptions are therefore confounded with initial self-efficacy. Hence, the results observed for low externalizing handicappers suggest that individuals who thought they should not have been offered the employment position, due in part to their perceived lower performance capabilities, may have believed that because the evaluation of task performance was objective, their lack of qualifications would be appropriately found out following performance on the task. Alternatively, these low externalizers may have felt that, though they failed to possess adequate qualifications for the position, they could muster the resources to perform at a level that would be regarded as very high. Low self-handicappers who thought the decision was fair indicated that evaluations of their performance were somewhat less certain, perhaps because they were suspicious that their high levels of capabilities could be reflected in task performance. Preferential hiring erased the differences in reported expectancies among low handicappers perceiving differing levels of

general fairness, suggesting that those who perceived the preferential decision as unfair were somewhat less certain of fair evaluations in the future relative to similar participants in the merit condition, whereas those who perceived the preferential decision as fair expected somewhat more credit for their eventual performance relative to similar individuals in the merit condition.

In contrast, high externalizers who perceived their own preferential hiring as generally fair reported lower expectancies of receiving credit than participants who perceived the merit decision as fair. Similarly, externalizers who perceived the merit decision as unfair reported lower expectancies than those who perceived the preferential policy as unfair (see Figure 17). High externalizers appeared to doubt that their eventual ADT performance would be judged fairly if they were hired under a generally fair preferential employment policy, or a generally unfair merit policy. In general, the pattern of means observed for high externalizers was similar to the hypothesized pattern (see Figure 13), with the exception of the effect of hiring condition on credit expectancies for those who though the decisions were unfair. The results suggest that externalizers who benefitted from an apparently fair preferential selection policy expected to receive less fair treatment in the future. In essence, the future held out less promise of fair treatment than the past. Perhaps because of their generalized tendency to seek external excuses for failure, high self-handicappers inferred that the employer may retaliate against them in future job allocation decisions if they had benefitted in the past from a fair preferential policy. Alternatively, to maintain fairness in the organization, the employer may have been

expected to provide advantages to others, and require higher levels of performance from the beneficiary. A final possibility is that high externalizers judged the preferential decision fairly out of defensiveness. That is, these individuals may have felt that their performance on the pre-employment selection test was a poor reflection of their ability. As a result, the decision to hire them was appropriate, but because they tended to handicap their expectations of future outcomes, reported that their performance capabilities would be inaccurately evaluated again in the future.

The effect of hiring condition on credit expectancies for high externalizers who perceived the decisions as unfair is difficult to explain given the logic presented in the introduction above. Possibly, high externalizers in the merit condition used the perceived lack of fairness as an excuse for lower expectancies. However, when they were hired under an apparently unfair preferential hiring policy they could no longer use the excuse that their future performance would be judged unfairly. Because they had benefitted from an unfair policy in the past, unfairness in selection policies had little to do with whether they would receive favorable outcomes in the future. Instead, perhaps due to their general tendencies to seek external attributions for their performances, they appeared to expect that they would receive fair evaluations in the future regardless of how they performed. The organization appeared committed to providing them advantages, even though doing so was inappropriate and out of their own control. These interpretations are entirely speculative however, given the lack of conceptually meaningful causal effects of credit expectancies on other endogenous variables, and the lack of other systematic effects

following from externalizing self-handicapping. Moreover, these effects are the result of covarying a large number of lower-order main effects and interactions, and higher-order three-way interactions among other variables at this stage of the model. Exploratory analyses revealed that the interaction remained a significant independent predictor of credit expectancies and did not change dramatically in form. Clearly, given the dissimilarity of the observed form of this interaction from the hypothesized pattern, the present results suggest more complex processes than were originally hypothesized.

Figure 18 presents the observed interaction between hiring condition, perceived sex bias in the selection process, and sexism self-handicapping in influencing expectancies of receiving credit on the ADT. The overall pattern of means showed little similarity with hypotheses (see Figure 13). The observed effects indicate that women who perceived little personal sexism reported lower expectancies when hired preferentially under a process that appeared biased against women, relative to when they were hired under a procedurally biased merit policy. Hence, among participants indicating low levels of past personal discrimination, preferential hiring decisions that were made in the presence of biased selection devices appeared to increase the perceived likelihood that future performance evaluation decisions would also be based on inaccurate or biased assessments of true performance.

In contrast, women who reported higher levels of personal discrimination appeared to expect more favorable treatment in the future when it was clear that the organization was committed to fair treatment of women in spite of biased selection devices. In other words, though they often perceived their own failures as resulting from

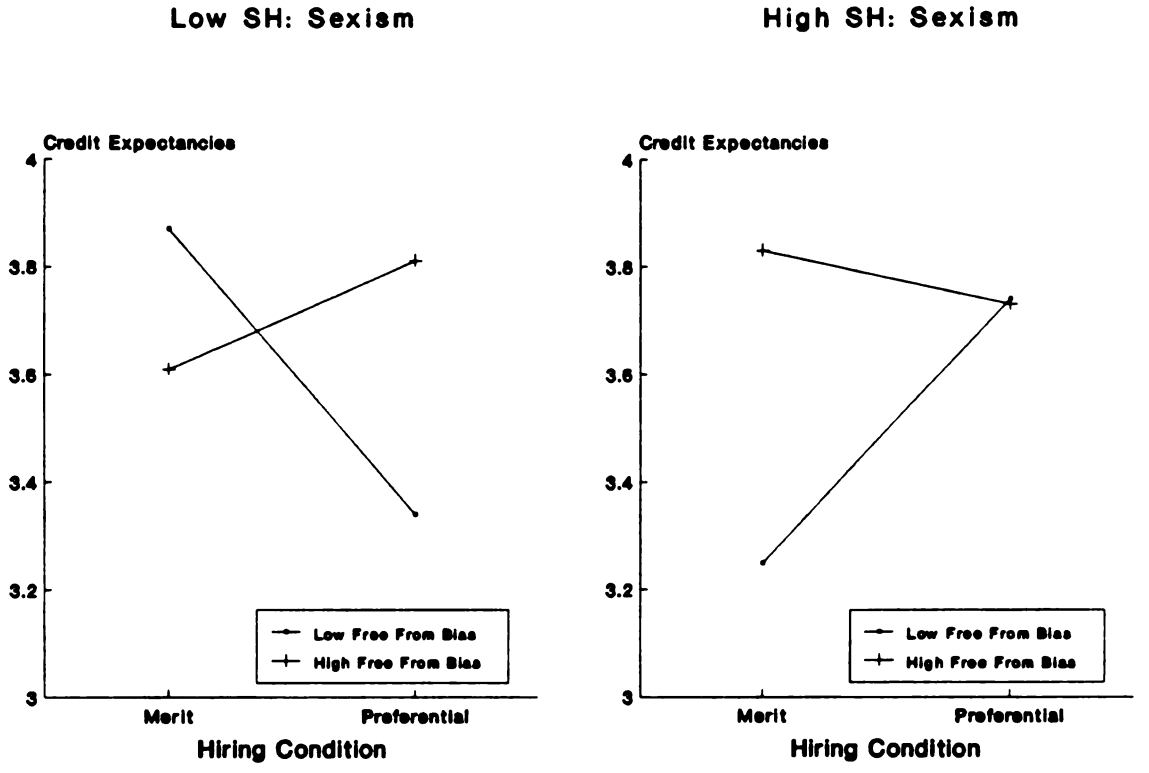


Figure 18. Observed Interaction Between Hiring Condition, Perceptions of Procedural Bias, and Sexism Self-Handicapping in Influencing Expectancies of Receiving Credit

bias against them, an organization that implemented fair policies to benefit members of their group may have been perceived as more likely to ensure fair treatment in the future. In the absence of such preferential treatment (i.e. under merit selection), biased selection devices appeared to raise doubts that future performances would be evaluated fairly. Women perceiving substantial personal sex discrimination were therefore more likely than those not perceiving discrimination to generalize their past experiences to the present context when the merit selection procedure was apparently biased. This interaction emerged after covarying several lower-order main effects and interactions in the same regression equation. Follow-up exploratory analyses revealed that the three-way interaction failed to emerge as a significant independent predictor of credit expectancies after removing covariates that were present in analyses reported in Table 21. Hence, no unambiguous interpretation of the meaning of this complex interactive effect can be made.

Figure 19 presents the observed three-way interaction between hiring condition, sexism self-handicapping, and perceptions of test validity. In this interaction, beneficiaries of preferential hiring who perceived substantial personal discrimination in their own past treatment reported higher expectancies of receiving credit on the ADT when the test was seen as a valid measure of their abilities to succeed, relative to when the test was seen as invalid. In this sense, the results are quite different from those observed for perceptions of procedural bias illustrated in Figure 18. The results presented in Figure 19 imply that women who perceived high levels of personal discrimination in evaluations of their past performances expected to

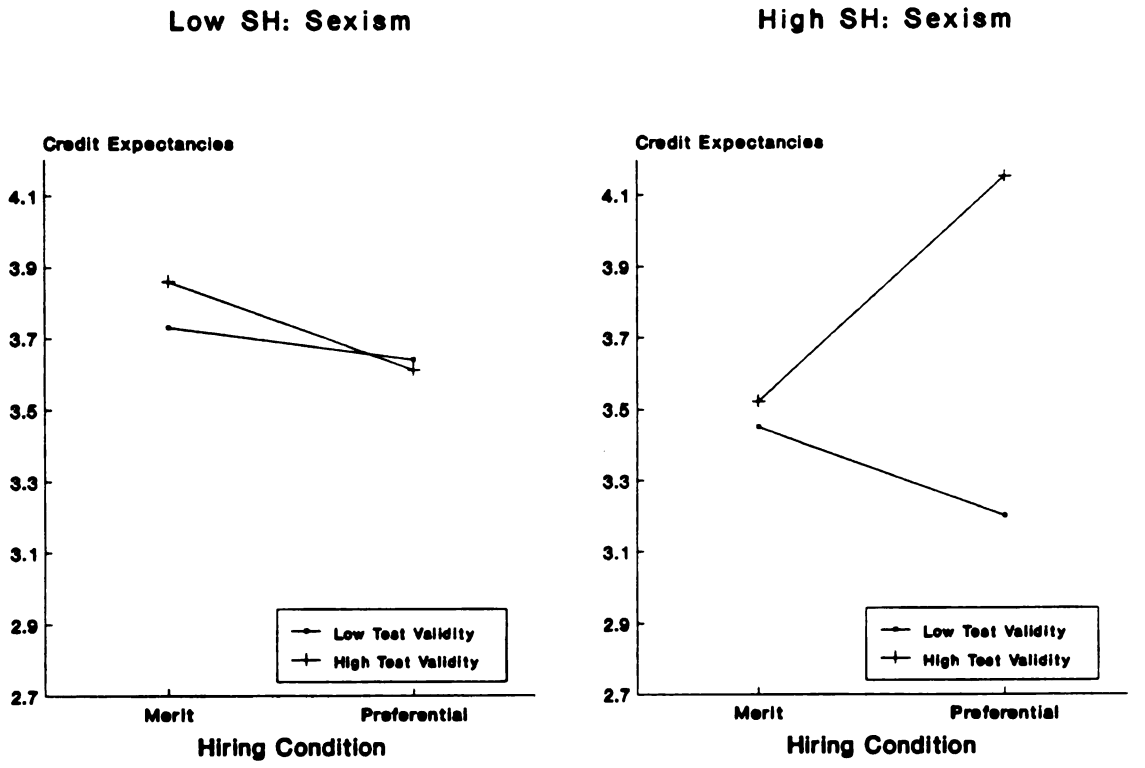


Figure 19. Observed Interaction Between Hiring Condition, Perceptions of Test Validity, and Sexism Self-Handicapping in Influencing Expectancies of Receiving Credit

receive fair credit from the organization when it was clear that they had benefitted from a preferential policy that reflected an organizational commitment towards valid assessment of personal performance capabilities. Again, this interaction emerged in a model that contained a large number of additional lower-order main effects and interactions, and higher-order interactions involving other variables in the same regression equation. Exploratory analyses indicated that this effect did not provide independent prediction of credit expectancies, underscoring the difficulty of providing unambiguous interpretation of the effect.

The processes observed for sexism self-handicapping are similar to those originally hypothesized to underlie the interaction of collective relative deprivation and hiring condition in influencing various endogenous variables in Models I and II. Indeed, the correlation between sexism self-handicapping and CRD was high (r = .49, p < .01), suggesting perceptual overlap in these constructs. However, as noted above, CRD is presumed to reflect perceptions of historical discrimination against one's group in general, rather than personal victimization. Previous research in relative deprivation has shown that political action rarely follows perceptions of personal discrimination, presumably because collective disadvantage is needed to justify and affirm personal action (see Dube & Guimond, 1986). To assess whether generalized perceptions of CRD might operate like perceptions of personal discrimination at this stage of the model, an exploratory analysis was conducted wherein three-way interactions between CRD, hiring condition, and the three fairness perceptions were used in place of the interactions involving sexism self-handicapping.

None of the three-way interactions involving CRD emerged as significant causal determinants of credit expectancies. Tests of omitted parameters also suggested that sexism self-handicapping could not replace paths expected from CRD. Hence, CRD and sexism self-handicapping were differentiable in their effects on endogenous variables. Moreover, the substantially different patterns of effects uncovered for externalizing handicapping and perceptions sexism also suggested important differences between sexism self-handicapping and generalized handicapping despite efforts in the present research to construct a parallel measure of handicapping of a very specific nature.

Results of analyses of paths leading to goal level are presented in Table 22. As in Model I, goals were largely dependent on general performance expectancies ($\underline{B}$ = .53). The interaction between general fairness and public self-consciousness failed to reach significance. The reason for this non-significant effect is difficult to ascertain. One possibility is that because general fairness contained elements of both distributive and procedural fairness, the guilt-like processes hypothesized to follow perceived violations of norms of distributive justice (Barnes Nacoste, 1991) were confounded with effects following from perceptions of procedural fairness. More likely given the tendency in other analyses for general fairness to operate like distributive fairness perceptions, is the possibility that goals provided a poor operational test of the effects of perceived violations of distributive justice norms on task-related effort intentions. Overall, a large proportion (29%) of the total variance in goal levels was explained, primarily due to the hypothesized impact of performance expectancies.

Table 22

Model II:

Estimated Path Coefficients for

Hypothesized Effects on Goal Level

	GOAL
Main Effects	
GENFAIR	.00
EXP-P	.53**
EXP-C	.05
Interactions	
PSC x GENFAIR	-.08
R^2	.285**
Adj. R^2	.265

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

Summary of Hypothesized Effects in Model II. Several of the unique paths contained in Model II were statistically significant. Most notably, a significant main effect of general fairness on performance expectancies indicated that participants who perceived the decision to hire them as fair expected to perform at a high level of effectiveness. These individuals appeared confident that the decision to hire them was appropriate, regardless of the manner in which the decision had been implemented, and reported higher expectancies, apparently because they were certain they could perform.

Three of the hypothesized three-way interactions involving hiring condition, self-handicapping, and fairness perceptions were important determinants of expectancies of receiving due credit on the ADT. However, only the interaction between hiring condition, externalizing handicapping, and general fairness perceptions emerged as an independent predictor of credit expectancies after removal of conceptually unimportant covariates. The interaction was difficult to interpret, however, and suggests processes that are more complex than those originally hypothesized.

All of the other significant effects observed in tests of Model II were also contained in Model I. As in Model I, hypothesized effects on attributions received limited support, and effects of expectancies on self-set goals were confirmed. Hiring condition emerged as statistically significant determinant of fairness perceptions. However, none of the hypothesized effects on performance outcomes were confirmed. In the section that follows, tests of paths that were omitted from Model II, and additional exploratory effects, are described. Because many of these omitted and exploratory effects were

described above for Model I, the next section focuses on parameters that were contained in Model I but omitted from Model II. Following a discussion of omitted parameters in Model II, a comparison of the overall adequacy of Model I versus Model II is provided.

Tests of Omitted Parameters

As was noted earlier, Models I and II were nested within the same fully recursive model. Therefore, tests of the same set of omitted and exploratory parameters served for both models, the results of which appeared in tables presented earlier. Table 15 presents results of tests of the effects of omitted and exploratory effects on attributions. Because this portion of Model II was identical to that of Model I described above, these results require no further comment. Table 16 provides results of analyses of omitted parameters and exploratory effects on fairness perceptions. As was discussed above, significant omitted interactions between hiring condition and avoidance self-handicapping emerged as causal determinants of perceptions of test validity and procedural bias. These paths suggest important influences of self-handicapping on fairness perceptions that were omitted from Model II. However, as noted above, exploratory analyses revealed that the interactions were unstable, being the result of conceptually unimportant covariates that were included in fully specified regression equations. As was described in detail above, exploratory main effects of self-efficacy, external-unstable attributions, internal-stable attributions, personal sexism discrimination, and avoidance handicapping were observed in the prediction of general and procedural fairness perceptions. Few of these effects were retained in subsequent follow-up analyses conducted to identify a parsimonious set of fairness

predictors that were also conceptually meaningful and statistically stable. The final results of these modelling efforts are described below.

Differences between the adjusted R^2s for the restricted justice-based model and the fully recursive model ranged from .036 to .082, suggesting that most of the relevant causes were included in Model II. Lack of fit appeared to result primarily from exclusion of main effects of self-efficacy, internal-stable attributions, and sexism self-handicapping. These adjusted R^2 differences can be compared to those observed for Model I, which ranged from .039 to .068 for the three fairness perceptions. Hence, neither model appeared superior in accounting for perceptions of general distributive justice, test validity, and procedural bias.

Results of analyses of omitted and exploratory effects on expectancies are contained in Table 17. As explained above, most of the significant effects in Table 17 are for lower-order main effects and 2-way interactions that were also contained within higher-order interactions. Performance expectancies were largely dependent on initial self-efficacy perceptions, reflecting the substantial overlap in these constructs. Because interactions involving hiring condition and internal and external-stable attributions were significant in tests of omitted parameters, but failed to reach significance in tests of hypothesized effects associated with Model I, they were discussed in more detail earlier. For the present, they suggest misspecification in Model II as a result of excluding self-reactive processes in response to varying hiring conditions. However, as pointed out earlier, none of these interactive effects emerged as significant independent influences

on expectancies, and are therefore, difficult to interpret and are likely spurious. Exclusion of a significant main effect of externalizing handicapping also appeared to create misspecification; however, the nature of underlying psychological processes involving this main effect are difficult to ascertain. In all, the hypothesized paths leading to performance expectancies in Model II resulted in an adjusted R^2 that differed .256 from the fully recursive model, whereas the adjusted R^2 difference for expectancies of receiving credit was only .102. Hence, this portion of Model II appeared reasonably well-specified in relation to the non-restrictive model. The poorer fit associated with performance expectancies was due to the exclusion of a direct path from initial self-efficacy. These adjusted R^2 differences can be compared to the much larger discrepancies observed for Model I, which were .364 and .229 for performance and credit expectancies, respectively. Model II, therefore, provided a substantially better account of the processes leading to expectancies relative to Model I. Better fit was primarily the result of inclusion of a direct effect of general fairness on performance expectancies and the complex three-way interactions involving hiring condition, self-handicapping, and perceptions of general and procedural fairness in influencing credit expectancies.

Table 18 presents results of tests of omitted parameters and exploratory effects on self-set goals. As can be seen in the table, none of the paths that were hypothesized in Model I but omitted from Model II emerged as significant determinants of self-set goals. As explained above, one main effect of internal-stable attributions and two interactions involving perceptions of procedural bias were

significant, although the overall number of significant omitted and exploratory effects did not differ substantially from the number expected on the basis of chance alone. In total, adjusted R^2s differed only .078 between the fully recursive and restricted models. This portion of Model II was no better specified than in Model I (difference in adjusted R^2 for Model I versus full model = .079), which is not surprising given the similarity in significant causal effects uncovered in the two competing models.

Finally, omitted and exploratory effects on performance outcomes associated with Models I and II are summarized in Table 19. As explained for Model I, relatively few omitted parameters were significant determinants of total performance, performance quantity, and decision accuracy. This portion of both models showed adequate fit relative to the fully recursive model, although potentially important direct interactive effects involving self-efficacy, general fairness, test validity, and hiring condition were observed.

Summary of Tests of Omitted Parameters in Model II. Model II was associated with few meaningful omitted and exploratory effects that were not also omitted from Model I. As in Model I, significant lower-order main effects of self-efficacy and CRD were observed for internal-unstable and internal-stable attributions, respectively; however both of these endogenous variables were reasonably well specified in the original models. Self-efficacy also emerged as a significant omitted cause of general fairness perceptions, and performance expectancies. An interaction involving hiring condition and avoidance handicapping emerged as a significant omitted cause of perceived test validity and procedural bias, but failed to demonstrate independence in follow-up

exploratory analyses. Sexism self-handicapping, avoidance handicapping, and attributions predicted fairness perceptions, although many of these effects were unstable in exploratory analyses. Several lower-order main effects and two-way interactions were observed as omitted and exploratory effects on credit expectancies, as were interactions involving hiring condition and attributions, general fairness and public self-consciousness, and fairness perceptions and self-handicapping style. None of these effects could be unambiguously interpreted due to their instability or their inclusion in higher-order three-way interactions that were described above. Goals, performance quantity, and performance scores were each influenced by a small number of omitted and exploratory effects. Only the interaction between hiring condition and procedural bias emerged as a stable causal influence on goals that was also consistent with the theoretical framework developed for this research. It is described in more detail below. Finally, performance accuracy was associated with a small number of omitted and exploratory main effects and interactions, with only three of the interactions emerging as statistically independent and interpretable influences on decision accuracy.

An overall Q value of .094 indicated poor fit of the model given conventional interpretations of this statistic (Mathieu & Hamel, 1990; Pedhazur, 1982). Taken together, results of hypothesized and omitted parameters associated with Model II suggested the importance of complex interactive effects on credit expectancies and a direct effect of general fairness on expectancies of successful task performance. In all other respects, Model II appeared no better than Model I.

Comparison of Model I Versus Model II

Because Models I and II were nested within the same fully recursive model, the adjusted R^2s for endogenous variables may be compared, as may the Q statistics computed for each overall model. However, because the models were not nested in each other, no statistical tests exist for differences in R^2s or Q values. As is apparent in Figures 14 and 16, and Table 10, no unique parameters were hypothesized to affect attributions in the two models. However, several unique effects on fairness perceptions were hypothesized in the two models. Inspection of Tables 11 and 20 reveal that Model I resulted in higher adjusted R^2s for perceptions of test validity and procedural bias, whereas the adjusted R^2 for general fairness was somewhat larger in tests of Model II. These differences are small, accounting for no more than 4% of the variance in any endogenous variable. The superior fit of Model II in predicting perceptions of general fairness appears spurious given non-significant hypothesized and unique omitted paths, and the small difference in adjusted R^2s for the two models.

Inspection of Tables 12 and 21 show superior fit of Model II in accounting for performance and credit expectancies. The better fit of Model II in predicting performance expectancies appears to be primarily a function of the direct effect of perceptions of general and distributive fairness. Credit expectancies were better explained as a result of three-way interactions between hiring condition, fairness perceptions, and self-handicapping, that were not hypothesized to be important causal parameters in Model I. As explained above, these interactions were very different from the hypothesized patterns,

indicating that the interactions appeared to implicate processes that were more complex than those originally hypothesized. Clearly, the results suggest a potentially important role of fairness perceptions in expectancies of receiving credit in evaluative contexts. However, no unambiguous interpretation could be made of the largest and most stable interactive effect, that being the interaction of hiring condition, perceptions of general fairness, and externalizing self-handicapping. In contrast with Weiner's (1985; 1986) attribution theory, expectancies were not influenced by attributions for apparent past success and failure. Instead, they were more dependent on inferences regarding the fairness contained in employment policies, and the likely relevance of fair selection policies for future treatment by the employer.

As is evident in Tables 13 and 22, goals were equally well predicted by the two competing models. This is not surprising given the close similarity between the models in predicted causal influences on self-set goals. Indeed, unique parameters in the competing models failed to reach significance, underscoring the prepotency of performance expectancies in both models. Finally, performance outcomes were hypothesized to follow the same causal processes in the two competing models. As noted above, the models were well specified in relation to the fully recursive model, though only a small proportion of the variance in performance outcomes was explained.

The overall Q statistic computed for Model II (Q = .094) was slightly larger than that for Model I (Q = .066), primarily as a result of the estimation of paths from fairness perceptions and self-handicapping to performance and credit expectancies. However, neither model fit the data well in comparison to the fully recursive model.

Moreover, although many of the endogenous variables were associated with reasonably large adjusted R^2s in one or both of the models, a very small proportion of total variance in attributions and performance quantity was explained. These results, taken together, suggested that a revised model would provide a better account of the observed data. A revised model, developed through exploratory follow-up analyses and theory trimming is described below.

Theory trimming, in which non-significant hypothesized paths are deleted and alternative omitted paths are added to a model, can be criticized because of its post hoc, exploratory nature (Pedhazur, 1982). Alternative models should be specified a priori on the basis of theoretical rationale. However, because of the profound scarcity of research in the area of beneficiary reactions to affirmative action hiring, the present research was considered, in large part, exploratory. Therefore, to provide better insight into the relationships among cognitive and behavioral reactions to preferential hiring, several alternative models were tested. The section that follows describes the results of a series of modeling efforts. The "final" trimmed model described below represents the best post hoc account of the relationships observed in this study, and although based on attempts to fit the data to a theoretically meaningful framework, cannot be considered a confirmatory test.

In these exploratory tests, several criteria were used to identify potentially important causal relationships among the variables. First, causal paths that were originally hypothesized in the alternative models were retained if they were associated with statistically significant path coefficients and were consistent with

hypotheses, or were otherwise conceptually and empirically meaningful. Second, statistically significant omitted parameters and exploratory effects were examined to identify interpretable processes that were not originally hypothesized. In many cases however, these significant omitted and exploratory paths failed to provide independent prediction of endogenous variables after removal of additional exogenous variables from the equations. Nevertheless, they suggested the presence of conceptually meaningful relationships that may have been subject to multicollinearity problems in the data (cf. James & Brett, 1984). They were used, therefore, to identify general processes that might be better explained by alternative, but correlated exogenous constructs. Finally, partial correlations were used in conjunction with path estimates to identify meaningful direct causal relationships, or moderating variables that may have failed to reach significance in earlier analyses due to collinearity. An effort was made to identify a parsimonious set of exogenous variables that acted together to determine important causal events, such as performance intentions and performance outcomes. Paths were retained in the model if they reached statistical significance, and did not require the presence of conceptually meaningless covariates to emerge as important causal effects. The section below describes the results of these modelling efforts.

The Trimmed Model

Figure 20 presents the "final" trimmed model, incorporating conceptually meaningful, and statistically significant, paths among important variables in the study. Path coefficients are not included in the figure to facilitate presentation. Results of analyses

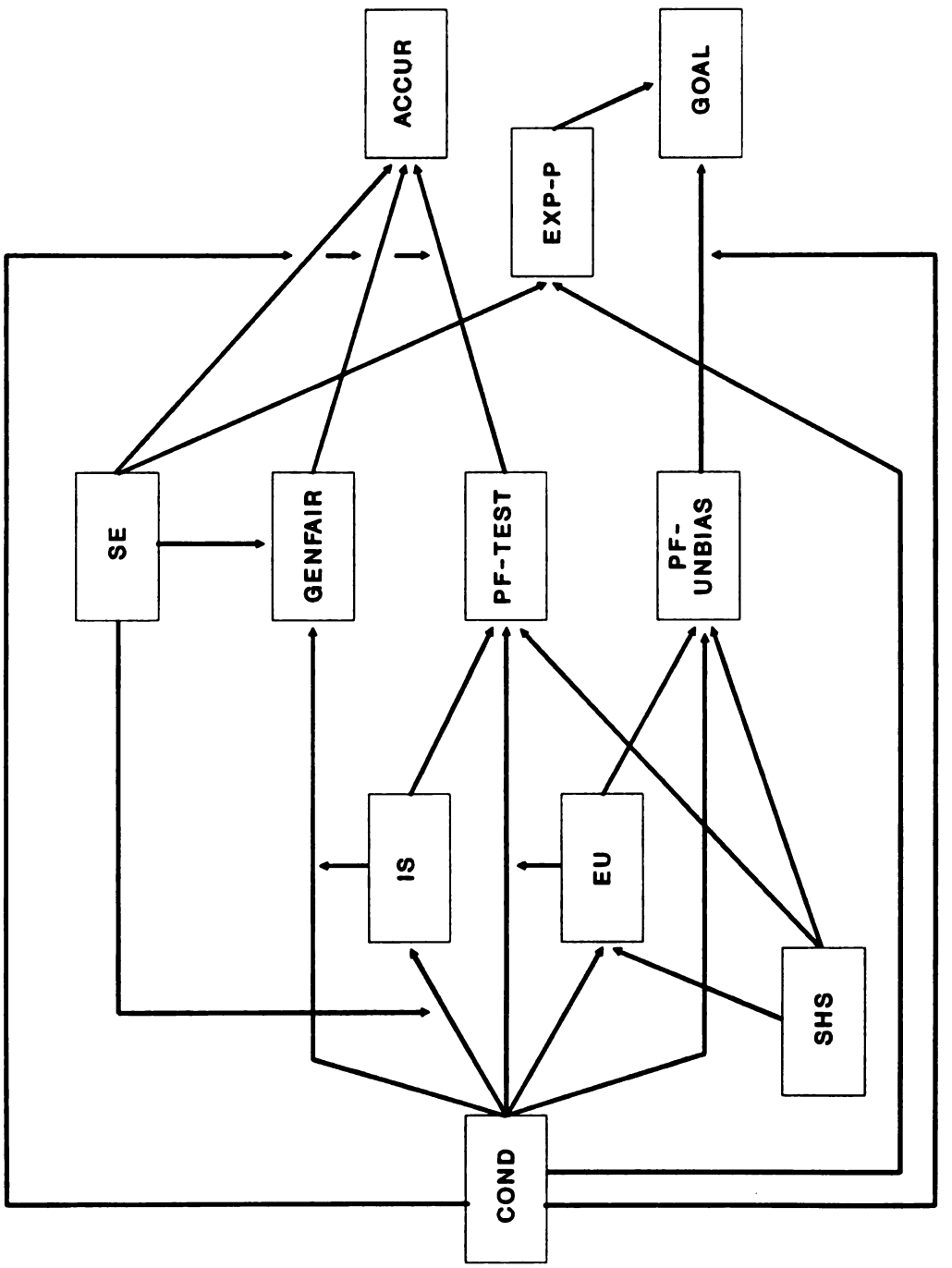


Figure 20. Trimmed Model Summarizing Important Effects in the Data

conducted to estimate relevant path coefficients are presented in Tables 23 through 27. To facilitate interpretation of interactions contained in the model, path coefficients for all lower-order main effects are included in the tables. Although in many cases, lower-order effects emerged as important causal parameters, no unambiguous interpretation can be made of the lower-order effects in the presence of significant higher-order interactions. The tables also include observed and adjusted R^2s for both the trimmed model and the fully recursive model which included paths from all retained exogenous variables to causally subsequent endogenous variables. The observed R^2s were used to compute an overall Q statistic for the trimmed model. As is evident in Figure 20, expectancies of receiving credit for one's performance on the ADT were dropped from the trimmed model. As was described above, interpretation of the three-way interactions identified in tests of Model II was difficult given their dissimilarity from the original hypothesized processes thought to underly the joint operation of hiring condition, self-handicapping, and perceptions of fairness in influencing expectancies. Moreover, exploratory analyses revealed that only the three-way interaction between hiring condition, general fairness, and externalizing handicapping emerged as an independent and stable predictor of credit expectancies. Additional exogenous variables also failed to provide meaningful prediction of expectancies of receiving credit. Therefore, the model included only expectancies of performance on the ADT, as this variable had meaningful determinants and was causally important in the prediction of other endogenous variables. An effort was made in exploratory analyses to identify a parsimonious set of causally important effects that could be

interpreted with confidence. Any other approach would be driven by purely empirical criteria.

Looking first at the effects of exogenous variables on attributions of performance on the pre-employment selection test, several causal effects were uncovered as determinants of attributions to internal-stable and external-unstable causes. As can be seen in Table 23, attributions of test performance to internal-stable causes were influenced by a direct main effect of hiring condition ($\underline{B} = -.36$, $\underline{p} < .01$). Participants hired under the preferential policy were less apt than those hired under the merit policy to report internal-stable causes for their performance on the ADT. This main effect was qualified by a significant interaction with hiring condition, however. Figure 15 presents the interaction among these variables uncovered in path analytic tests of Model I. Re-plotting of the interaction using the regression equation developed in the present model resulted in identical effects, suggesting that covariates were not influential in determining the form of this effect. The figure indicates that high self-efficacy participants were more apt than low self-efficacy participants to report lower internal-stable attributions under preferential selection as compared to merit hiring. As originally hypothesized (see Figure 3), attributions followed self-consistency processes among participants who reported high levels of initial confidence in their personal capabilities for success. However, low self-efficacy participants did not attribute test feedback under preferential hiring to internal-stable causes, suggesting that failure was not internalized among individuals who initially doubted their capabilities for performance on the ADT.

Table 23

Trimmed Model:

Estimated Path Coefficients for

Effects on Attributions

	IS	ES
Main Effects		
COND	-.36**	.22**
SE	.05	---
SHS	---	.21**
Interactions		
COND x SE	-.14*	---
R^2	.158**	.087**
Adj. R^2	.142	.074

Fully Recursive Model:

R^2	.158**	.092**
Adj. R^2	.138	.070

* $p < .05$

** $p < .01$

--- indicates an exogenous variable that was not included in the trimmed model

Attributions to external-unstable causes were influenced by direct effects from hiring condition (β = .22, p < .01) and sexism self-handicapping (β = .21, p < .01). Participants hired under the preferential policy were more likely than those hired under the merit policy to attribute their inferred pre-employment test performance to external-unstable causes. Exploratory analyses revealed that this effect was not qualified by interactions with self-efficacy or self-handicapping. Therefore, the main effect of hiring condition indicates that preferential hiring led to a search for external attributions for feedback on the pre-employment selection test. All beneficiaries, regardless of their initial task-specific self-efficacy, appear to have sought protection of their self-esteem through external attributions.

External-unstable attributions were also directly affected by perceptions of personal discriminatory treatment, or sexism self-handicapping. In essence, those who perceived greater personal discrimination in their past performance outcomes tended to perceive external determinants of their test performance in the pre-employment selection process. This may reflect some tendency for women who perceived sexism as an impediment to their performance to also see pre-employment selection performance as caused in large measure by external factors over which they had little control, such as bias and employer whim. This occurred independently of the hiring policy, indicating that performances were attributed to external sources, whether they resulted in success or failure. Therefore, women who perceived sexism appeared more apt to question the extent to which pre-employment selection performances were free from the influences of gender-specific biases and other external causes.

In all, approximately 16% of the variance in internal-stable attributions was accounted for by exogenous variables, whereas only 8% of the variance in external-unstable attributions was explained. Both R^2s were statistically significant, and were associated with adjusted R^2s that did not differ from those associated with the fully recursive model which contained all causally prior exogenous variables. The adjusted R^2s were no greater than those observed for the original hypothesized models. However, this was not surprising given the high similarity between the trimmed and original models, and the small number of additional paths contained in the trimmed alternative.

Table 24 presents the results of analyses of the causal determinants of perceptions of general and procedural fairness. As can be seen in the table, and as is illustrated in Figure 20, general and distributive fairness perceptions were influenced by self-efficacy ($\underline{B}$ = .26, $\underline{p}$ < .01), hiring condition ($\underline{B}$ = -.52, $\underline{p}$ < .01) and the interaction between hiring condition and internal-stable attributions. As was described above, participants who reported high levels of confidence in their personal capabilities to succeed perceived the hiring decision as appropriate, regardless of the condition under which they were hired. These individuals apparently felt that because they could perform the job effectively, the decision to hire them was fair, under any circumstances.

General fairness perceptions also depended on the interaction between internal-stable attributions and hiring condition. Figure 21 presents the form of the observed moderated effects of hiring condition and attributions on perceived general fairness. As can be seen in the figure, the preferential policy was seen as particularly less

Table 24

Trimmed Model:

Estimated Path Coefficients for

Effects on Fairness Perceptions

	GENFAIR	PF-TEST	PF-UNBIAS
Main Effects			
COND	-.52**	-.39**	-.34**
SE	.26**	---	---
IS	-.01	.17**	---
EU	---	-.09	-.13*
SHS	---	-.19**	-.29**
Interactions			
COND x IS	-.13*	---	---
COND x EU	---	-.14*	---
R^2	.383**	.310**	.252**
Adj. R^2	.369	.291	.238

Fully Recursive Model:

R^2	.404**	.318**	.257**
Adj. R^2	.379	.289	.225

* $p < .05$

** $p < .01$

--- indicates an exogenous variable that was not included in the trimmed model

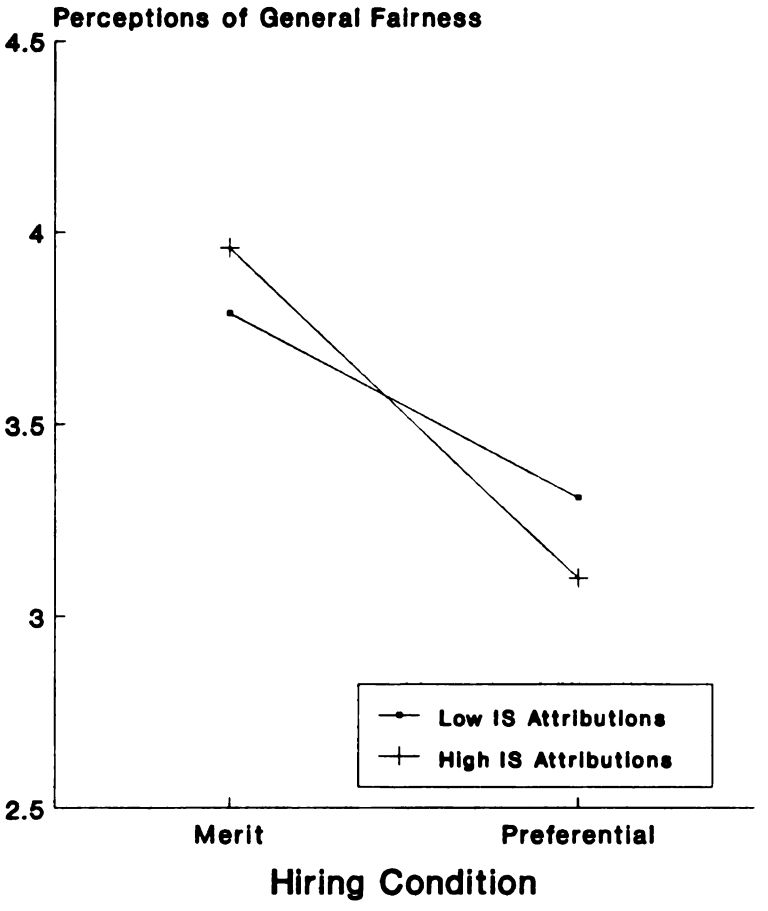


Figure 21. Observed Interaction Between Hiring Condition and Internal-Stable Attributions in Influencing Perceptions of General Fairness

appropriate than the merit decision among those individuals who attributed their test performances to internal-stable causes. In contrast, those who perceived their pre-employment test performance as less the result of internal-stable causes were somewhat less likely to judge the preferential decision as unfair relative to the merit decision. These results support Cohen's (1982) assertions that perceptions of fairness follow attributions of cause. Moreover, it can be noted that these are the effects observed after covarying self-efficacy. That is, the interaction between attributions and hiring condition reflects the influences of internal-stable attributions after the influences of self-efficacy on internal-stable attributions were removed.

Thus, when combined with the important causal influences on attributions, these results imply that the effects of varying hiring conditions on cognitive reactions were determined in large measure by perceptions of initial self-efficacy for the task. High self-efficacy had the effect of reducing the extent to which participants made internal-stable attributions for pre-employment test performance under the preferential, relative to the merit policy. Furthermore, high self-efficacy contributed directly to greater perceived general fairness of the hiring decision. Those who persisted in making internal-stable attributions for test performance under preferential hiring judged the eventual hiring decision as generally and distributively unfair. This occurred after controlling for the direct causal effects of initial self-efficacy on general fairness perceptions. Furthermore, exploratory analyses, and tests of omitted parameters associated with the trimmed model, revealed that the

interaction between self-efficacy and hiring condition failed to predict perceptions of general fairness when internal-stable attributions were also included in the equation, providing support for the mediated paths contained in Figure 20 (cf. James & Brett, 1984).

Table 24 also presents path estimates for important causal effects on perceptions of test validity. Again, internal-stable attributions had a direct effect on perceptions that the test provided a valid measure of one's ability to succeed on the ADT ($\underline{B}$ = .17, $\underline{p}$ < .01). Those who believed that their performance on the pre-employment selection test was due to stable-internal factors reported higher perceptions of validity associated with the test. Exploratory analyses revealed that the direct effect of internal stable attributions was not moderated by hiring condition. Nor was the interaction between self-efficacy and hiring condition statistically significant when it was entered alone with its lower-order main effects, or when entered in tests of omitted parameters. The results imply therefore, that the impact of self-efficacy on perceptions of test validity was entirely mediated by attributions to internal-stable causes, as originally hypothesized (cf. James & Brett, 1984).

A significant, and conceptually meaningful moderated effect of hiring condition was also observed, the form of which is presented in Figure 22. This interaction indicates that perceptions of test validity were more significantly undermined among preferential hires who attributed their pre-employment test performance to external-unstable causes. Thus, a second attributional process appeared to influence perceptions of test validity, in a causal sequence that was independent of self-consistency. In this second process, women who

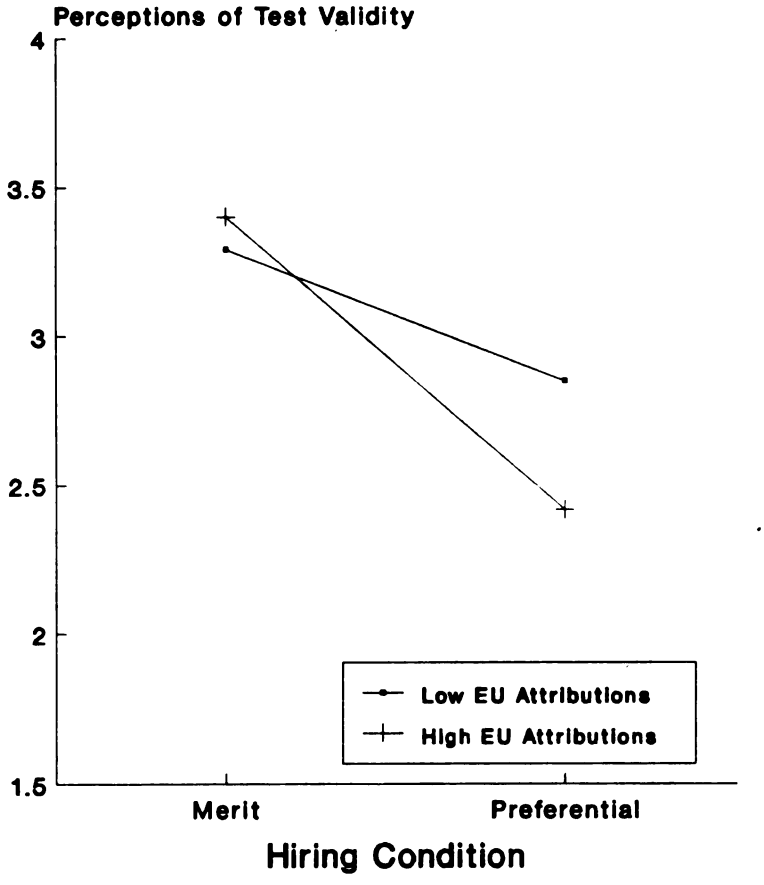


Figure 22. Observed Interaction Between Hiring Condition and External-Unstable Attributions in Influencing Perceptions of Test Validity

perceived high sexism self-handicapping and thereby made external-unstable attributions for their performance, and those who made external-unstable attributions as a function of the preferential treatment condition, were more apt to also reject the validity of the pre-employment test when hired preferentially.

A main effect of sexism self-handicapping was also a significant independent causal determinant of perceptions of test validity ($\underline{B} = -.19$, $\underline{p} < .01$), indicating that the effects of perceived personal discrimination on perceptions of test validity were only partly mediated by external-unstable attributions. Women who reported experiencing substantial personal discrimination in their past evaluations were more apt to reject the validity of the pre-employment selection test. This main effect was not qualified by a significant interaction with hiring condition, suggesting that women who tended to perceive sexism in evaluative contexts rejected the validity of selection tests as useful measures of their abilities to perform the job, regardless of how the test was used in making decisions. Collective relative deprivation failed to show analogous effects, suggesting that perceptions of test validity are undermined among those who have a dispositional tendency to perceive personal, rather than collective discrimination. The fact that the effects of sexism self-handicapping on perceptions of test validity were not entirely mediated by external-unstable attributions is not surprising given the likelihood that the attribution measures provided only an approximate indicator of internal cognitive processes related to perceptions of cause, and the perceived relation of cause to inferences about procedural fairness.

Results of tests of causal effects on perceptions of procedural bias are also summarized in Table 24. As can be seen in the table, perceptions that the hiring procedure was free from bias were lower among preferential hires ($\underline{B}$ = -.34, $\underline{p}$ < .01), individuals who made external-unstable attributions for performance on the pre-employment test ($\underline{B}$ = -.13, $\underline{p}$ < .05), and those who perceived higher levels of personal discrimination in evaluative contexts ($\underline{B}$ = -.29, $\underline{p}$ < .01). Like the causal determinants reported for perceptions of test validity, external-unstable attributions only provided partial mediation of the effects of sexism self-handicapping on perceived procedural fairness. Hence, the results indicate that participants who perceived high levels of personal discrimination not only attributed their performance to external-unstable causes, but also directly inferred procedural bias, perhaps procedural biases that were similar to those they had reported experiencing in the past. Preferential hiring was also directly related to lower perceptions of bias-free procedures. This effect implies that participants may not have been as able to make attributions to external-unstable causes as they were to infer bias under preferential treatment.

As can be seen in Table 24, adjusted R^2s for the three fairness perceptions ranged from .238 to .369. These values are on average .05 larger than those reported for the two hypothesized models and are associated with causal paths that received substantial empirical support. As expected, adjusted R^2 differences between the final trimmed and final fully recursive model were very small, particularly in relation to those observed in tests of Model I and Model II.

Table 25 presents results of analyses of causal influences on performance expectancies. As can be seen in the table, initial self-efficacy and hiring condition had independent direct effects on expectancies of successful performance on the ADT. Not surprisingly, participants who reported high self-efficacy were also more apt to expect high performance on the task ($\underline{B}$ = .62, $\underline{p}$ < .01). In addition, supporting Heilman and colleagues' (Heilman et al., 1987; 1990; 1991) earlier research, preferential treatment during personnel selection resulted in lower reported performance expectancies relative to merit hiring. This occurred after controlling for initial perceptions of personal efficacy. Exploratory analyses revealed that the interaction between self-efficacy and hiring condition failed to reach statistical significance, suggesting a constant effect of hiring policy on the expectancies of merit and preferentially hired participants of varying initial self-efficacy for the task. Of course, the strong correlation between self-efficacy and expectancies precluded a powerful test of this moderating relationship. Nevertheless, omitted parameters tests revealed no significant effects of attributions or general and procedural fairness on performance expectancies. This implies, then, that the interactive effects of initial self-efficacy and hiring condition failed to causally determine performance expectancies through mediated attribution and fairness processes, as was originally hypothesized.

As would be expected given the high redundancy among initial self-efficacy and performance expectancies, the adjusted R^2 for this endogenous variable was very large. It differed only .003 from the adjusted R^2 associated with the fully recursive model, indicating

Table 25

Trimmed Model:

Estimated Path Coefficients for

Effects on Performance Expectancies

	EXP-P
Main Effects	
SE	.62**
COND	-.32**
R^2	.517**
Adj. R^2	.510

Fully Recursive Model:

R^2	.546**
Adj. R^2	.513

* $p < .05$

** $p < .01$

--- indicates an exogenous variable that was not included in the trimmed model

excellent fit to the data in comparison to the non-restricted full model. Adjusted R^2 differences between the trimmed and original models were .364 and .256 for Models I and II, respectively, reflecting the influences of initial self-efficacy on reported performance expectancies.

Results of analyses of causal effects on self-set goals are summarized in Table 26. As identified in tests of Model I and Model II, a strong main effect of performance expectancies was observed ($\underline{B}$ = .49, $\underline{p}$ < .01), with participants reporting high performance expectancies setting high personal performance goals. As noted above, this effect supports the cognitive perspective on self-regulation and motivation taken in this dissertation. Self-set goals were also influenced by an interaction between hiring condition and perceptions of procedural bias. Figure 23 presents a plot of this interactive effect. As is represented in the figure, hiring condition was more strongly associated with lower self-set goals among those individuals who perceived that the selection process was biased against women, relative to those who were more apt to infer that the process was free from bias. Women hired preferentially through procedures that were seen as biased may have felt it unlikely that their performance outcomes would be evaluated fairly by the employer, relative to those who were less apt to perceive procedural bias in the varying hiring conditions. In that sense, they may have seen little use in striving for high levels of performance. In contrast, women who perceived the selection decisions as arising from less biased selection processes appeared to infer a reasonable likelihood of successful outcomes on the ADT and thereby set higher performance intentions. The three-way

Table 26

Trimmed Model:

Estimated Path Coefficients for

Effects on Goal Level

	GOAL
Main Effects	
EXP-P	.49**
COND	-.06
PF-UNBIAS	.02
Interactions	
COND x PF-UNBIAS	.16**
R^2	.306**
Adj. R^2	.289

Fully Recursive Model:

R^2	.356**
Adj. R^2	.305

* $p < .05$

** $p < .01$

--- indicates an exogenous variable that was not included in the trimmed model

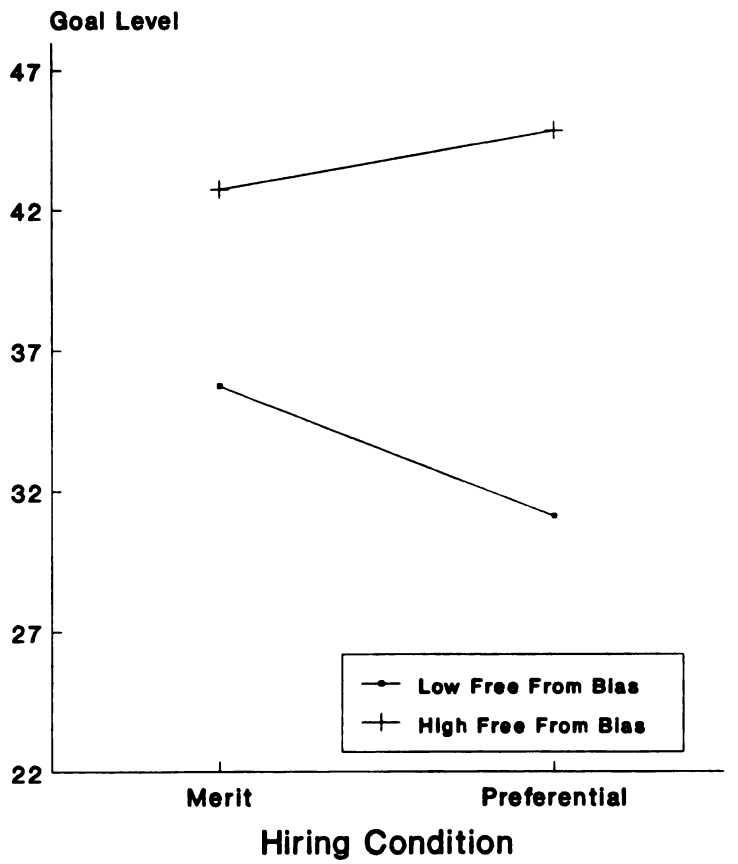


Figure 23. Observed Interaction Between Hiring Condition and Perceptions of Procedural Bias in Influencing Self-Set Goals

interaction between hiring condition, sexism self-handicapping, and procedural bias illustrated in Figure 18 provides some support for this explanation. In Figure 18, women perceiving little personal discrimination reported lower expectancies when hired preferentially on the basis of biased procedures. Exploratory analyses revealed that credit expectancies failed to predict self-set goals either directly or in interaction with other exogenous variables, however, suggesting direct, rather than mediated effects of hiring condition and perceptions of bias on performance intentions.

The overall R^2 for self-set goals was large and significant. Moreover, the adjusted R^2 was .024 larger than the adjusted R^2s observed in tests of Models I and II. Inspection of the difference in observed R^2s between the restrictive model at this step and the fully recursive model indicate somewhat poorer fit in this portion of the trimmed model than elsewhere in the model, although adjusted R^2 differences were no worse than those reported for other endogenous variables. Taken together, results up to this phase of the model indicate that preferential hiring resulted in lower perceptions of external-unstable attributions, which combined additively with sexism self-handicapping, and direct effects from hiring condition to lower perceptions of the extent to which pre-employment selection procedures were free from bias. Perceptions of significant procedural bias then served to increase the extent to which preferential hiring resulted in lower self-set goals, relative to merit hiring. Those who perceived greater procedural bias set lower goals under the preferential, relative to the merit policy, perhaps as a function of perceiving lower performance-to-evaluation instrumentalities. In contrast, when selection policies

were perceived as procedurally unbiased, goals were not as strongly influenced by the condition under which participants were hired.

Finally, results of the effects of exogenous manipulated and perceptual variables on performance outcomes are summarized in Table 27. Decision accuracy, measured by the total game score divided by the number of games played, was the only performance variable showing conceptually meaningful, and empirically supported influences from exogenous constructs. As can be seen in Table 27, three significant interactive effects emerged as causal determinants of performance accuracy. Figure 24 presents the observed interaction between hiring condition and perceptions of general fairness. The plot of the interaction indicates that individuals who believed they should not have been hired were more likely to perform effectively when hired preferentially than when hired under the merit policy. These effects therefore imply that perceived inequities resulted in lesser attempts at redressing overcompensation distress in the merit condition relative to the preferential condition.

The reason perceived inequities resulted in lower attempts at redressing inequities in the merit condition compared to the preferential condition is difficult to ascertain given existing theory and empirical research. One possibility is that these participants may have felt that it was unlikely they could succeed on the task and, because there were no salient violations of social equity norms, withdrew efforts. The interaction involving general fairness occurred after controlling for self-efficacy (and for expectancies in exploratory analyses), indicating that perceptions of unfairness had independent effects on performance in the merit condition beyond those

Table 27

Trimmed Model:

Estimated Path Coefficients for

Effects on Performance Accuracy

	ACCUR
Main Effects	
COND	.09
SE	.03
PF-TEST	-.08
GENFAIR	.13
Interactions	
COND x SE	.13*
COND x PF-TEST	.16*
COND x GENFAIR	-.17*
R^2	.302**
Adj. R^2	.276

Fully Recursive Model:

R^2	.321**
Adj. R^2	.264

* $p < .05$

** $p < .01$

--- indicates an exogenous variable that was not included in the trimmed model

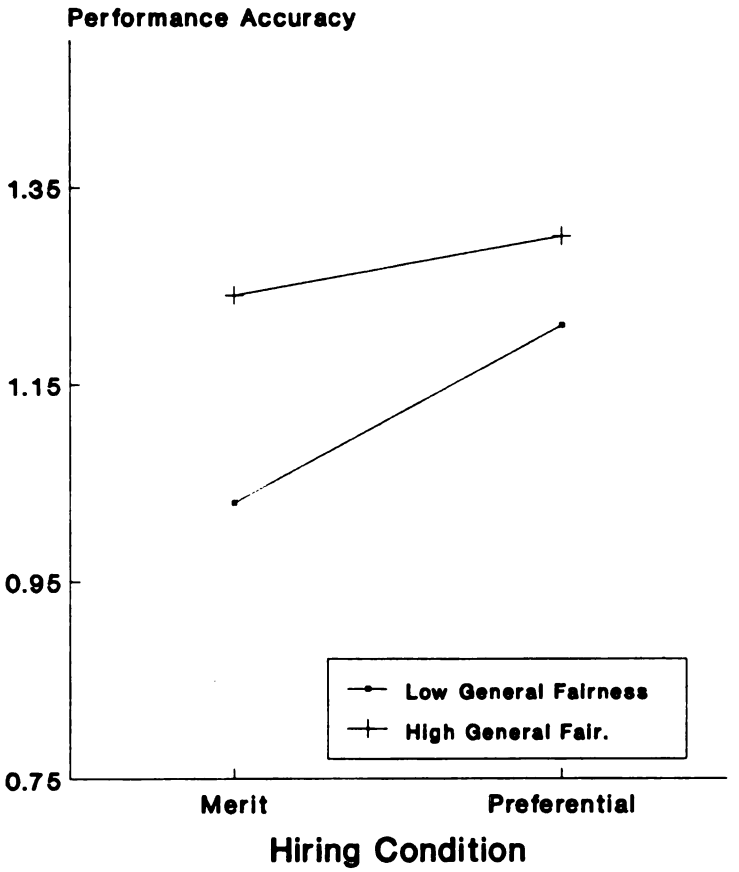


Figure 24. Observed Interaction Between Hiring Condition and Perceptions of General Fairness in Influencing Performance Accuracy

explained by beliefs in performance capabilities. Moreover, no direct or indirect, or moderated effects of credit or performance expectancies on decision accuracy were observed in tests of hypothesized models or in exploratory analyses. This suggests that expectancies did not mediate (either partially or in total) the effects of fairness perceptions on performance outcomes. Clearly, perceptions of general unfairness resulted in greater efforts among preferential relative to merit hires, in a manner that could not be explained by perceptions of personal performance capabilities.

The pattern of results observed in the merit condition may indicate that perceptions of unfairness in the presence of an offer for employment may have created uncertainties that one did in fact have lower qualifications for the task. Therefore, when placed in a position that involved complex decision making, and frequent decision errors, performance uncertainties were confirmed and task-related efforts were withdrawn. Participants hired under the preferential policy, in contrast, received unambiguous feedback about their qualifications to succeed. Recognizing that they had been provided an employment opportunity despite lower qualifications that were known to others, they sought performance strategies that might redress these salient inequities. Because hiring inequity was no longer a personal experience, but was more socially-recognized and unambiguous under preferential hiring, greater efforts were directed at resolving the overcompensation distress. As noted above, this interpretation supports Barnes Nacoste's (1991) recent arguments that affirmative action hiring leads to greater efforts towards redressing perceived violations of equity norms. The fact that performance was not

substantially higher for participants who perceived the preferential decision as unfair relative to those who perceived it as more fair suggests that the effects of inequity distress were not great enough to counteract the debilitating effects of greater doubts of performance capabilities. In these analyses, public self-consciousness failed to emerge as an important moderating variable, suggesting that it did not enhance perceptions of the visibility of the overcompensation inequity. In other words, participants likely perceived little variance in the publicity of their performance in the present research context.

The moderated effects of hiring condition and perceptions of test validity implicate separate processes whereby performance was influenced following merit versus preferential hiring. This interaction is presented in Figure 25. The interaction indicates that participants who judged the test as a valid measure of ability were more apt to perform accurately under preferential versus merit hiring than were those individuals who perceived that the test was less valid. These effects imply that preferential treatment was seen as having greater implications for one's true underlying ability among those who accepted the validity of the test. Therefore, the preferential hiring resulted in a greater challenge for those who could not reject the validity of the test. The response to the challenge took the form of greater decision accuracy on the ADT in the preferential, relative to the merit hiring condition. Hence, these results are entirely consistent with the self-consistency processes hypothesized to underly beneficiary reactions to preferential hiring. When individuals were offered employment despite performing poorly on a valid test of their abilities, increased efforts were directed at reasserting perceptions

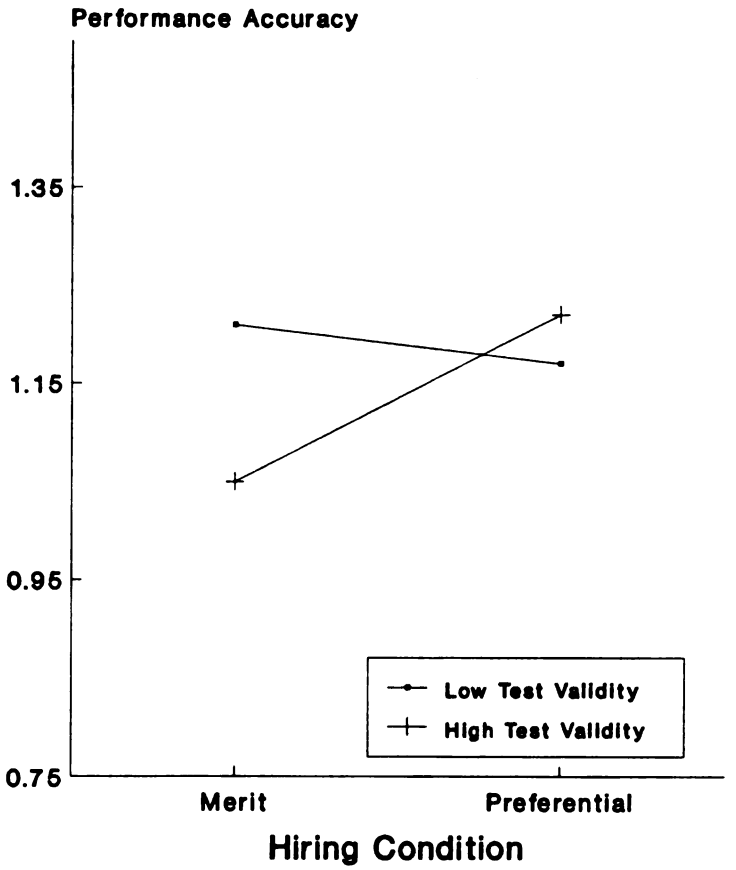


Figure 25. Observed Interaction Between Hiring Condition and Perceptions of Test Validity in Influencing Performance Accuracy

of personal capabilities.

Finally, hiring condition interacted with self-efficacy in influencing decision accuracy on the ADT. The pattern of effects involving these variables is presented in Figure 26. As can be seen in the figure, preferential hiring resulted in higher performance relative to merit hiring among participants who were high in initial self-efficacy. As originally hypothesized therefore, responses to preferential hiring appeared to follow self-consistency and reactance processes. Those who reported high levels of confidence in their capabilities to succeed responded to preferential treatment with greater efforts directed at decision accuracy than did those who reported lower levels of initial self-efficacy. Unexpectedly however, preferential treatment did not appear to lower performance among those who doubted their capabilities to succeed. Thus the self-consistency processes hypothesized in this research failed to receive support among participants who initially reported low levels of personal efficacy for the task. Low self-efficacy individuals appeared not to withdraw efforts following affirmative action hiring, despite the hypothesis that such feedback would be consistent with their self-concepts and therefore apt to inhibit motivation on the task. Nevertheless, the results provide compelling support for the expectation that high self-efficacy participants react to preferential treatment in self-consistent ways. Although analyses of paths associated with the original alternative models and with omitted parameters underscored the failure of fairness perceptions, expectancies, and goals to provide complete mediation of these self-consistency processes, the overall effects on performance were as originally hypothesized. It should also

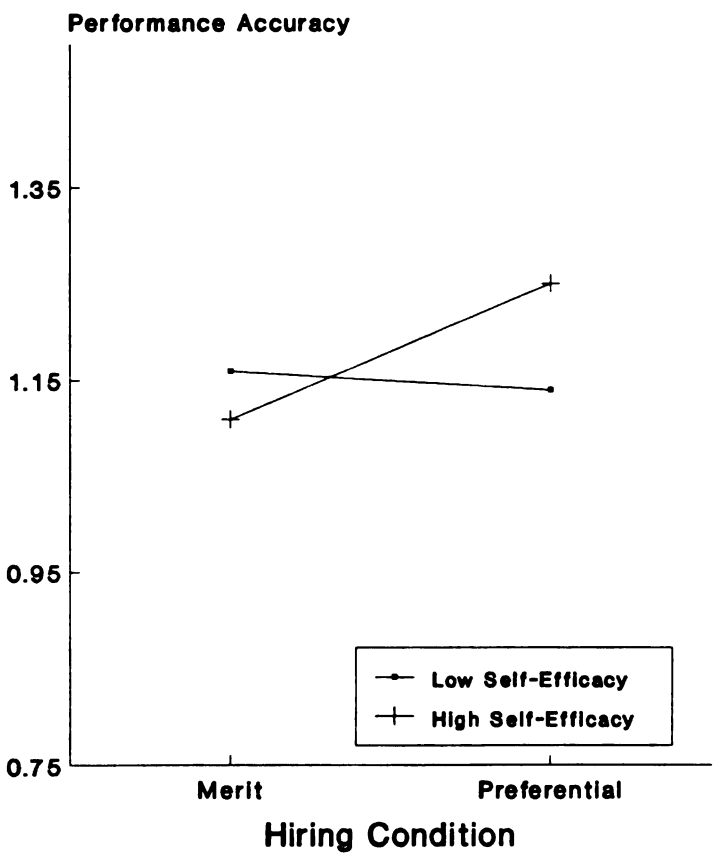


Figure 26. Observed Interaction Between Hiring Condition and Initial Self-Efficacy in Influencing Performance Accuracy

be noted that exploratory analyses and analyses of omitted parameters indicated that the effects of attributions and sexism self-handicapping were mediated by the fairness perceptions as illustrated in Figure 20.

Overall, the R^2 for decision accuracy was large and statistically significant. The adjusted R^2 for performance accuracy differed only .022 from the adjusted R^2 observed in tests of Models I and II, but was associated with exogenous variables that were each statistically significant and conceptually meaningful. The difference in adjusted R^2s between the restrictive trimmed model and the fully recursive model was .012, indicating adequate fit at this stage of the final trimmed model, and an absence of omitted partial mediating effects. Based on the observed R^2s provided in Tables 23 through 27, the trimmed model evidenced adequate overall fit (Q = .80) relative to the fully recursive model which included paths from all exogenous variables included in Figure 20. Misspecification occurred primarily in the prediction of expectancies, goals, and performance, although differences in adjusted R^2s between the restricted and unrestricted model were small for each of these endogenous variables. The next section provides a summary of the important causal paths identified in this research, and the general nature of causal effects by which preferential versus merit hiring translated into differences in organizationally-relevant outcomes, such as performance and performance intentions on the ADT.

Summary of the Important Causal Sequence

Figure 20 represents a best fitting summary of the causal paths identified in this research. Results indicated an important role of self-consistency processes and fairness perceptions in accounting for

the effects of preferential hiring on cognitive and behavioral outcomes. Taking the self-consistency portion of the model first, initial self-efficacy moderated the effects of hiring conditions on attributions of performance on the pre-employment selection test. Specifically, participants were less apt to internalize the implicit success feedback carried by preferential, relative to merit selection, when they were confident in their personal efficacy for successful performance on the ADT (see Figure 15).

Lower internal-stable attributions then translated into a greater tendency to reject the validity of the pre-employment selection test. Hence, high self-efficacy had the effect of increasing the likelihood that individuals would accept the validity of the pre-employment selection test when hired under a merit policy, and decreasing the likelihood that individuals would accept the validity of the selection test when hired preferentially. Ultimately, perceptions of test validity were associated with increased performance accuracy in the preferential, relative to the merit condition (see Figure 25). Hence, those who, in part because they doubted their personal efficacy for the task, internalized the failure carried by preferential hiring and accepted the validity of the test, eventually performed more accurately than those who perceived the test was valid in the merit condition. Perceptions of test validity were also influenced by processes that were not directly related to self-consistency, and are described in more detail below. It is worth noting that these interactive effects on performance accuracy were observed after controlling for initial self-efficacy, underscoring the importance of perceptions of procedural fairness in behavioral responses to preferential versus merit hiring.

Nevertheless, these perceptions of procedural fairness were dependent on prior self-consistency reactions to the varying hiring conditions.

An additional self-consistency process occurred through perceptions of general fairness. General fairness perceptions were influenced by initial expectations of personal efficacy, regardless of the policy under which the hiring decision was implemented. Participants with high perceived self-efficacy judged the eventual decision as more fair than those who initially doubted their capabilities to perform. In addition, general fairness perceptions were caused by the joint interactive causal influences of hiring condition and internal-stable attributions. Specifically, those who, in part because of higher levels of perceived competence for the task, were less apt to internalize the causal implications of the preferential versus the merit decision, were thereby less apt to judge the preferential decision as unfair relative to the merit decision. In other words, high self-efficacy had the effect of minimizing the extent to which beneficiaries of preferential treatment, relative to merit hires, attributed their test failure to internal causes, and therefore judged the preferential decision as generally and distributively unfair (see Figures 16 and 21). In contrast, low self-efficacy participants were less apt moderate their attributions to varying hiring conditions, and therefore showed a stronger tendency to perceive the preferential decision as unfair relative to the merit decision. As noted above, the interactive effects of self-efficacy and hiring condition were entirely mediated through these internal-stable attributions.

Ultimately, perceptions of general fairness translated into performance accuracy, depending on the condition under which

participants were hired. As is shown in Figure 24, participants who perceived the hiring decision as unfair were more likely to perform effectively when offered the position under a policy providing preferential treatment to women, relative to when the decision was based on standard merit principles. Hence, self-consistency operated in a complex sequence through its causal impact on attributions, which were then causal determinants of general fairness perceptions, which ultimately interacted with hiring condition in influencing performance accuracy (see Figures 20 and 24). In essence, high self-efficacy participants were less apt to attribute test performance to internal-stable causes under preferential versus merit conditions (see Figure 15). As a result, high self-efficacy participants were less apt to judge the preferential policy as unfair relative to the merit policy, and were therefore less likely to strive to redress overcompensation inequities. Low self-efficacy participants, in contrast, were less likely to moderate their attributions of test performance under varying hiring conditions, and were therefore less likely to perceive either the merit or preferential decisions as distributively and generally fair. Hence, because of the causal impact of self-efficacy on attributions of performance on the test, and the impact of attributions on general fairness, low self-efficacy participants were apt to redress perceived inequities in the preferential decision through greater task-related efforts.

General fairness was also largely determined by direct effects from self-efficacy, over and above those determined by the mediated paths through attributions. As explained earlier, participants who were confident in their performance capabilities were more apt to

accept the distributive fairness of the selection decision, however it was implemented. Thus, self-consistency processes had another indirect effect on performance outcomes, through their direct impact on perceptions of general fairness. Individuals who felt they were incapable of performing the task perceived their hiring outcome as generally unfair, and when hired preferentially, took behavioral steps to redress perceived overcompensation inequities. It is noteworthy that the interaction between hiring condition and general fairness in influencing performance accuracy was observed <u>after</u> removing the effects of self-efficacy. Hence, the effects observed for general fairness were unconfounded with prior perceptions of personal efficacy, and in that sense, represent unique causal effects on performance outcomes that are attributable solely to fairness perceptions (see Figure 24).

The effects of self efficacy in reactions to preferential hiring were also important in interacting directly with hiring condition to influence performance outcomes (see Figure 26). Preferential hiring resulted in direct behavioral reactance effects among participants with high initial self-efficacy. These individuals appeared to have responded to the threat to their self-esteem through enhanced efforts at decision accuracy. They also rejected the implications of performance on the pre-employment for their internal-stable characteristics, and judged the selection decision as generally fair. In other words, high self efficacy participants rejected the implications of performance during pre-employment selection, but nevertheless worked more effectively when hired preferentially. Those with low self-efficacy tended not to withdraw efforts under

preferential hiring, as was originally implied by the hypothesized self-concept model. Instead, they more apt to accept the implications of preferential hiring for their task-related abilities, and therefore, worked more effectively in an apparent effort to redress overcompensation inequities in the eventual hiring decision.

Finally, performance intentions were also indirectly influenced by prior self-conceptions of capabilities for performance on the ADT. High self-efficacy participants reported higher expectancies of success. Expectancies then translated directly into higher self-set goals, underscoring the importance of self-efficacy perceptions in determining effort intentions (see Figure 20). Nevertheless, goals were decreased among participants hired under the preferential policy relative to the merit policy, as a function of direct effects of hiring condition on expectancies. Ultimately, preferential hiring resulted in lower self-set goals relative to merit hiring, through its mediated impact on performance expectancies.

In addition to the apparent self-consistency processes contained in Figure 20, responses to preferential and merit selection also appeared to depend directly and independently on perceptions of justice. As noted above, perceptions of test validity were largely determined, both directly and indirectly, by pre-existing perceptions of personal discrimination, or sexism self-handicapping. As is illustrated in Figure 20, perceptions of personal discrimination were associated with higher external-unstable attributions for performance on the pre-employment selection test, in a manner that was independent of hiring condition. Thus, women who reported substantial biases in evaluations of their past performances doubted that their performance

on the test could be attributed to factors other than those over which they had little or no control. Moreover, hiring condition itself had direct effects on external-unstable attributions, with preferential hires reporting external-unstable attributions at a higher rate than individuals selected under the merit policy. These attributions were not causally determined by prior self-conceptions of personal capabilities for performance on the ADT.

External-unstable attributions were particularly apt to undermine perceptions of test validity in the preferential, relative to the merit hiring condition (see Figure 22). In other words, women who perceived higher levels of sexism reported external-unstable attributions, as did many of the individuals hired in the preferential condition. When made, these external-unstable attributions resulted in lower perceived test validity in the preferential condition compared to the merit condition. In contrast, those who made fewer attributions to external-unstable causes, partly as a function of less pronounced feelings of personal discrimination, were less apt to reject the validity of the pre-employment test in the preferential treatment than the merit hiring condition. Perceptions of test validity were also directly determined by prior perceptions of sex discrimination in evaluations of personal performance. Ultimately then, the effects of sexism perceptions were to reduce the extent to which preferential treatment resulted in higher performance. Because perceived sexism lowered perceptions of test validity in both hiring conditions, but primarily so in the preferential condition (through its impact on external-unstable attributions), the implications of the preferential treatment for beneficiaries' self-concepts had been effectively undermined through

cognitive mechanisms. Thus, it was only the participants who did not have available pre-existing cognitions related to personal sex discrimination, or who otherwise failed to attribute preferential hiring as resulting from external-unstable sources, who perceived the preferential hiring policy as relevant to their self-concept. Similar processes were hypothesized to affect goals in the original self-concept model. That is, a rejection of the implications of failure for one's self-concept would minimize responses designed to reassert self-determination following failure feedback. These effects are illustrated in Figure 25.

Finally, as can be seen in Figure 20, direct causal effects of hiring condition, sexism perceptions, and external-unstable attributions on perceived procedural bias were observed. None of these effects were moderated by important study variables, and their causal impact is fairly simple. Preferential treatment, pre-existing perceptions of personal discrimination, and external-unstable attributions all resulted in increased perceptions of procedural bias against women. The effects of procedural bias perceptions interacted with hiring condition however, in influencing self-set goals. As described above, these results indicated that performance intentions were lower under preferential relative to merit selection when participants perceived the hiring procedure as biased compared to when procedures were judged as less biased against women (see Figure 23). Perceptions that selection procedures were free from bias served to reduce the extent to which preferential hiring resulted in lower performance intentions relative to merit hiring. As explained earlier, those who perceived the preferential decision as arising from biased

selection processes appeared to see little utility in striving for high performance in a biased employment context. Merit hiring under biased procedures may not have been seen as necessarily implicating biases in future performance evaluations.

Ultimately, due to the direct effects of perceived sexism on perceptions of procedural bias, the effects of sexism self-handicapping were to increase the extent to which individuals hired under the preferential policy were likely to set lower performance intentions relative to those hired under a merit policy. In that sense, perceived personal discrimination, and external-unstable attributions resulted in more extreme negative reactions to preferential relative to merit hiring.

Goals did not translate into actual performance outcomes on the Air Defense Task in any of the exploratory or confirmatory analyses. As discussed in detail above, several explanations may account for the lack of goal-performance relationship in this research. Thus, for the present, goal outcomes in the final trimmed model represent only effort expectancies or intentions that have no necessary importance in predicting job performance. Nevertheless, they are regarded here as representing important psychological effects in their own right and were therefore included in the final model. Future research may benefit from attempts to assess the role of self-consistency and fairness processes in influencing personal effort intentions within the context of preferential and merit hiring for more simple tasks, or on other tasks in which effort intentions may result in higher performance.

In summary, results supported the operation of both self-consistency and fairness processes in the cognitive and behavioral reactions to affirmative action and merit hiring in organizations. Individuals appeared to respond to procedures on the basis of pre-existing beliefs about themselves and similar evaluative situations. These perceptual bases then influenced important organizationally-relevant outcomes, such as performance accuracy and self-set goals. In the section that follows, a general discussion of this research is provided, including practical and theoretical implications of the research, limitations in the present study, and future research directions.

DISCUSSION

This research examined the effects of preferential and merit selection policies on the cognitive and behavioral reactions of women hired in a simulated temporary employment context. Two alternative models of the potential processes underlying reactions to preferential and merit hiring were developed. The first model was based on hypothesized self-consistency processes that were identified through a review of research in the areas of self-verification (Swann, 1987), reactance and learned helplessness (Wortman & Brehm, 1975), behavioral self-regulation (Bandura, 1989; Carver & Scheier, 1990), and individual self-handicapping (Snyder, 1990). The alternative justice-based model was derived from research exploring overcompensation inequity effects postulated by Adams' (1965) equity theory, and from Barnes Nacoste's (1990) recent fairness-based conceptualization of the processes underlying beneficiary reactions to affirmative action selection.

The results failed to provide compelling support for either of the two models. Moreover, neither model evidenced superior fit in relation to the other, suggesting the need to pursue alternative models in exploratory analyses and theory trimming. Results of a series of modelling efforts identified a more parsimonious set of causal paths that implicated both self-consistency and fairness processes. The trimmed model underscored the role of prior perceptions of personal efficacy for the task, and perceptions of systemic personal

discrimination as antecedent causal determinants of employees' reactions to preferential and merit hiring. These antecedent perceptions of oneself and prior situations combined in a complex causal sequence to determine performance-related outcomes, such as performance intentions and decision accuracy.

The nature and implications of statistically significant effects identified in the analyses were discussed in detail above, as were alternative explanations for complex interactive effects and non-significant results. The final trimmed model was also discussed in detail and a thorough summary of the important causal processes contained in the final model was provided. Therefore, in the section that follows, a general discussion of the implications of the present research is provided. A discussion of major research limitations and specific recommendations for future research are also included in a final section.

Implications of the Research

The results of this research suggest several implications for existing theory and methodology in the areas of reactions to affirmative action, work motivation, and self-regulation in response to feedback. Specifically, the results supported the operation of self-consistency processes in response to preferential and merit hiring, and identified several processes that may serve to clarify and broaden our understanding of self-regulatory reactions to performance feedback. Moreover, the results identified several fairness-based processes that may contribute to the growing body of research addressing the role of justice perceptions in work behavior. The results were also important in uncovering several performance-related consequences of preferential

selection that may help increase our understanding of the impact of affirmative action in organizational hiring. Finally, important measurement issues were raised in the study, suggesting implications for research examining attribution processes in achievement-related contexts. Each of these issues is addressed in detail in the sections that follow.

Self-Consistency Processes

Substantial support was found for the operation of self-reactive processes in responses to the success or failure underlying merit and preferential hiring policies. Initial perceptions of personal efficacy for the task determined a variety of cognitive and behavioral reactions to the different selection policies. Specifically, the results implied that attributions, fairness perceptions, and performance outcomes were each causally influenced by prior self-conceptions of ability, either directly, interactively, or indirectly through mediated processes. As noted above, a zero-order correlation between initial self-efficacy and performance accuracy provided support for Bandura's (1989) self-efficacy theory of self-directed motivation. Interactions involving self-efficacy and hiring condition indicated self-consistent attributions for performance feedback, and behavioral reactance in the form of higher task-related efforts among individuals hired under a preferential relative to a merit policy. Taken together, the results of this study contribute to a growing body of research directed to the influences of the self-concept on performance and in response to performance-relevant feedback. They suggest the importance of individuals' self-conceptions of ability in reactions to feedback and in task-related efforts.

Several more specific implications related to self-reactive processes are also worth noting. These include implications for cognitive reactions to preferential hiring, reactions to preferential hiring among low self-efficacy individuals, behavioral reactance processes in response to self-discrepant feedback, self-consistency determinants of perceptions of fairness, and the role of self-regulation in the development of task strategies. These issues are addressed below.

Self-Consistency in Reactions to Preferential Hiring. One of the primary implications of this study was the support provided for the relevance of prior self-conceptions of ability in influencing participants' perceptions of their personal capabilities following selection under preferential and merit policies. Empirical work by Heilman and colleagues (Heilman et al., 1987; 1990; 1991) has consistently demonstrated sex differences in reactions to preferential hiring. According to these authors, men are less apt than women to report lower perceptions of task-specific confidence following preferential hiring due to their higher levels of initial confidence for managerial tasks. Women, who presumably hold greater doubts in their task-related abilities, come to perceive even lower confidence following preferential hiring. Although these processes are predicated on the notion that men and women differ in self-perceptions of managerial competence, and that these perceptions determine sex differences in reactions to preferential hiring, no research has yet examined the moderating role of self-efficacy in reactions to preferential and merit selection.

The results of the present study underscore the importance of initial self-efficacy perceptions in moderating attributional responses to preferential and merit hiring. These attributions then have important consequences for perceptions of procedural and distributive fairness under differing selection policies. Individuals who perceive high levels of personal efficacy for a task may be less apt to internalize the implicit failure carried by affirmative action, and thereby may be more apt to reject the validity of selection devices used to determine qualifications for employment. Moreover, high self-efficacy may provide individuals with increased confidence in the distributive fairness of their own selection decision, regardless of how those decisions are made. Ultimately, high self-efficacy protects individuals from the negative consequences of affirmative action in organizational hiring through its impact on attributions and fairness perceptions. As is discussed in more detail below, these self-reactive processes may eventually operate to increase task performance under various circumstances, suggesting the possibility of positive performance consequences of preferential treatment in organizational hiring.

Internalization of Failure Among Low Self-Efficacy Individuals. The present results also suggest specific implications for self-consistency processes in the reactions of low self-efficacy individuals in performance-related contexts. As discussed in the introduction, previous empirical and theoretical research by Swann and others (e.g. Baumgardner et al., 1989; Swann et al., 1987) has demonstrated self-consistent cognitive responses of individuals holding negative self-conceptions. Moreover, Aronson and Carlsmith (1962) provided evidence

suggesting self-verification in behavioral responses of poor performing subjects when they encountered subsequent expectancy-disconfirming success feedback. Although several authors have argued that individuals seek self-enhancing, rather than self-verifying performance feedback (e.g. Dipboye, 1977), Shrauger (1975) and Swann (1990) note that, whereas affective reactions appear to follow self-enhancement drives, cognitive and behavioral responses appear more self-consistent. Previous research has supported self-consistency in causal attributions among low self-esteem individuals (see Zuckerman, 1979 for a review); however, very few studies have found effort withdrawal among low self-efficacy participants in achievement-related contexts (e.g. Aronson & Carlsmith, 1962; Maracek & Metee, 1972).

The results of the present study demonstrated little evidence of self-consistency in attributional responses of low self-efficacy participants. Instead, all participants, including those a full standard deviation below the mean in self-efficacy, reported lower internal-stable attributions in the preferential relative to the merit condition. Moreover, main effects of hiring condition on attributions to internal-unstable and external-unstable attributions were not qualified by initial perceptions of self-efficacy. The results, therefore, imply little support for strong self-consistency processes in the cognitive reactions of low self-efficacy individuals hired under preferential and merit policies. Beneficiaries appear to reject the implications of preferential treatment for perceived performance qualifications, with those highest in self-efficacy being most apt to report lower internal-stable attributions under preferential relative to merit hiring. In addition, both low and high self-efficacy

individuals may resist external or unstable attributions for apparent success under merit selection.

Ultimately, these results imply attributional reactions to preferential hiring among low self-efficacy individuals that differ considerably from attributional responses of low self-efficacy individuals observed in other success and failure contexts (Zuckerman, 1979). Perhaps because preferentially hired participants received feedback indicating that others had also performed poorly on the pre-employment selection test, the attributional implications of this feedback for self-perceived competencies were less pronounced than has been observed in other controlled laboratory investigations. At any rate, the results underscore the role of context in attributions, and of unique processes within merit and preferential hiring circumstances.

The results also indicated that low self-efficacy individuals may not reduce their effort on tasks following preferential hiring; instead, they may seek success under preferential selection conditions. These results, therefore, build on a growing base of empirical research regarding the performance-related consequences of failure feedback for individuals who harbor doubts about their capabilities to succeed. Whereas high self-efficacy individuals react against failure feedback, low self-efficacy employees may resist effort withdrawal following task-relevant failure during pre-employment testing. Because research has seldom identified self-consistency in task performances among low self-efficacy individuals (e.g. Aronson & Carlsmith, 1962; Maracek & Metee, 1972), the present results suggest a failure of self-consistency processes to impair the performance of individuals receiving negative outcomes in performance contexts. Although Bandura's (1982; 1989)

self-efficacy theory postulates effort withdrawal among individuals who receive self-congruent failure feedback, few empirical studies have offered strong support for these propositions. Thus, self-verification processes in performance-related contexts may be distinguishable from self-verification processes demonstrated in social and personality-related domains (e.g. Swann & Hill, 1982).

Cognitive Mediation of Behavioral Reactance and Self-Verification. As discussed in the introduction, previous research on reactance processes has demonstrated the effects of threatened freedoms on behavioral and affective efforts towards the reassertion of self-determinism (Wortman & Brehm, 1975). Although subsequent theoretical explanations of reactance and learned helplessness emphasized the role of attributional processes in mediating reactance behaviors (e.g. Abramson et al., 1978; Miller & Norman, 1979), few studies have explored mediating processes by which reactance translates into greater task-related efforts, and helplessness translates into behavioral withdrawal. Theories of self-verification (Swann, 1987; 1990), self-regulation (Carver & Scheier, 1990), and self-efficacy (Bandura, 1989) each postulate cognitive and behavioral self-consistency in responses to failure and success feedback. However, no empirical research has yet examined these processes in causal models of their effects on performance-relevant outcomes. Hence, an effort was made in the present research to explore cognitive mediation of self-consistency in responses to preferential and merit hiring.

The results of the present research indicated that self-consistency in behavioral responses to failure feedback occurred primarily through direct, rather than mediated processes.

Specifically, participants who were high in self-efficacy responded to affirmative action in their selection for employment by engaging directly in increased task-related efforts. These self-consistent reactance effects were not mediated by expectancies or performance intentions. Moreover, among high self-efficacy participants, the mediating effects of self-consistency operated to reduce the effects of preferential hiring on job performance that occurred as a function of the perceived distributive and procedural fairness of the selection policies. Participants who reported high initial self-efficacy were more apt than low self-efficacy participants to reject the implications of preferential hiring feedback for their self-concepts, thereby perceiving the eventual hiring decision as more fair and associated with less valid selection devices. It was only when decisions were seen as generally and distributively unfair, and when selection devices were seen as valid, that beneficiaries made extra efforts to perform effectively on the job relative to merit hired individuals. Hence, the present research supports the notion that when attributions are made to external causes, the self-concept is not implicated in initial failures (Mikulincer, 1988; Swann, 1990; Weiner, 1986), thereby reducing the effects of perceived injustices on enhanced task-related efforts. In essence, it was primarily low self-efficacy participants who felt compelled to redouble task-related efforts as a function of perceived distributive injustices and enhanced perceptions of procedural fairness, whereas high self-efficacy participants engaged in higher task-related efforts in direct response to perceived threats or challenges to their self-perceptions of ability.

These results therefore expand our understanding of reactions to success and failure feedback in organizations. They suggest that individuals may discount self-discrepant failure feedback, but nevertheless strive to reassert behavioral self determination (Wortman & Brehm, 1975) or a stable self-conception of ability (Swann, 1990) through enhanced task-related efforts. These enhanced job-related efforts appear to reflect more "gut level" reactions, rather than responses that find cognitive mediation through expectancies and performance intentions. Individuals who perceive failure feedback as more congruent with self-conceptions of ability appear more likely to cognitively accept the implications of failure feedback, but react to apparent injustices associated with overcompensation for their lack of abilities through enhanced task-related efforts. The results of the present study therefore provide compelling support for existing theories of self-regulation in reactions to feedback (e.g. Bandura, 1989; Carver & Scheier, 1990; Swann, 1990; Wortman & Brehm, 1975). The results illustrate potential self-consistency in behavioral reactance that nonetheless, fails to operate through mediating self-consistent cognitive responses, such as attributions, expectancies, and self-set goals. At the same time, the results underscore the importance of fairness processes in reactions to performance-relevant feedback in overcompensation situations.

The Role of the Self-Concept in Fairness Perceptions. The results of this study underscore the role of self-conceptions of ability on perceptions of fairness associated with evaluation procedures and job allocation distributions. According to Cohen's (1982) theory of distributive and procedural justice, individuals judge

the fairness of policies and decisions on the basis of attributions of cause. Although empirical support exists for these attributional influences on fairness perceptions, research has not yet addressed the mechanisms through which self-perceptions operate through attributions to ultimately determine judgments of fairness. The present study identified several linkages between these prior perceptions of personal efficacy and distributive and procedural fairness judgements. Specifically, individuals with high self-efficacy were less apt than low self-efficacy participants to internalize the causal implications of preferential, relative to merit hiring. These lower internal attributions then served to undermine perceptions of test validity among participants who were hired preferentially. Hence, the present research provides direct support for Cohen's (1982) attributional perspective on fairness perceptions. Moreover, the results of the present study contribute to a more thorough understanding of the causal influences on fairness-relevant attributions.

Aside from attributional influences on fairness perceptions, the results also illustrated the importance of self-perceptions of ability in judgments of the distributive fairness associated with job allocation decisions. Participants who were high in initial self-efficacy were more apt than low self-efficacy participants to judge the hiring decision as fair, regardless of the policy under which that decision had been implemented. This suggests, as explained above, that individuals who perceive that they are capable of performing effectively, judge decisions offering performance-relevant rewards as distributively fair. In essence, these findings indicate that perceptions of distributive fairness depend on the joint operation of

perceptions of self and situations. As Adams (1963; 1965) noted, perceptions of equity in organizational decisions often depend on prior perceptions of one's personal performance capabilities. Nevertheless, recent research in procedural and distributive fairness has been focused primarily on situational determinants of justice perceptions (e.g. Folger & Konovsky, 1989; Fryxell & Gordon, 1989; Greenberg, 1990). The present study illustrates that fairness perceptions cannot be thought of as entirely situationally determined. Instead, individuals appear to consider the extent to which situations provide an appropriate reward for contributions arising from individual abilities.

The Role of Self-Concept in Performance Strategies. The present study also suggested implications for the manner in which self-conceptions of performance capabilities translate into performance strategies. Previous research addressed to the processes arising from self-efficacy (Wood & Bandura, 1989b), self-verification (Swann, 1990), and self-regulation (Carver & Scheier, 1990) in performance-related contexts has failed to identify the impact of self-conceptions of ability on varying task strategies following success and failure feedback. That is, self-conceptions of ability are thought to determine whether individuals redouble or withdraw efforts following failure feedback. No research has specifically identified different strategies by which self-reactive processes are manifested in greater task performance. Although Wood and Bandura (1989b) emphasize the role of self-efficacy in the development of task strategies, and the tendency for individuals who approach achievement settings with confidence to retain appropriate performance strategies in the face of

set-backs, the theory does not specify how strategies may change under varying feedback.

In the present research, participants who reported high personal efficacy for the job responded to the failure implied by affirmative action selection with enhanced decision accuracy. At the same time, overall performance and performance quantity were not necessarily higher among these participants. It is noteworthy that the measure of self-efficacy used in this research, and the feedback delivered to participants, emphasized performance quality, rather than performance quantity. Hence, individuals chose to work more accurately in an apparent effort to respond to the challenge posed to their accuracy-related competencies. Perhaps because performance quantity was seen as less relevant to perceptions of success, high self-efficacy beneficiaries chose instead, a performance strategy that was more directly a response to the challenge to their capabilities to perform with accuracy. The strategy did not result in higher performance overall, however, suggesting that the increased accuracy efforts had debilitating influences on the speed with which participants worked through decision problems.

The differential effects observed for performance accuracy, speed, and overall performance may therefore identify processes that can provide more thorough insight into the role of the self-concept in task performance. They suggest the need to explore how individuals' self-concepts may translate into task strategies at work. For example, the results may imply that individuals who perceive their competence as arising from performance quality will approach tasks and respond to feedback differently than will individuals who perceive speed of work

as more central to their self-concepts. Moreover, research may benefit from attempts to identify the effects of feedback that addresses congruent and incongruent dimensions of performance-related self-conceptions. Clearly, the present research cannot provide definitive answers to these conceptual issues; however, the results suggest potentially useful directions for research on the role of differing self-conceptions of performance-related capabilities in the development of performance strategies under varying feedback conditions.

In summary, the results suggested several implications for the operation of self-consistency processes in response to feedback under preferential and merit hiring. Overall, compelling support was found for self-consistency in the cognitive reactions of high self-efficacy individuals under preferential and merit selection. These processes contribute to a growing body of empirical research directed to the self-perceptions of ability among affirmative action hires. Moreover, the results identified self-reactive processes in perceptions of procedural and distributive fairness associated with affirmative action and merit hiring. The present research also underscored potential behavioral reactance among individuals receiving self-discrepant failure feedback, and the possibility that these reactance processes may not be mediated by attributions, expectancies, and goals. Performance strategies appeared congruent with the threat to personal competence carried by preferential hiring, suggesting the potential importance of differing dimensions of performance-relevant self-conceptions of ability and their implication in the development of task strategies and responses to performance feedback. Finally, the results suggested implications for the reactions of low self-efficacy

participants to preferential hiring, and the tendency for low self-efficacy participants to perceive greater inequities as a function of preferential treatment. Ultimately, these perceived inequities translated into greater performance efforts. In the section that follows, specific implications of these fairness processes are discussed in detail.

Fairness Processes

Fairness perceptions emerged as significant determinants of performance intentions and performance outcomes in this study. Although not originally hypothesized within the primary self-concept model to be causally important, results underscored the relevance of justice-based processes in behavioral reactions to preferential and merit selection. Participants set performance intentions and performed differentially under preferential and merit selection on the basis of their judgments of the procedural and distributive fairness of the hiring decision. Three major categories of implications of these findings are worth noting. These include implications for our understanding of the role of fairness perceptions in reactions to affirmative action, of overcompensation inequity processes in organizations, and of relative deprivation in reactions to performance-relevant situations.

The Role of Fairness in Affirmative Action Hiring. As noted in the introduction, studies have consistently demonstrated lower perceptions of fairness associated with preferential relative to merit hiring among individuals receiving job allocation outcomes under the differing policies (e.g. Heilman et al., 1990; Nacoste, 1985). However, research has not systematically explored differential effects

on perceptions of procedural and distributive fairness perceptions, nor the relationship of these perceptions to performance-relevant outcomes. Although Barnes Nacoste (1990; 1991) has argued that reactions to affirmative action are mediated through perceived violations of social equity norms, research has not yet examined these processes. Hence, the present study contributes to a developing understanding of the consequences of affirmative action by identifying fairness-based processes that translate into performance intentions and performance success.

In support of previous research (e.g. Heilman et al., 1990; Nacoste, 1985), beneficiaries of preferential hiring in the present study perceived the policy as less fair than individuals hired under an ostensible merit-based system. Specifically, preferential hires judged the pre-employment selection process as more biased, less valid, and less distributively fair than individuals hired under a policy that was presumably based on merit. Moreover, the results underscored the relevance of these fairness perceptions for performance and performance intentions under differing hiring policies. Preferential hiring was particularly more apt to result in lower performance intentions among women who perceived the policy as arising from the use of biased selection procedures. The results therefore, suggest the importance of perceptions of just treatment during pre-employment testing on the expectations and eventual aspirations of new employees. Selection contexts that appear biased may result in negative consequences for individuals who receive differential treatment as a function of procedures that are fraught with biases against members of their group. In these contexts, individuals may perceive little likelihood of

receiving fair treatment in future organizational decisions, and therefore little utility in setting high performance intentions.

The results also underscored the importance of perceptions of test validity in the reactions of beneficiaries of preferential treatment. As described above, individuals were more apt to respond with greater task efforts when preferential hiring was associated with valid selection devices. Hence, individuals who discount the relevance of pre-employment selection tests as measures of their ability may feel little need to respond to preferential hiring with greater task-related effort. In essence, they may use cognitive, rather than behavioral mechanisms to resolve conflicts generated by selection under affirmative action policies. Finally, individuals who perceived the job allocation decision as distributively unjust responded to preferential hiring with greater task effort. As suggested by Barnes Nacoste (1990), individuals appeared to take behavioral steps to redress perceived violations of norms of distributive equity in preferential hiring. The present results, therefore, provide compelling support for Barnes Nacoste's recent (1990) conceptualization of the processes underlying beneficiary reactions to affirmative action hiring. In all, the results provide significant advances in our understanding of the consequences of affirmative action hiring for beneficiaries who perceive preference on the basis of subgroup status. They underscore effects on fairness perceptions, and how these perceptions translate into performance-relevant outcomes.

Behavioral Responses to Overcompensation Inequity. Adams' (1963; 1965) proposed that perceived overcompensation in outcome-to-input ratios in allocation decisions results in a heightened state of tension

and an increased drive to reduce the inequity. As described in the introduction, early empirical tests of the overcompensation effect attempted to manipulate perceived inequities by providing participants with temporary employment positions despite messages that the subjects were unqualified and should not be hired (e.g. Adams & Jacobsen, 1964; Andrews & Valenzi, 1970; Weiner, 1970). Hence, as in preferential hiring, subjects in early tests of equity theory believed they had received job allocation outcomes despite lower qualifications. Although these early tests of the overcompensation phenomenon provided support for Adams' original hypotheses (1963; 1965), later research suggested that the effects of hiring decisions in these studies reflected the operation of self-esteem threats and not inequity distress per se (Weiner, 1970). Moreover, subsequent research suggested that overcompensation in other decisions has an inconsistent and transitory effect on increased job performance (Kanfer, 1991).

In the present research, support was found for overcompensation effects within the context of preferential hiring. Specifically, women who perceived the hiring decision as unfair were more apt perform effectively under preferential hiring than when they were hired under an ostensible merit policy. In essence, perceived overcompensation had a greater facilitative effect on performance among preferential hires. This suggests, as explained above, that the publicness and salience of preferential treatment was necessary to stimulate efforts at redressing perceived inequities. That is, the preferential hiring policy emphasized the perceived lower qualifications of participants, thereby enhancing the salience of the distributive inequities. Moreover, the publicness of the decision may have stimulated concerns over

self-esteem preservation.

In contrast, overcompensation in the merit condition was a subjective experience, perhaps only stimulating uncertainties regarding performance qualifications. These uncertainties may then have been confirmed through repeated task difficulties, and therefore resulted in lower performance accuracy. Preferential hires also likely experienced task difficulties given the complexity of the Air Defense Task (ADT); however, their perceptions of distributive inequities energized continued efforts in the face of decision failures. Despite perceptions that an inappropriate selection decision had been made, and that they were therefore less qualified for the job, individuals in the preferential treatment condition felt sufficiently compelled by the perceived inequities to redress the overcompensation through greater task effort. As noted above, the fact that performance was not highest among preferential hires who perceived the decision as unfair suggests that inequity distress was insufficient to overcome the doubts about performance capabilities that were associated with lower perceptions of general fairness.

Ultimately, the results of this research suggest the potential value of renewed attention to largely discredited notions of overcompensation inequity processes in organizational behavior. As in Weiner's (1970) earlier study of overcompensation processes in job allocation decisions, behavioral attempts at redressing inequities in the present research occurred predominantly under conditions emphasizing the salience of inequities and their implication for self-esteem. In contrast to Weiner's (1970) conclusion that overcompensation effects are the result of threats to self-esteem and

not inequity per se, however, the present research underscores the importance of perceptions of injustices, over and above self-consistency processes. The results suggest that enhanced performance in response to overcompensation in job allocations cannot entirely be understood as the result of self-esteem maintenance processes. Nor can they be solely attributed to self-verification and reactance processes. Rather, they implicate dual processes.

Personal Versus Collective Relative Deprivation. Previous research in the area of beneficiary reactions to affirmative action (e.g. Tougas & Veilleux, 1988) has indicated higher levels of advocacy of programs providing preference to women among individuals perceiving high collective relative deprivation, or perceived historical injustices against one's group. According to relative deprivation theory (Dube & Guimond, 1986), collective historical injustices, rather than personal discriminatory treatment, are necessary to justify personal action and social protest. Very little research has explored the implications of CRD for behavior in organizations. Furthermore, although advocacy of affirmative action may depend somewhat on CRD, no research has yet identified the role of CRD in determining perceptions of procedural and distributive justice associated with affirmative action hiring, and attributions following selection under preferential and merit conditions.

The present research indicated that perceptions of past personal, rather than collective, discriminatory treatment were important in influencing cognitive responses to hiring policies. Women who reported higher levels of personal discrimination in previous evaluations of their performance were more apt to reject the validity of the

pre-employment selection test, infer procedural bias against women, and attribute test performance outcomes to external sources. Collective relative deprivation failed to provide as robust causal effects as more specific perceptions of personal discriminatory treatment. Hence, the results identify difficulties in previous conceptualizations of the role of CRD in reactions to affirmative action in organizational hiring (c.f. Tougas & Veilleux). They suggest instead, that reactions to hiring policies are more importantly determined by perceived personal discriminatory treatment and a generalized tendency for these perceptions to permeate evaluations of pre-employment selection processes.

The results are important in identifying the potential role of individual differences in antecedent perceptions of systemic discrimination in the reactions of applicants to pre-employment selection procedures. Women who felt repeatedly discriminated against were unwilling to accept the validity and fairness of selection procedures, irrespective of the eventual outcome of those hiring procedures. These individual differences ultimately decreased the extent to which preferential selection resulted in higher task-related efforts, through their prior effects on lower perceptions of test validity. Moreover, as a result of their effects on perceptions of procedural bias, personal discrimination had the effect of increasing the likelihood that preferentially hired individuals would withdraw effort intentions relative to merit-hired applicants. Hence, the results underscore and contribute to our understanding of the importance of stable perceptions of situations in determining complex causal effects of hiring policies on applicant reactions, and eventual

employee performance.

In summary, the present research suggests several implications for existing theory and research regarding the role of fairness perceptions in organizational behavior. First, they identify specific fairness-based reactions of preferentially hired and merit selected organizational members. Moreover, they illustrate the role of fairness perceptions in determining the job performance of affirmative action beneficiaries, and provide support for existing theory (Barnes Nacoste, 1990) of the consequences of affirmative action selection for employees. The results are also important in clarifying overcompensation inequity processes in job allocation decisions, effects that had largely been attributed to the resulting from threats to self-esteem. Finally, the results implicate important individual differences in perceived personal discrimination, and the role of these perceptions of situations on performance-related outcomes in preferential hiring contexts. In the section below, the implications of this research for the effects of affirmative action on job performance outcomes are described.

Performance Implications of Affirmative Action Hiring

Only one previous study has examined the consequences of affirmative action for the performance of organizational members who receive preferential treatment in hiring (Nacoste, 1989). In this research, individuals who perceived lower qualifications as a function of affirmative action in their own selection performed more efficiently than those who were ostensibly hired on the basis of merit. No evidence was collected in this earlier study to identify the mechanisms by which performance outcomes were influenced by preferential hiring,

however. Moreover, no attempt was made to identify individual differences in self-perceived ability and their likely impact on performance outcomes under varying hiring policies. The present research advances substantially our understanding of the performance consequences of preferential hiring.

Results of the present study suggest that preferential hiring may in fact be associated with higher organizational performance of beneficiaries who hold high initial confidence in their capabilities for success. These individuals appear to react against the implied threat to their self-conceptions through higher levels of task related efforts. Increased efforts appear to be directed at those areas of competence that are threatened by the failure associated with the preferential treatment, however, future research should be directed at more clearly identifying the linkage between self-conceptions of performance dimensions and responses to preferential hiring relevant to those perceived dimensions.

Individuals with high initial self-efficacy also appear less apt to accept internal attributions for the causes of their own preferential selection and, as a result, perceive selection devices as less valid, and hiring decisions as more generally fair. Hence, high self-efficacy appears to reduce the extent to which preferential treatment results in higher task performance in an effort to redress perceived inequities, and to react to perceived failure on valid tests of personal performance abilities. In other words, high self-efficacy appears to have the overall effect of decreasing the perceived implications of preferential hiring for beneficiaries' self-conceptions of ability, and hence efforts to respond with higher task performances

to redress perceived overcompensation inequities. At the same time, high self-efficacy may increase performance intentions through its effects on distributive fairness perceptions and performance expectancies, and may ultimately energize behavioral reactance that directly facilitates higher performance under preferential hiring. Low self-efficacy appears to operate in the reverse set of processes. Specifically, low self-efficacy beneficiaries may be less apt to react directly against the preferential policy by engaging greater task efforts. However, they may ultimately perform effectively through the influences of lower self-efficacy on enhanced judgments of test validity, and undermined perceptions of general fairness.

Additional determinants of performance-related outcomes under preferential hiring appear to occur through the effects of perceived personal discrimination on judgments of procedural bias and test validity. Individuals who perceive systemic personal discrimination may reject the validity of pre-employment tests and may therefore, be less apt to react to preferential hiring with higher performance efforts. These individuals may also more likely to set lower performance intentions as a function of perceiving higher levels of bias within the organization.

In all, the results identified a complex set of causal processes that may eventually contribute to performance under preferential and merit hiring. In that sense, this research substantially advances our understanding of the performance-related implications of affirmative action in organizational hiring. Before discussing research limitations, one important measurement consideration was identified in the study that has important implications for research in attribution

theory.

Measurement Issues

The results of psychometric work to identify the dimensionality of respondents' causal attributions for success and failure feedback indicated a less than perfect mapping of specific causal attributions onto the four primary causal dimensions in Weiner's (1985) attribution theory. According to Weiner's (1985) theory, individuals generate behavioral intentions in response to feedback on the basis of the perceived internality/externality and stability/instability of perceived causes. Hence, failure that is attributed to stable causes implies that future outcomes are also likely to be negative. According to Weiner (1985), several specific causes are dominant in achievement-related contexts, with each specific cause mapping onto one cell in the 2 X 2 categorization scheme. Hence, ability is classified as internal and stable; effort is internal and unstable; task difficulty is external and stable; and luck is external and unstable.

Previous research has examined attributional processes through the use of these and other similar specific attribution measures (e.g. Baumgardner, Heppner, & Arkin, 1986; Covington & Omelich, 1979; McFarland & Ross, 1982; Russell & McAuley, 1986). However, as Russell (1982) and Weiner (1979) note, these specific causal attributions for success and failure outcomes may not implicate the same hypothesized underlying dimensions for all people, under all circumstances. Russell (1982) argued that, although previous factor analytic and multidimensional scaling research has provided some support the a priori mapping of specific causal attributions onto hypothesized dimensions (e.g. Passer, 1977; Meyer, 1980), a preferred measurement

approach would involve asking respondents directly to indicate their perceptions of the underlying dimensions.

In the present research, respondents provided ratings of both the underlying dimensions and several specific causal attributions. The results indicated little direct relationship among several of the specific attributions with their a priori factors. For example, attributions to motivation were more highly correlated with perceptions of internality and stability, than with internal-unstable causes. This implies that motivation may be seen as a stable personality trait within achievement-related contexts, rather than as a causal factor that is under volitional control. In addition, respondents indicated that ability was both a stable internal and stable external factor. In other words, ability was perceived as the intersection of personal and situational characteristics.

These results therefore, suggest important implications for future empirical research assessing attributional processes in organizational behavior. Specifically, the failure of specific measures to clearly map onto their a priori dimensions in the present research suggests that studies identifying effects of specific attributions may be confounding the theoretical processes with fallible indicators of those presumed underlying effects. That is, an effect observed for attributions to motivation may represent the operation of perceptions of stability in internally caused events, rather than of instability and changeability. This confounding of theory with a fallible indicator of the theoretical processes may interfere with the development of understanding of the true role of attributional processes in reactions to feedback within organizations. Clearly, what

is needed is research addressed to the manner in which situations are cognitively represented by individuals, and how those representations translate into underlying perceptions of stability and internality.

The present research may help identify a useful starting point for conceptualizing these cognitive processes. In this study, ability was perceived as both a stable internal and stable external factor. Hence, the present research suggests that when identifying self-conceptions of ability, individuals assess both their internal-stable resources, and the stable situational requirements. Sex bias was seen as an internal factor, in other words, something that was inherent in oneself. Clearly, very little can be concluded from these inter-scale correlations about the cognitive representations of task environments generated by research participants. However, the present results suggest both important methodological considerations and directions for future research.

Limitations of the Research

Several limitations of the present research are worth noting. First, a large number of non-significant effects were observed, suggesting misspecification in the original model and possible capitalization on chance in the development of the final trimmed model. Second, goals and expectancies failed to predict performance outcomes, despite considerable empirical evidence of the effectiveness of these processes in organizational performance. Although, an effort was made to simplify the nature of the ADT, the task may still have been overly complex for the facilitative effects of goals to emerge. Third, subjects may not have experienced strong and subjectively certain perceptions of performance inadequacies. Thus, the effects observed

for low self-efficacy participants may have been overly conservative relative to the processes that may occur among individuals who hold strong doubts in their performance capabilities. Finally, the manipulation of hiring policy was somewhat unrepresentative of the processes by which individuals learn of their preferential status in organizational hiring. Each of these issues is addressed in more detail below.

The Large Number of Non-Significant Effects

In this research, two very complex alternative models of the processes underlying individuals' reactions to merit and preferential hiring were developed and tested. Although each model represented a significant departure from previous empirical research in affirmative action, hypothesized paths were based on well-established findings in other more traditional areas of psychology. Despite their firm conceptual underpinnings, few of the hypothesized effects in each model were confirmed in least squares path analysis. Moreover, several of the significant complex three-way interactions were substantially different from the patterns originally hypothesized. Clearly, the failure of any model to fit observed data is not in itself a limitation of research. However, the explanations of non-significance in the present research are more difficult to ascertain given the confounding of hypothesized processes thought to follow feedback per se, with more unique processes that may be implicated in reactions to affirmative action.

In essence, the present research represented an attempt at theoretical advances in two primary areas, namely the reactions of individuals to performance-relevant feedback in organizations and the

more specific reactions of individuals to preferential and merit selection. Because theory in the area of reactions to feedback has failed to provide integration of self-consistency in cognitive reactions with processes of self-regulation in performance expectancies, performance intentions, and performance outcomes, the present research may be seen as bridging existing empirical and theoretical bases across previously unassociated conceptual areas. Moreover, the present research attempted to ascertain the operation of fairness perceptions within complex self-regulatory reactions to feedback. At the same time, the overall integrative models were applied to a specific type of feedback, namely feedback indicating merit versus preferential selection. Ultimately, therefore, it becomes difficult to ascertain whether non-significance was observed as a result of the failure of the more general feedback models to fit actual feedback-driven processes, or was more the result of uniqueness in reactions to hiring policies that do not correspond to more general feedback processes. As a result, no firm conclusions can be drawn regarding the merits of the alternative models in explaining general feedback processes.

One important implication of this issue is the need to address how reactions to affirmative action self-labelling differ from reactions to other types of feedback in organizations. Of course, it must be pointed out that the present research was specifically focused on the reactions of individuals to various hiring policies in their own selection for employment. It would, therefore, be inappropriate to suggest strong implications of this research for general feedback in organizations given any pattern of observed findings. Nevertheless, it

is clear that the large number of non-significant findings cannot be unambiguously attributed to the failure of the general feedback processes contained in the alternative models, or instead, to unique processes resulting from affirmative action hiring.

It should also be noted that the large number of variables examined in this research, and the use of omitted parameters and zero-order correlations to identify important causal processes, is likely to result in capitalization on chance in the development of a final trimmed model. That is, significant paths contained in a trimmed model may not generalize in other research. Nevertheless, it should be remembered that the purposes of theory trimming are to provide a best post hoc explanation of the effects observed in a set of data. Efforts were made in the present research to identify a parsimonious set of conceptually meaningful relationships that received empirical support. Moreover, interactions identified in tests of the original model were examined to assess their independence of conceptually meaningless covariates. The final model, though not a confirmatory test of hypothesized causal effects, underscored several processes that resembled the original hypothesized self-consistency and fairness processes contained in the two alternative models. Therefore, although strong conclusions about the generalizability of the trimmed model must be suspended, the processes identified in this research suggest potentially fruitful directions for future theory development and empirical research. Replication of the present study should be performed to assess the generalizability of important causal effects identified in this research.

The Lack of Expectancy and Goal Effects

Previous research has reported robust effects of expectancies and goals in predicting performance outcomes (see Locke & Latham, 1990 for a review). In fact, some authors have concluded that goal effects represent the most validated and promising motivational intervention yet identified in organizational research (e.g. Lee & Earley, 1988; Pinder, 1984). It is therefore surprising that goals failed to emerge as significant predictors of performance outcomes in the present research. Several explanation for these non-significant findings were discussed above; each potential explanation suggests limitations in the present study.

First, as noted above, the ADT may have been overly complex for goals to emerge as important predictors of eventual task performance. Several researchers have noted the failure of goals to operate as significant determinants of performance on complex tasks (e.g. Wood & Locke, 1990). This is presumably because distal goals interfere with the development of effective proximal task strategies. Although an effort was made to simplify the nature of the ADT by eliminating team member communication requirements (see Hollenbeck et al., 1991), providing lengthy training and practice on the task, and allowing considerable time in each decision trial, the task may still have been somewhat complex. Hence, task complexity may have restricted the likelihood of finding goal effects in the present research. Clearly, more research is needed that addressed the nature of the ADT and the effects of manipulations of decision complexity on the effectiveness of goals in enhancing performance.

Second, the importance and relevance of goals to the eventual performance of participants were not emphasized in this research. As noted previously, this may have led participants to set goals at a low level, or alternatively, may have decreased goal commitment among participants. Research has underscored the requirements of both goal difficulty and goal commitment in facilitating task performance (see Locke & Latham, 1990). Hence, in the present research goals may not have been taken seriously by participants, thereby attenuating their effects.

Similarly, because the relevance of goals to eventual performance were not emphasized, the goal measure may have simply served as an alternative indicator of performance expectancies rather than performance intentions. In other words, participants may have used the goal measure to indicate how well they thought they could perform, rather than how willing they were to expend effort on the task. The large and significant correlation between these variables (pr = .52, p < .01) seems to support this explanation. Hence, rather than representing a strong causal linkage between expectancies and performance, the relationship may be due more to similarity in the cognitive interpretation of the expectancy and goal measures. Ultimately, similar future studies may need to emphasize goal importance, and the meaning of self-set goals to eventual task performance.

Finally, participants may have had little valid basis for setting goal intentions and reporting performance expectancies. That is, the training period may not have provided participants with enough information to establish firmly held performance expectancies and

appropriate performance intentions. After studying for fifteen minutes a lengthy document describing the task, participants completed three practice games in which targets were unambiguously threatening or non-threatening. This may have led participants into a false sense of performance security, or alternatively, may have raised uncertainties regarding likely objective levels of eventual performance on the task. Although participants may have been able to infer their general level of performance capabilities on the self-efficacy scale, they may not have been able to establish realistic specific perceptions of their likely objective performance on the ADT and appropriate specific performance intentions.

Certainty of Low Self-Efficacy

Related to the possibility that participants were unable to establish specific expectancies and goals is the likelihood that those who reported lower personal efficacy for the ADT were not certain of their lower performance capabilities. Clearly, individuals who felt unable to perform the task were unlikely to apply for the temporary job. Although this self-selection is representative of processes in actual organizational settings, the lack of extreme perceptions of personal inadequacies may have attenuated the hypothesized effects for low self-efficacy participants. As Swann (1990) notes, self-consistent reactions in responses to feedback depend on the certainty with which self-conceptions are held. Thus, individuals who hold negative self views that are uncertain are unlikely to attempt self-verification in response to positive and negative feedback (Swann & Ely, 1984). Uncertainties in self-conceptions often result in efforts at revision of negative self views (Swann, 1990). In the present research,

participants with uncertainties in their capabilities for performance on the task may have been reluctant, therefore, to fully accept internal-stable attributions for preferential hiring, and external attributions for merit selection.

In actual organizational settings, individuals may not perceive strong personal inadequacies for their overall performance capabilities. Thus, the present research may be considered realistic from the standpoint of actual organizational behavior, despite providing a conservative test of self-consistency in the work behavior of low self-efficacy individuals. Nevertheless, there may be dimensions of required job performance for which individuals hold relatively certain negative self-perceptions. Thus, research may benefit from attempts to identify areas of self-doubt in job performance, and the reactions of individuals to self-congruent and self-discrepant feedback on these dimensions. Likewise, preferential selection on dimensions of performance for which individuals perceive strong personal incompetencies may result in more self-congruent reactions than were uncovered in the present research. An alternative research strategy might entail the manipulation of self-efficacy through non-contingent success and failure feedback. That is, to establish more certain perceptions of personal efficacy, or the lack thereof, individuals may be provided with consistent success or failure feedback during job training. A more sensitive exploration of self-verification in the responses of organizational members with negative self-views may then be possible.

The Unrealistic Nature of the Hiring Manipulation

A final limitation has to do with the somewhat unrealistic nature of the preferential hiring manipulation. As was discussed in the introduction, previous research in the area of affirmative action has relied on role play methodologies (e.g. Nacoste, 1985; 1987; Nacoste & Lehman, 1987), or on laboratory studies involving undergraduate subjects who receive course credit for their participation (e.g. Heilman et al., 1987; 1990; 1991). Clearly, it is questionable whether the results reported in these studies might generalize to more naturalistic settings in which individuals are actually hired for paid employment, and in which task performances are relevant for valued outcomes. Hence, efforts were made in the present research to enhance the realism of the selection and performance context. Women were recruited for an actual temporary paid employment position from advertisements placed in the campus newspaper. Participants were instructed to work effectively in order to qualify for an additional paid follow-up assignment. At no time were participants led to believe that they were actually participating in psychological research.

However, it must be pointed out that, despite the realistic nature of the employment context, the test feedback provided to participants in the preferential condition was probably not similar to that occurring in actual organizational settings. That is, employers are unlikely to inform affirmative action beneficiaries that they are being selected despite lower qualifications on pre-employment selection tests. Indeed, there would likely be no advantage of providing such feedback; nor is it clear that such selection procedures would be viewed under all circumstances as lawful employment practices, given

recent civil rights legislation (cf. Civil Rights and Women's Equity in Employment Act of 1991). Beneficiaries of affirmative action are unlikely to have full knowledge of actual selection policies and how policies were implemented in their own hiring (Barnes Nacoste, 1990; Bunzel, 1988). Individuals do often infer preference in hiring however, through perceptions of underrepresentation of members of their group within the organization, or through other intra- and inter-personal processes (cf. Barnes Nacoste, 1990). These perceptions may exist with or without the presence of an actual affirmative action policy within the organization.

Once the perception of preferential treatment has been established, substantial empirical evidence supports the notion that individuals typically perceive lower personal qualifications (e.g. Barnes Nacoste, 1991; Heilman et al., 1987; 1990; 1991; Nacoste, 1989). Indeed, in the present study, women participating in an affirmative action role-play pretest also reported lower qualifications, as did several participants in early trials of the primary investigation. Hence, the perspective taken in the present research has been on the reactions of individuals who perceive that they have lower qualifications, yet were hired to satisfy affirmative action considerations within the organization. Given the importance of understanding the consequences of these perceptions, the models were focused solely on the cognitive and behavioral reactions of individuals who perceive, as most individuals apparently do, that preferential treatment implies lower qualifications, whereas merit hiring implies sufficient employment qualifications.

It may still be argued that the strong manipulation of affirmative action selection was unrealistic and therefore the results are unlikely to generalize to actual behavior in organizations. However, it must be remembered that the primary strength of laboratory research is in identifying whether hypothesized processes occur under controlled situations (Ilgen, 1986). Once effects of manipulations have been identified to occur in the laboratory, it then becomes reasonable to search for boundary conditions in more naturalistic settings. It is not useful to require laboratory research to model the ambiguous and transitory nature of everyday experience; rather, its strengths are in clarifying the existence and nature of effects that may occur under less observable circumstances. Thus, given well-established empirical results demonstrating the linkage between preferential treatment and perceptions of lower qualifications, it is reasonable to then examine, under controlled but naturalistic settings, the effects of those perceptions. Hence, in the present research, perceptions of lower qualifications were created to facilitate the examination of self-consistency and fairness responses to this demonstrated consequence of affirmative action self labelling.

Clearly, it is a relevant question to ask whether the manner in which perceptions of lower qualifications associated with affirmative action are created somehow influences cognitive and behavioral reactions to affirmative action self-labelling. Indeed, some organizational members may yet deny that they personally received preference under organization-wide affirmative action policies (Crosby, 1984). One potentially valuable direction for future research, therefore, would be to examine whether processes similar to those

observed in the present study occur when individuals learn from a co-workers that they may have benefitted from some affirmative action policy. Additionally, it may be useful to examine the cognitive and behavioral reactions of individuals who suspect the implementation of affirmative action in their own hiring, but who nevertheless perceive that it does not imply lower performance on pre-employment selection hurdles. In this regard, the present research is best considered an initial exploratory study of the many possible consequences associated with perceived lower qualifications associated with preferential treatment in personnel selection.

Recommendations for Future Research

In addition to the many research directions outlined throughout the previous sections, several more general recommendations can be made for future research into the roles of the self-concept, perceptions of fairness, and feedback within organizations and in response to merit and preferential hiring. First, research needs to be directed to the development and testing of integrative models of self-reactive and fairness processes in cognitive and behavioral responses to performance-relevant feedback in organizations. The present research attempted to specify two general models of self-regulatory and fairness-based responses to feedback. Though the present study focused specifically on how reactions to merit and preferential hiring operate within the models, future research should explore the utility of the models in explaining reactions to other types of feedback in organizations, such as performance appraisal feedback and feedback from co-workers. Ultimately, the results of the present study suggest the need to combine the self-concept and justice-based models into a more

integrative, yet also more parsimonious, theoretical framework. Empirical research may then proceed to identify processes operating at different points in the model, and how processes may differ depending on the content and source of the feedback received.

For example, research might examine whether similar processes as were identified in the present research also occur in reactions to performance appraisal feedback. In that sense, it might be worth examining whether perceptions of distributive and procedural fairness operate in a similar fashion to energize reactions to negative evaluations of task performance in appraisal contexts. Moreover, very little research has examined the types of behavioral reactance processes identified in the present research in other relevant organizational contexts. Studies of this nature would help build greater understanding of the processes of self-regulation and fairness in organizational behavior.

Second, future theoretical developments related to the role of the self-concept at work may benefit from attempts to examine the dimensionality of self-conceptions of ability and how congruence with job demands influences task behaviors and job satisfaction. For example, research might explore reactions to feedback that is directed to central and peripheral features of the self-concept. As Swann (1990) and others (Carver & Scheier, 1990; Steele, 1988) argue, negative feedback that is targeted to unimportant aspects of the self-concept may not energize behavioral change. Recent research by Steele (1988) also suggests that individuals may seek affirmation of alternative dimensions of self when challenged in a specific area of self worth or competence. In organizations, the range of alternative

dimensions of self that may be affirmed through performance-relevant behaviors is more restricted than in non-work areas. Therefore, research might also explore changes in the importance or values placed on different dimensions of performance-related self-conceptions of ability under varying task requirements, organizational climates, and feedback contexts.

Third, research would benefit from systematic examination of the impact of self-reactive and fairness processes in influencing organizationally-relevant behaviors over time. Critics of equity theory have argued that overcompensation processes are transitory at best (Campbell & Pritchard, 1976), suggesting the need to examine whether the overcompensation effects observed in the present study are consistent across extended performance periods. Likewise, it is important to ascertain whether the behavioral reactance effects observed in the present study vary over time and persist following success feedback. Carver and Scheier's (1990) control theory of self-regulation posits enhanced performance efforts until discrepancies between outcomes and personal standards are eliminated. However, research has not yet addressed how individuals recognize that they have sufficiently eliminated discrepancies, and whether individuals continue to react to failure feedback with enhanced performance in an effort to change the opinions of others.

Related to this is the need to examine stress reactions following failure feedback and/or preferential selection in organizational hiring. In the present research, perceived inequities resulted in greater performance among preferential relative to merit hired individuals. However, as noted above, efforts towards redressing

perceived inequities did not appear strong enough to overcome possible doubts in performance-related abilities. These processes may suggest the need to examine the stress reactions of individuals who receive failure feedback, and whether stress reactions may differ among individuals who perceive differing levels of personal performance capabilities. Clearly, research would benefit from thorough exploration of the interplay of self-conceptions of ability, feedback, fairness perceptions and stress-related consequences on performance effectiveness. Indeed, Barnes Nacoste (1991) includes stress as an important potential consequence of affirmative action self-labelling; however research has not yet addressed its role within models of reactions to self-relevant feedback.

Finally, research is sorely needed on the consequences of affirmative action labelling on the reactions of merit-hired individuals to others who are perceived as having benefitted from preferential treatment in organizational hiring. Only two studies have examined the perceptions of individuals who ostensibly received employment or educational opportunity through affirmative action (Garcia et al., 1981; Jacobsen & Koch, 1977). Not surprisingly, this research suggests negative perceptions and attributional biases in the evaluations of affirmative action beneficiaries. However, the research is clearly limited in identifying unique consequences associated with the labelling of others as affirmative action beneficiaries. In many ways, affirmative action labelling may stimulate the operation of stereotypic biases that have been well researched in other areas (see Fiske & Neuberg, 1990; Hattrup, 1990 for reviews). That is, an affirmative action label may evoke negative perceptions of the

beneficiary, including negative perceptions of ability, competence, and trustworthiness. However, additional processes may be implicated, such as resentment and perceived violations of norms of distributive equity. Moreover, reactions of non-beneficiaries to organizational implementation of affirmative action may be useful in identifying processes related the emergence and management of organizational climates for ethnic and gender diversity in the workforce.

Ultimately, our understanding of the effects of affirmative action labelling on self-perceptions, self-regulation and fairness processes in performance, and stereotype processes in the perceptions of others would benefit from the development of models of the inter and intra-personal processes by which individuals negotiate identities with themselves and others. Deaux and Major (1987) have recently proposed a model of social interaction within the context of gender-related behavior. In the model, the self-systems of actors and the belief and stereotype systems of perceivers interact to determine how each party behaves in relation to the other. Perceptions of self and of others emerge in a complex causal sequence involving identity negotiation. Research in the area of affirmative action labelling and its consequences for organizationally-relevant outcomes may benefit from the development and evaluation of similar interactive models of beneficiary and perceiver reactions to preferential treatment in hiring.

Final Comments

The results of this study provided compelling support for the operation of self-consistency and fairness processes in reactions to merit and preferential treatment in organizational hiring. High

self-efficacy individuals reacted directly to preferential hiring with higher task-related efforts, whereas low self-efficacy beneficiaries appeared to strive for performance effectiveness in an effort to redress overcompensation inequities, and to respond to challenges arising from failure on valid pre-employment selection devices. Women who perceived substantial past personal sex discrimination were ultimately more apt to withdraw effort intentions under preferential hiring as a consequence of perceiving procedural bias associated with the affirmative action policy. The results suggest several implications for our understanding of self-regulatory and fairness processes in reactions of low and high self-efficacy individuals to feedback in organizations. They also suggest potentially fruitful directions for future research, including assessment of self-verification/justice models in reactions to performance feedback, the role of dimensionality of self-concept in work behaviors, the potential processes underlying self-regulation and stress in response to feedback over time, and the need to identify interactive models of processes by which perceivers and affirmative action beneficiaries negotiate self and social identities.

APPENDICES

APPENDIX A

Employment Application and Statement of Employment Contract

Name: _____ **Date:** _____

Student Number: _____

Address: _____

Phone: _____

Are you a student at MSU? (Circle one): Y N

Are you a student at LCC? (Circle one): Y N

How did you hear of this job? _____

_____

Do you have any friends that have already been employed for this position?

(Circle one): Y N

What is your major? _____

What is your class level? _____

What is your GPA? _____

Have you ever worked on a simulated Air Defense Task before?

(Circle one): Y N

IMPORTANT: **See the Statement of Employment Contract on the back of this application.**

STATEMENT OF EMPLOYMENT CONTRACT

The purpose of your employment will be to provide us with information regarding the characteristics of an important computer-controlled Navy Air Defense Task (ADT) that is being designed for use in military training simulations. We are seeking qualified individuals who can provide us with performance data that will be used to further improve the realism and usefulness of the simulation. It is important that we hire only qualified individuals for this task as we consider the development of our simulation a very important project. Furthermore, we are seeking two individuals who can perform at a very high level on our simulation for an additional assignment to a highly important and attractive follow-up task. The follow-up assignment will involve working on an additional Air Defense Task (ADT) with a team of other qualified individuals. We will offer the follow-up position to the two best performers on the present task and pay each individual $30 in exchange for 1 hour of work.

To qualify for the present job, you must meet the minimum qualifications as measured by our pre-employment general ability test. If you qualify for today's assignment, you will be asked to complete several questionnaires and will then be immediately assigned to the position and will be asked to work for two and one-half hours. You will receive $6.00 an hour for today's work. We promise to provide the full two and one-half hours of work; however you should understand that by accepting this temporary position, you are under no contractual obligation to work the entire two hours. You may quit at any time, for any reason, with no penalty and no questions asked. If you decide you would like to quit in the middle of the job, you will be paid the promised $6.00 per hour for the amount of time you were here today, including the time it took to take the employment test and fill out questionnaires. If at any time you have questions about your assignment or would like to talk with the employment supervisor, feel free to ask!

Your signature indicates that you have read and understood the above statement and that you voluntarily accept this employment if offered.

_____ _____

Signature Date

We are an Affirmative Action/Equal Opportunity Employer.

APPENDIX B

Air Defense Task Instruction Manual

NAVAL COMMAND AND CONTROL SIMULATION

INTRODUCTION

The year is 1994 and you are commander of a U.S. navy aircraft carrier stationed in the Middle East. A regional conflict between two nations in this area has recently broken out, and your mission is to protect seagoing commercial traffic in the area from accidental or intentional attacks. As history indicates, this is a highly sensitive task. For example, in 1987, an Iraqi jet accidentally fired two exocet missiles into the U.S.S. Stark, killing 37 American servicemen and crippling the vessel. One year later, the U.S.S. Cruiser Vincennes accidentally shot down an Iranian passenger plane killing 290 innocent civilians. Despite recent successful U.S. military actions in the region, any repeat of mistakes of the Stark or Vincennes kind will probably lead to substantial withdrawal of forces from the area, or heightened conflict. Such outcomes could have disastrous economic and political ramifications that would spread well beyond this region.

YOUR MISSION

You will play the role of commanding officer of the Aircraft Carrier and leader of a U.S. carrier battle group stationed in the Middle East. Your battle group consists of your own ship, two Aegis Cruisers, two anti-air Destroyers, a submarine, an AWACs reconnaissance plane, and a land based Coastal Air Defense (CAD). Your mission is to monitor the air space surrounding the fleet, making sure that neutral ships are not attacked. In performing this role, you must make certain that you do not allow loss of life resulting from accidental or intentional attacks on ships in the battle group. At the same time, it is also of paramount importance that you do not inadvertently shoot down friendly military aircraft or any civilian aircraft. Many passenger flights move in and out of the region, and friendly military aircraft from nations not involved in the conflict also patrol the area. The navy can ill-afford any mistakes of either the Stark or Vincennes variety.

OVERVIEW OF TASK

You are to decide what response to make toward incoming air targets. You will base your decision on data that you collect by measuring characteristics of the aircraft that enter your air space. These measures are obtained from sophisticated radar equipment. Aircraft that are being tracked on radar are called targets. There are seven possible choices to make for each incoming target. These responses are graded in terms of their aggressiveness. Each of these is described below, moving from least to most aggressive:

(1) **IGNORE:** This means that the battle group should devote no further attention to the target and instead focus on other possible targets in the area. The group should never ignore a target that might possibly attack. This would most assuredly lead to loss of lives on the ship attacked.

(2) **REVIEW:** This means to leave this target momentarily, so that the battle group can monitor other targets, but to return to this target after a short period of time to update its status. A group can review a large number of targets, but not an infinite number of targets.

(3) **MONITOR:** This means that the battle group should continuously track the target on radar. A battle group can monitor fewer targets than it can review, and thus monitoring diminishes the group's overall patrol capacity.

(4) **WARN:** This means that the battle group sends a message to the target identifying the group and alerting the target to steer clear. Warning targets that should be ignored detracts from the meaningfulness of legitimate warnings. Warning targets that intend to attack is also bad, since warning makes it easier for the attacker to locate the ship.

(5) **READY:** This means to steer the ship into a defensive posture and to set defensive weapons on automatic. A ship in a readied position is rarely vulnerable to attack. This stance should not be taken to non-threatening targets since weapons set to automatic often fire mistakenly at innocent targets that fly too close to the battle group.

(6) **LOCK-ON:** This synchronizes the ship's radar and attack weapons so that the weapons fix themselves on the target. A ship at Lock-On position can take offensive action at a moments notice. A ship's capacity to track other targets is severely constrained once it has Locked-On a single target, however. Thus, this should be reserved for targets that are most certain to be threatening.

(7) **DEFEND:** This is "weapons away" and means to attack the target with Tomohawk cruise missiles. A Defend decision cannot be aborted once initiated and thus must only be used when you feel that attack is imminent.

CHARACTERISTICS OF TARGETS

The incoming air targets can be measured on nine attributes. These are listed below along with the range of possible values on the attributes.

(1)	Speed:	150 to 800 mph.
(2)	Altitude:	5,000 to 35,000 ft.
(3)	Size:	15 meters to 50 meters.
(4)	Angle:	-15 degrees (rapid decent) to +15 degrees (rapid ascent)
(5)	IFF:	stands for "Identification Friend or Foe". This is a radio signal that identifies whether an aircraft is civilian, para-military, or military, ranging from .2 Mhz (an airliner) to 1.6 Mhz (a fighter).
(6)	Direction:	from +40 degrees (passing far to the east or west of the carrier to 00 degrees (coming straight in to the carrier)
(7)	Corridor Status:	a corridor is a 20 mile lane open to commercial air traffic, and this is expressed in terms of miles from the center of the corridor, ranging from 1 mile (in the middle of it) to 50 miles (way out of it)
(8)	Radar Type:	the kind of radar possessed by the target aircraft, ranging from Class 1 (weather radar only) to Class 9 (weapons radar)
(9)	Range:	distance of the aircraft from the carrier, ranging anywhere from 20 to 200 miles.

DETERMINING THE LEVEL OF THREAT

The degree to which an incoming target is threatening depends on its standing on these nine attributes. The last page of this booklet provides ranges for each attribute that indicate the level of threat associated with the target's value on that attribute. There are five simple rules to remember in combining the attribute values to determine the overall threat of the target:

(a) all else equal, in terms of **IFF**, military targets are more threatening than civilian targets (see attribute #5)

(b) **SPEED** and **DIRECTION** go together, so that fast targets coming straight in are most threatening (see #1 -- #6 above). Speed alone and direction alone mean nothing. There is nothing to fear if fast targets are not headed toward you. There is nothing to fear from objects headed directly for the group that are slow.

(c) **ANGLE** and **RANGE** go together, so that descending targets that are close are especially threatening (see #4 -- #9 above). Angle alone and range alone mean nothing. Descending targets that are far away, or close targets that are ascending are not a threat.

(d) **ALTITUDE** and **CORRIDOR STATUS** go together, so that low flying targets that are way outside the corridor are especially threatening (see #2 -- #7 above). Altitude and corridor status alone mean nothing. There is nothing to fear from high flying targets well outside the corridor or low flying targets in the middle of the corridor.

(e) **SIZE** and **RADAR** go together, so that small objects with weapons radar are especially threatening (see #3 -- #8 above). There is nothing to fear from small targets with weather radar or from large targets with weapons radar.

HOW RULES COMBINE TO DETERMINE JUDGMENTS

The five rules combine to determine the overall threat of the target. So for example, if you detected a (a) military aircraft that is (b) flying straight and fast, (c) is close and descending, (d) is flying low and way outside the corridor, and (e) is small and had weapons radar; the ship is being attacked and should DEFEND.

If you detected (a) a civilian aircraft, that is (b) passing slow at an angle, (c) is far away and ascending, (d) is flying high and in the middle of the corridor, and (e) is large and has weather radar; this is a passenger plane that should be IGNORED.

Intermediate responses like MONITOR, WARN, or READY, are to be used when the target is threatening according to some of the rules but not all. For example, a military aircraft that is close and descending (see Rule c), small with weapons radar (see Rule e), but is travelling slowly at an angle to the group (see rule d) might need to be WARNED. You would not want to ignore it, but you would not want to shoot it down either.

PATROL SESSIONS

During your patrol session, you will see two screens. These are described below.

The "Sea Screen". While you are monitoring traffic, you will be stationed at a computer terminal. When this screen has four icons on it (i.e., the carrier, plane, ship, and land mass), you are in the "Sea Screen" mode, meaning that you have a target (i.e., a red dot) in your airspace that needs to be assessed. The target will begin to blink and beep at an increasing rate when there are less than 30 seconds left to respond. If you fail to make any decision about the target, this will be treated as if you decided to **IGNORE** it.

The "Feedback Screen". After you send your judgment, you will receive a report summarizing how you performed on that trial. This information will appear in the "Feedback Screen" that comes up right after you make each judgment. There are five possible outcomes from an encounter, and your total effectiveness on the task will be expressed in terms of points earned according to the following schedule:

HIT -- A hit means that your decision was exactly correct; for example, the target should have been "warned" and that's exactly what you decided. A hit is worth **2** points.

NEAR MISS --A near miss means that you were off by one place in terms of your aggressiveness stance. For example, if your decision was "warn," when it should have been "monitor," this would be a near miss (a little too aggressive). It would also be a near miss if the decision was to "warn" when it should have been "ready" (a little too passive). A near miss is a pretty good outcome, however, because the ships will be able to adjust to the target if the initial stance is this close. A near miss is worth **1 POINT**.

MISS -- A miss means that your decision was off by two places. For example, if your decision was "warn" when it should have been "review," you were too aggressive. Similarly, if your decision was "warn" when it should have been "lock-on," you were too passive. A miss is worth **0 POINTS**.

INCIDENT -- An incident means that you were off by three places in response to the target. An incident means that the battle group just narrowly avoided disaster (i.e., being hit or mistakenly shooting down a friendly target). This outcome results in a **LOSS OF 1 POINT**.

DISASTER -- A disaster means that your decision was off by four places. This means that one of the ships in the group was struck by a missile (if overly passive), or that one of the ships shot down a friendly target (if overly aggressive). Remember that the ship set to "ready" or "lock-on" will have activated weapons. So, you can shoot down targets by mistake, even if you are not explicitly "defending". This outcome results in a **LOSS OF 2 POINTS**.

RANGE OF ATTRIBUTES AND COMBINATION RULES

Presented below is a brief review of the combination rules for determining the threat level associated with any target along with the ranges for all nine attributes and the threat levels associated with these ranges. For this session, it is important that you learn the various threat levels associated with each corresponding attribute and range.
You should try to memorize as much on this page as you can.

Degree of Threat

	Non-Threatening	Somewhat Threatening	Very Threatening
Speed	100-300 mph	301-550 mph	551-800 mph
Altitude	35,000-25001 ft	25,000-15001 ft	15,000-5000 ft
Size	65-41 m	40-21 m	20-10 m
Angle	+15 to +6 dgs	+5 to -5 dgs	-6 to -15 dgs
IFF	.2 to .7 Mhz	.8 to 1.2 Mhz	1.3 to 1.8 Mhz
Direction	30 to 21 dgs	20 to 11 dgs	10 to 0 dgs
Corridor St.	0 to 10 mi	11 to 20 mi	21 to 30 mi
Radar Type	Class 1 to 3	Class 4 to 6	Class 7 to 9
Range	200-100 mi	99-50 mi	49-0 mi

Summary of How to Determine Threat Levels

(a) All else equal, in terms of IFF, military targets are more threatening than civilian targets.

(b) SPEED and DIRECTION go together, so that fast targets coming straight in are most threatening. Speed alone and direction alone mean nothing. There is nothing to fear if fast targets are not headed toward the group. There is nothing to fear from objects headed directly for the group that are moving slowly.

(c) ANGLE and RANGE go together, so that descending targets that are close are especially threatening. Angle alone and range alone mean nothing. Descending targets that are far away, or close targets that are on the way up are not threatening.

(d) ALTITUDE and CORRIDOR STATUS go together, so that low flying targets that are way outside the corridor are especially threatening. Altitude and corridor status alone mean nothing. There is nothing to fear from high flying targets well outside the corridor or low flying targets in the middle of the corridor.

(e) SIZE and RADAR go together, so that small objects with weapons radar are especially threatening. There is nothing to fear from small targets with weather radar or from large targets with weapons radar.

APPENDIX C

Pre-Employment Test of General Abilities

1. 600 miles per hour represents which of the following?

   (a) A non-threatening target
   (b) A somewhat threatening target
   (c) A very threatening target
   (d) A target on the border between two threat levels
   (e) A target that is out of possible range of values

2. 05 degrees of angle represents which of the following?

   (a) A non-threatening target
   (b) A somewhat threatening target
   (c) A very threatening target
   (d) A target on the border between two threat levels
   (e) A target that is out of possible range of values

3. 50 meters represents which of the following?

   (a) A non-threatening target
   (b) A somewhat threatening target
   (c) A very threatening target
   (d) A target on the border between two threat levels
   (e) A target that is out of possible range of values

4. Class 2 radar type represents which of the following?

   (a) A non-threatening target
   (b) A somewhat threatening target
   (c) A very threatening target
   (d) A target on the border between two threat levels
   (e) A target that is out of possible range of values

5. 1.5 Mhz represents which of the following?

   (a) A non-threatening target
   (b) A somewhat threatening target
   (c) A very threatening target
   (d) A target on the border between two threat levels
   (e) A target that is out of possible range of values

6. +20 degrees of angle represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

7. 250 miles per hour represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

8. 30,000 foot altitude represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

9. 5 miles outside the corridor represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

10. 20 meters represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

11. Class 7 radar type represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

12. .5 Mhz represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

13. 850 miles per hour represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

14. 35 degrees of direction represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

15. 0 degrees of angle represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

16. 80 miles for range represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

17. 7.500 foot altitude represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

18. 25 miles outside the corridor represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

19. .7 Mhz represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

20. 200 miles per hour represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

21. 25 degrees of angle represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

22. 15 meters represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

23. Class 8 radar type represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

24. 15,000 foot altitude represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

25. 20 miles outside the corridor represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

26. +10 degrees of angle represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

27. 120 miles for range represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

28. 300 miles per hour represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

29. 10 degrees of direction represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

30. 2.0 Mhz represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

31. 25 meters represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

32. Class 5 radar type represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

33. -5 degrees of angle represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

34. 50 miles for range represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

35. 40,000 foot altitude represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

36. 40 miles outside the corridor represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

37. 70 meters represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

38. Class 10 radar type represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

39. 400 miles per hour represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

40. 15 degrees of angle represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

41. 1.2 Mhz represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

42. -12 degrees of angle represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

43. 35 miles for range represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

44. 22,000 foot altitude represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

45. 13 miles outside the corridor represents which of the following?

(a) A non-threatening target
(b) A somewhat threatening target
(c) A very threatening target
(d) A target on the border between two threat levels
(e) A target that is out of possible range of values

46. All else equal, which of the following is/are characteristic(s) of a threatening target?

(a) Low flying targets
(b) Military targets
(c) Targets with weather radar
(d) 2 of the above are characteristics of a threatening target
(e) 3 of the above are characteristics of a threatening target

47. All else equal, which of the following is/are characteristic(s) of a threatening target?

(a) Targets that are high flying
(b) Targets with weapons radar
(c) Targets that are fast and inside the corridor
(d) Targets that are descending and close
(e) Targets that are large and descending

48. All else equal, which of the following is/are characteristic(s) of a threatening target?

(a) Targets that are large
(b) Targets with weather radar
(c) Targets that are fast and coming straight in
(d) Targets that are small and inside the corridor
(e) Targets that are ascending and close

49. Which of the following combinations represents a more threatening target?

(a) Weather radar and small targets
(b) High flying and inside the traffic corridor
(c) Slow targets that are ascending
(d) Close and land radar targets
(e) Outside the traffic corridor and descending targets

50. Which of the following combinations represents a more threatening target?

(a) Slow and land radar targets
(b) High flying and fast targets
(c) Descending and inside the traffic corridor targets
(d) Outside the traffic corridor and low flying targets
(e) Close and ascending targets

APPENDIX D

Self-Efficacy Inventory

In order to get some information on individuals' prior level of experience on these types of tasks, or to get some feel for how well people expect to perform on these tasks, we would like to get your responses to the questions on this form.

Note that the table below provides information on how people typically do on the Air Defense Task. You should use this information as a basis for responding to the items on this questionnaire. For example, if you feel you are capable of performing better than average on the task (i.e. 37 points), you may indicate that you feel you can reach 42 points.

	Average of past players	Best 10% of past players	Best 25% of past players	Lowest 10% of past players
Number of Game Points Earned	37	52	46	12

INSTRUCTIONS: Indicate how well you expect to do on the ADT by placing a check on the line next to the each score level you believe you can attain. If you think you can reach all of the levels listed below, place checks on each of the lines.

What Levels of Performance Do You Think You Can Reach? (place a check for each level)	How Certain Are You That You Can Reach This Level? (see below before answering)
80 Points: _____	_____
70 Points: _____	_____
60 Points: _____	_____
50 Points: _____	_____
40 Points: _____	_____
30 Points: _____	_____
20 Points: _____	_____
10 Points: _____	_____

Now that you have indicated the levels of performance you think you can attain, please indicate how certain you feel that you can reach each of the eight levels of performance. Some people feel that they may be able to reach high levels of performance, but are not very certain that they can actually do that well. Therefore, indicate in percentages how certain you are of reaching each level of performance (use 10%, 20, 30, 40, 50, 60, 70, 80, 90, 100%). For example, if you are 100 percent sure you can reach 15 points, write 100 in the line provided next to that level.

APPENDIX E

Self-Efficacy Scale

INSTRUCTIONS: Please indicate (by writing the number in the blank before each item) the extent to which you agree or disagree with each of the statements.

Use the following scale to make your ratings:

1 = Strongly Disagree
2 = Disagree
3 = Neither Agree nor Disagree
4 = Agree
5 = Strongly Agree

SE* 1. I feel confident in my ability to perform the Air Defense Task effectively.

SE 2. I think I can eventually reach a high level of performance on the ADT.

SE 3. I am sure I can learn how to perform this task effectively in a relatively short period of time.

SE 4. I don't feel that I am as capable of performing the ADT task as the average applicant for this job.

SE 5. On the average, other people are probably much more capable of performing this task as I am.

SE 6. I am a fast learner for these types of tasks, in comparison to other people.

SE 7. I am not sure I can ever reach a high level of performance on this task, no matter how much practice and training I get.

SE 8. It would take me a long time to learn how to perform this task effectively.

SE 9. If my performance is initially substandard on the ADT, I don't think I can do anything to change that.

SE 10. I am probably more capable of performing the ADT than 25% of the other applicants for this job.

SE 11. I am probably more capable of performing the ADT than 50% of the other applicants for this job.

SE 12. I am probably more capable of performing the ADT than 75% of the other applicants for this job.

13. I am probably more capable of performing the ADT than 100% of the other applicants for this job.

14. If my initial performance outcomes are negative or substandard, I don't think that really means anything about my basic abilities to eventually perform very well.

SE 15. I feel uncertain, or a lack of confidence, that I can really perform as well as most other people on this task.

16. If I perform extremely well on this task, I think it would be because I am generally a capable and effective person.

SE 17. I am not confident that I can perform this task successfully.

SE 18. I doubt that my performance will be very adequate on the ADT.

SE 19. The ADT makes me uncertain of my level of ability to perform well on this job.

SE 20. I don't have any doubts about my personal capabilities of performing effectively on the Air Defense Task.

* refers to an item retained in the final self-efficacy scale

APPENDIX F

Collective Relative Deprivation Questionnaire

For each of the following questions, indicate the degree to which you agree with these statements, using the following scale:

1 = Disagree Very Much
2 = Disagree Pretty Much
3 = Disagree a Little
4 = Agree a Little
5 = Agree Pretty Much
6 = Agree Very Much

Please indicate as accurately as you can the extent to which you agree with each of the statements. There are no "correct" or "incorrect" answers.

CRD[a] 1. Women generally receive less pay than men for work of equal value in organizations.

CRD 2. Men are usually given advantage over women of equal ability in hiring decisions.

CRD 3. Usually, if a choice has to be made between a man and a woman, the man is more likely to receive an important promotion at work.

CRD 4. Women have to be much better than men to be given the same opportunities at work.

CRD 5. Men are usually regarded as performing more effectively in work roles than are women of equal ability.

CRD 6. I am satisfied with the way women are treated at work relative to the way men are treated.

7. Historically, women have been treated unfairly in this society as compared to men.

CRD 8. It angers me when I consider the way women have been treated in general as compared with the way men have generally been treated.

9. I am unhappy with the way societal advantages and opportunities have been allocated to women as compared to men.

CRD 10. All in all, women have not had the same treatment as men in our society.

CRD 11. Organizations generally prefer to employ men than women.

CRD 12. In the past, women have received unfair treatment in organizational hiring decisions.

CRD 13. Historically, women have been less likely to receive promotions in organizations compared to men who were equally qualified.

CRD 14. Historically, women were paid an unfair wage as compared to men who performed the same or cmparable jobs.

CRD 15. When I consider the way men and women have been treated in organizational hiring decisions, I generally feel satisfied.

CRD 16. I really don't have any complaints about the way women have been treated in organizational promotion decisions.

CRD 17. I am not dissatisfied with the way women seem to have generally been treated in organizational pay and salary decisions.

CRD 18. It seems that so often in the past, women have just not been treated fairly in job hiring decisions.

CRD 19. Generally, at a societal level, women are at a disadvantage compared to men.

CRD 20. Society offers generally favorable treatment to men as compared to women.

21. I feel sorry for women who have to compete against men for the same employment position.

CRD 22. I think it is wrong the way women have historically been treated in employment decisions.

CRD 23. When I hear women complain that they have been discriminated against in employment decisions, I usually agree that they may be correct.

24. I don't agree with people who say that in the past women were treated unfairly in organizations as compared to men.

CRD 25. I really don't feel unhappy, frustrated, or angry when I consider how women have been treated in organizations.

[a] refers to an item retained in the final collective relative deprivation scale

APPENDIX G

Self-Handicapping Questionnaire

Please indicate (by writing the number in the blank before each item) the degree to which you agree with each of the following statements as a description of the kind of person you think you are most of the time. Use the following scale:

1 = Disagree Very Much
2 = Disagree Pretty Much
3 = Disagree a Little
4 = Agree a Little
5 = Agree Pretty Much
6 = Agree Very Much

SHE[a] 1. When I do something wrong, my first impulse is to blame the circumstances.

SHA 2. I tend to put things off to the last moment.

SHA 3. I tend to overprepare when I have any kind of exam or performance.

SHE 4. I suppose I feel "under the weather" more often than most people.

SHA 5. I always try to do my best, no matter what.

SHA 6. Before I sign up for a course or engage in any important activity, I make sure I have the proper preparation or background.

SHE 7. I tend to get very anxious before an exam or performance.

SHE 8. I am easily distracted by noises or my own creative thoughts when I try to read.

SHE 9. I try not to get to intensely involved in competitive activities so it won't hurt to much if I lose or do poorly.

10. I would rather be respected for doing my best than admired for my potential.

SHA 11. I would do a lot better if I tried harder.

12. I prefer the small pleasures in the present to the larger pleasures in the dim future.

13. I generally hate to be in any condition but my best.

14. Someday I might "get it all together."

SHE 15. I sometimes enjoy being mildly ill for a day or two because it takes off the pressure.

SHE 16. I would do much better if I did not let my emotions get in the way.

17. When I do poorly at one kind of thing, I often console myself by remembering I am good at other things.

SHE 18. I admit that I am tempted to rationalize when I don't live up to others' expectations.

SHE 19. I often think I have more than my share of bad luck in sports, card games, and other measures of talent.

SHA 20. I would rather not take any drug that interfered with my ability to think clearly and do the right thing.

SHE 21. I overindulge in food and drink more often than I should.

SHA 22. When something important is coming up, like an exam or a job interview, I try to get as much sleep as possible the night before.

SHE 23. I never let emotional problems in one part of my life interfere with other things in my life.

24. Usually, when I get anxious about doing well, I end up doing better.

SHE 25. Sometimes I get so depressed that even easy tasks become difficult.

26. When a member of the opposite sex judges me in some way, my first reaction is to attribute their behavior to their attitudes towards women or men in general.

27. I often act differently around members of the opposite sex because I think they will judge me on the basis of my gender.

SHS 28. I feel that people have a natural tendency to discriminate against me because of my gender.

SHS 29. I would succeed a lot more often if there were not biases against me because of my gender.

SHS 30. I get frustrated often at the way I am treated on the basis of my gender.

SHS 31. When I do poorly in evaluative situations, I make myself feel better by remembering that I may have been evaluated differently because of my gender.

SHS 32. I think I have to work harder than members of the opposite sex in order to be noticed for my accomplishments.

SHS 33. Sometimes it doesn't even seem worthwhile to me to try hard because I know I won't be given credit by people who evaluate others on the basis of their gender.

SHS 34. Because of my gender I often feel there will be less of an association between how well I really do and how I am evaluated.

SHS 35. I tend to console myself when I don't live up to others expectations by thinking that they may have been biased against me because of my gender.

[a] SHE refers to an item retained in the final SH: Externalizing scale.
SHA refers to an item retained in the final SH: Avoidance scale.
SHS refers to an item retained in the final SH: Sexism scale.

APPENDIX H

Rosenberg's (1965) Self-Esteem Scale

Please indicate your level of agreement with the following items. Use the five-point scale below to indicate for each item your personal reaction. Please be frank and honest.

1 = Strongly Disagree
2 = Disagree
3 = Neither Disagree nor Agree
4 = Agree
5 = Strongly Agree

1. I feel that I am a person of worth, at least on an equal basis with others.
2. I feel that I have a number of good qualities.
3. All in all, I am inclined to feel that I am a failure.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I take a positive attitude toward myself.
7. On the whole, I am satisfied with myself.
8. I wish I could have more respect for myself.
9. I certainly feel useless at times.
10. At times I think I am no good at all.

APPENDIX I

Public Self-Consciousness Scale

Please respond to the items on this questionnaire by using the scale provided below:

1 = DISAGREE VERY MUCH
2 = DISAGREE SOMEWHAT
3 = NEITHER DISAGREE NOR AGREE
4 = AGREE SOMEWHAT
5 = AGREE VERY MUCH

1. I'm concerned about what other people think of me.

2. I usually worry about making a good impression.

3. I'm concerned about the way I present myself.

4. I'm self-conscious about the way I look.

5. I'm usually aware of my appearance.

6. One of the last things I do before leaving the house is look in the mirror.

7. I'm concerned about my style of doing things.

8. I try to ensure that others evaluate me favorably.

APPENDIX J

Attributions Questionnaire

In order to get some idea of what people thought of our pre-employment mental ability test and our hiring policies, we would like you to respond to the following questions.

IMPORTANT: Your responses will not be known to the hiring supervisor, so answer honestly. Your answers are anonymous and confidential.

INSTRUCTIONS: Think about how you probably did on the pre-employment selection test. Use the space below to indicate approximately what percentage of the items you think you answered correctly. Remember, we have been using a cut-off score of 65% correct on the test to select people for employment on a temporary job. Your own test score may be higher or lower than 65% correct.

What do you think your score (in percent correct) was on the pre-employment test of general mental abilities?

_____ percent correct.

INSTRUCTIONS: We would now like you to think about the reason or reasons why you think you performed the way you did on the pre-employment ability test. The items below concern your impressions or opinions of the cause or causes for your test performance. You'll notice that many of the potential causes for your performance are stated in relatively general terms. For example, many of these items ask you to indicate the extent to which you think that your performance on the test was caused by things that are due to who you are and what kind of person you are (i.e. internal causes), or was caused by things that are due to the situation or other people (i.e. external causes). You will also be asked to indicate whether these internal and/or external causes are stable and unchanging over time, or are unstable and temporary.

For these general items, you will have to reflect for a while on what you think caused your performance on the test. Then, consider whether you performed the way you did because of things that are your own fault (internal), or because of things that are the fault of the situation or other people (external). Then, decide whether these causes are likely to remain the same, or may change in the future.

Here's an example: Assume you think that your test score was due to your general level of intelligence. Your intelligence is something that is a part of you, not the situation or other people. Many people also think that their general level of intelligence is stable rather than temporary. Therefore, if your test score was caused by your intelligence, you might indicate that the causes of your test score were, to some extent, internal and stable.

Likewise, for most people, mood is considered internal but unstable. However, for others moods, may last longer and be more stable. Your own effort on the test is an internal cause, but is unstable because it may change the next time you take a similar test. The difficulty of the test itself is external to you, and may be either stable or unstable depending on how you look at it.

INSTRUCTIONS: Use the scale provided to indicate the extent to which you agree with each of the statements below.

1 = Strongly Disagree
2 = Somewhat Disagree
3 = Neither Agree Nor Disagree
4 = Somewhat Agree
5 = Stronlgy Agree

IU[a] 1. I think my test score was caused by things that are a part of me, but that are temporary and won't always be a part of me.

IU 2. I think my score was caused by things that are my own fault, but that I can change in the future.

IU 3. I think my test score was caused by things that are due to how I am right now, even though I may be different later on.

IU 4. My test score was the fault of things about me that won't always be there to affect my performance on other tests.

IU 5. My test score was caused by things about me that are unstable and temporary.

IU 6. My test score reflects things about me that are unstable and changeable.

IS 7. My test score was caused by things that are a part of me, and will always be a part of me.

IS 8. My score was caused by things that are my own fault, and that I cannot change in the future.

IS 9. My test score was caused by things that are due to who I am and what I am like as a person.

IS 10. My test score was the fault of things about me that will always be there to affect my performance on other tests.

IS 11. My test score was caused by things about me that are stable and permanent.

IS 12. My test score reflects things about me that are permanent and unchangeable.

EU 13. My score on the test was caused by things that are part of the situation or other people, but are temporary and changeable.

EU 14. My test score was the fault of temporary and unstable things about the situation or other people.

EU 15. My test score was caused by things that are specific to this situation or the people involved, and won't be present in other situations.

EU 16. My score was the fault of things about the situation or other people that won't always be there in other situations to affect my performance.

EU 17. My test score was caused by things about the situation or other people that are temporary or changeable.

EU 18. My test score reflects things about the situation that are specific to this situation and are not likely to affect my performance in the future.

ES 19. My score on the test was caused by things that are permanently part of the situation or other people.

ES 20. My test score was the fault of permanent things about the situation or other people.

ES 21. My test score was caused by things that are a part of this situation, but will also be a part of other similar situations.

ES 22. My score was the fault of things about the situation or other people that will always be there in other situations to affect my performance.

ES 23. My test score was caused by things about the situation or other people that are permanent and unchanging.

ES 24. My test score reflects things about the situation or other people that are likely to affect my performance in other similar situations.

25. My test score does not reflect anything about who I am as a person.

26. My test score does not reflect anything about how I feel right now.

27. My test score does not reflect anything about this specific situation.

28. My test score does not reflect anything about situations that are similar to the present one.

INSTRUCTIONS: For the next set of questions, use the scale provided below to indicate the extent to which you consider each of the things listed below as likely causes for your performance on the selection test.

1 = EXTREMELY UNLIKELY that this affected my performance
2 = FAIRLY UNLIKELY that this affected my performance
3 = COULD have played a role, but not a great one
4 = FAIRLY LIKELY that this affected my performance
5 = EXTREMELY LIKELY that this affected my performance

ABIL 29. Your own basic, intrinsic abilities.

ABIL 30. Your own capabilities of adapting to new requirements.

LUCK 31. Temporary luck.

LUCK 32. Your lucky, or unlucky nature.

MOT 33. Your effort on the test.

MOT 34. Your typical effort in these types of situations.

MOT 35. Your interest in the test.

MOT 36. Your desire to perform well on the test.

MOT 37. Your desire to perform well on the job for which this test is being used.

MOT 38. Your typical desire to meet challenges that are placed in front of you.

39. Your basic level of ability to perform tasks like the job for which this test is being used.

MOT 40. Your motivation to succeed on the pre-employment test.

TEST 41. The difficulty of the test.

42. Your test-taking ability.

TEST 43. The length of the test.

TEST 44. The time constraints imposed on the test.

TEST 45. The specific types of questions that were asked on the test.

BIAS 46. Bias in the test that works to hold down the performance of women.

BIAS 47. Factors in the test that cause it to provide a poor assessment of women's abilities.

BIAS 48. Bias in the selection procedure that limits the number of women who are hired using this test.

BIAS 49. The low expectations held by the employer for the eventual success of women on the job for which this test is being used.

BIAS 50. The use of the selection test by the employer to limit the number of women it has to hire.

BIAS 51. The tendency for women to lack the abilities to perform the job for which this test is being used.

BIAS 52. The negative attitudes toward women held by the employer using this test.

BIAS 53. The desire on the part of the employer to hire men rather than women.

BIAS 54. The "maleness" of the job for which this test is being used.

BIAS 55. The belief on the part of the employer that women cannot perform the job very well.

56. Your ability to perform the job for which this test is being used.

* abreviations refer to items retained the following final scales:
IU = internal-unstable; IS = internal-stable; EU = external-unstable;
ABIL = ability attributions; LUCK = luck attributions; MOT = motivation attributions; TEST = attributions to test characteristics; BIAS = attributions to sex bias.

APPENDIX K

Expectancies Questionnaire

Now that you have been selected for the job, we are interested in your expectations regarding how successful your performance will be on the Air Defense Task.

INSTRUCTIONS. Please indicate (by writing the number in the blank before each item) the extent to which you agree or disagree with each of the statements.

Use the following scale to make your ratings:

1 = Strongly Disagree
2 = Disagree
3 = Neither Agree nor Disagree
4 = Agree
5 = Strongly Agree

EXP-P[a] 1. I think my performance on the Air Defense Task will be considered very good.

EXP-P 2. I am confident that my performance on the ADT will be considered above average.

EXP-P 3. I have a good chance of being hired back for the follow-up task.

EXP-P 4. My outcomes on the ADT will place me in the top 10% of all people who perform this task.

EXP-P 5. My outcomes on the ADT will place me in the top 25% of all people who perform this task.

EXP-P 6. My outcomes on the ADT will place me in the top 50% of all people who perform this task.

7. My outcomes on the ADT will place me above the bottom 30% of all people who perform this task.

8. The individual who evaluates my performance will consider me better than 25% of all people who perform this task.

EXP-P 9. The individual who evaluates my performance will consider me better than 50% of all people who perform this task.

EXP-P 10. The individual who evaluates my performance will consider me better than 75% of all people who perform this task.

EXP-P 11. The individual who evaluates my performance will consider me better than 90% of all people who perform this task.

EXP-P 12. My chances of being asked back for the follow-up task are better than 50-50.

EXP-P 13. My chances of being asked back for the follow-up task are better than 70%.

EXP-P 14. My chances of being asked back for the follow-up task are better than 90%.

EXP-P 15. I am 100% certain I will be asked to participate in the follow-up task.

EXP-P 16. My objective level of performance will be considered sufficient to call me back for the follow-up task.

17. My objective level of performance will not be regarded as good enough to call me back for the follow-up task.

EXP-P 18. I am confident that my performance will be very high on the Air Defense Task.

EXP-P 19. I think I can perform the ADT very effectively.

EXP-P 20. Compared to most other people, my performance on the task will be fairly low.

EXP-P 21. I don't think I can achieve a high level of performance on the ADT task.

EXP-C 22. Overall, my performance on the ADT task will be higher than I think I will be given credit for.

EXP-P 23. Other people would probably consider my performance on the ADT to be outstanding.

EXP-C 24. I think I can do better on the ADT than people will probably give me credit for.

EXP-C 25. People will consider my performance fairly mediocre even though it will probably be very high.

a EXP-P refers to an item retained in the final Expectancies: Performance scale.
EXP-C refers to an item retained in the final Expectancies: Credit scale.

APPENDIX L

Goal Questionnaire

We would like you to set a personal goal for your performance on the Air Defense Task. This should be the level of performance (in number of game points) you are striving to attain on the task, irrespective of how certain you are that you can each this level of performance.

INSTRUCTIONS: **Indicate your personal goal by indicating the number of points you will strive to attain as as your own performance target on the Air Defense Task.**

Note that the table below provides information on how people typically do on the Air Defense Task. You should use this information as a basis for setting your own personal goal for the task. For example, if you decide to strive for an exceptionally high level of performance, then your goal should be higher than the average performance of others who have worked on this task. Likewise, if you decide to set your sights lower, you may set goals that are below the average performer on the ADT.

	Average of past players	Best 10% of past players	Best 25% of past players	Lowest 10% of past players
Number of Game Points Earned	37	52	46	12

What level of performance (in number of points) are you using as a goal? (i.e. how many points are you shooting for as your personal performance goal?)

_____

APPENDIX M

Fairness Questionnaire

We would like to know how fair you considered our hiring procedure and our decision to hire you in particular.

INSTRUCTIONS: Please indicate (by writing the number in the blank before each item) the extent to which you agree or disagree with each of the statements.

Use the following scale to make your ratings:

1 = Strongly Disagree
2 = Disagree
3 = Neither Agree nor Disagree
4 = Agree
5 = Strongly Agree

GF 1. The decision to grant me the job was fair, under the circumstances.

GF 2. The decision to offer me the Air Defense job was appropriate.

GF 3. I don't think it was a fair decision to offer me the ADT job.

GF 4. I received what I deserved by being offered the ADT job.

GF 5. I consider the decision to offer me the ADT job a fair outcome.

GF 6. By giving me the ADT job, I am receiving greater outcomes than I really think I deserve.

GF 7. I would have made the same hiring decision as was made in my own case.

8. My outcomes from the pre-employment selection process were greater than my real inputs, or qualifications.

GF 9. The distribution of job assignments was unfair in my own circumstances.

10. My outcomes from the pre-employment selection process were equal to my real inputs, or qualifications.

GF 11. I think the decision to offer me the job was based on an appropriate weighting of my test performance and my personal characteristics.

GF 12. Given the way test scores and gender were used to determine who should be hired for the Air Defense Task, I consider the decision made in my own case to be fair.

GF 13. I would disagree with anyone who tried to tell me that the decision to give me the job was really unfair.

GF 14. If someone were to challenge my own hiring outcomes, I would argue that the decision was appropriate under the circumstances.

GF 15. I have no doubts that an equitable and fair decision was made in my own selection decision.

GF 16. Under the circumstances, I should not have been hired to perform the Air Defense Task.

GF 17. Rather than hire me for the ADT, the simulator training group really should have reserved the positions for more qualified individuals.

GF 18. It would have been more appropriate to deny the position to me in favor of giving it to someone who is more qualified.

GF 19. Under the circumstances, I am the "right" person for this job.

GF 20. Even though hiring the very best people for this job may result in few women actually being hired, the organization should not be hiring people like me.

PF-T 21. The test used to determine who should be hired for the ADT is not a reliable and valid indicator of ability to perform the job.

PF-B 22. The test used to hire people for the job is biased against women.

PF-T 23. The selection test is an unfair test of a person's true ability to perform this type of simulated Air Defense Task.

PF-T 24. It is impossible for applicants to receive a fair evaluation during the pre-employment testing process of their true abilities to eventually perform the ADT.

PF-B 25. The testing procedure used to determine applicant qualifications is unfair to female applicants.

PF-B 26. The testing procedure used to determine applicant qualifications is unfair to male applicants.

GF 27. All in all, the pre-employment hiring procedures are generally fair to women.

GF 28. All in all, the pre-employment hiring procedures are generally fair to men.

29. The test used to determine my qualifications treated me unfairly.

30. The procedure used to determine whether I should be hired was unfair to me.

31. The pre-employment hiring procedure included consistent standards for hiring people.

GF 32. The procedure used in my hiring decision reflected a real interest on the part of the organization in trying to be fair.

33. The organization based hiring decisions on a thorough familiarity with each applicant's abilities to perform the ADT.

PF-T 34. The hiring procedure obtained accurate information about each applicant's abilities to perform the ADT.

35. The hiring procedure allowed the hiring supervisor's motives or biases to influence the hiring decision.

GF 36. The hiring decision was influenced by things that should not have been considered.

GF 37. The process used to decide whether I should be hired was appropriate.

GF 38. The process used in combining my test score and my personal characteristics to determine my hiring decision was fair.

39. The decision to hire me was based on a fair balance between my test scores and my gender.

40. My gender should not have been considered during the hiring process.

41. Under the circumstances, the process used to decide whether I should be hired or not was fair to me.

GF 42. Under the circumstances, the process used to decide whether I should be hired or not was fair to other applicants.

43. The organization uses a selection procedure that is unfair.

44. I would recommend changing the organization's hiring process.

PF-T 45. I have strong doubts that the pre-employment test really measures a person's ability to perform the ADT.

* GF refers to an item retained in the final general fairness scale.
PF-T refers to an item retained in the final test validity scale.
PF-B refers to an item retained in the final procedural bias scale.

APPENDIX N

Advertisement for Research Participants

WANTED: Students to participate in a computer-controlled Military Air Defense and Radar Training Simulation. Work for 2 & 1/2 hours on an interesting computer game/simulation and complete a few questionnaires dealing with reactions and attitudes. Receive $15 for 2 & 1/2 hours of participation. No restrictions. To apply call 353-2880.

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