

EXPLAINING GENDER-BASED SELECTION DECISIONS: A SYNTHESIS OF CONTEXTUAL AND COGNITIVE APPROACHES

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In this article we integrate contextual and cognitive explanations for gender-based selection in the workplace; we also consider the implications of this integration for understanding gender segregation. We argue that decision makers' propensity to use applicant gender as a basis for hiring and promotion decisions varies systematically across organizational contexts. We explore specific ways in which organizational context influences decision makers' development and use of gender-associated schemas of typical jobholders. We also argue that the interaction between context and cognition may be partially responsible for the persistence of gender segregation. Finally, we discuss the implications of our approach for the practice of personnel selection and research on selection and gender segregation.

Gender segregation refers to the employment of men and women in different industries, occupations, firms, or jobs. A growing body of literature has documented the extensiveness of gender segregation and has attempted to explain its origins (see Reskin, 1993, for a review). Gender segregation is a major cause of the gender gap in wages, benefits, and retirement income (Perman & Stevens, 1989; Reskin & Hartmann, 1986; Treiman & Hartmann, 1981). Also, female-dominated jobs provide fewer opportunities for training and formal mobility than male-dominated jobs (Baron, Davis-Blake, & Bielby, 1986; Bielby & Baron, 1986; Halaby, 1979), and women's concentration in lower level positions may make them more vulnerable to repeated unemployment than men (Reskin & Hartmann, 1986).

One necessary condition for gender segregation is the existence of gender-based selection decisions in organizations. When job applicant

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gender systematically affects organizational selection decisions, women tend to occupy primarily female-dominated jobs, and men are concentrated in male-dominated jobs. Thus, gender segregation is at least partially the result of many individual gender-based selection decisions. The effects of organizational selection on gender segregation have been studied from two perspectives using different research methods at different levels of analysis. The contextual perspective focuses on factors that predict variation in gender segregation across jobs, occupations, or firms (e.g., Bielby & Baron, 1986; Blau, 1977; Reskin & Roos, 1990). The cognitive perspective concentrates on how individual decision makers use gender when evaluating job applicants (e.g., Futoran & Wyer, 1986; Heilman, Martell, & Simon, 1988; Hitt & Barr, 1989). Although the cognitive perspective does not directly examine gender segregation, it has clear implications for segregation because the selection of men and women into different jobs is a precondition for gender segregation.

The purpose of this article is to develop a more nearly complete explanation of the determinants of gender-based selection decisions. We integrate cognitive and contextual explanations for gender-based selection, and we also explain how this integration leads to an improved understanding of gender segregation. Specifically, we argue that decision makers' propensity to use gender as a basis for selection and promotion decisions varies across organizational contexts. A number of researchers have called for examinations of how organizational and individual factors jointly affect individuals' workplace outcomes. For example, Cappelli and Sherer (1991: 90) argued that it is essential to link organizational context to individual outcomes by "finding mechanisms through which context can affect the individual." To date, attempts to link organizational context to individual labor market outcomes (e.g., job assignments, compensation) have focused on how structural features of jobs and organizations mediate the relationship between organizational context and individual outcomes. Cappelli and Sherer (1991) argued that internal labor markets limit the influence of external labor markets on a variety of individual outcomes, including skill acquisition and compensation. Similarly, Auster (1989) argued that task characteristics mediate the relationship between organizational context and individual compensation; Baron and Pfeffer (1993: 55) made a comparable argument about job titles and other "organizational categories." We follow in this general tradition; however, instead of emphasizing structural mediators between organizational context and individual outcomes, we focus on the mediating role of the cognitive processes of organizational decision makers. This focus is important because, as Reskin (1993: 250) has noted, although employers play a major role in creating and perpetuating gender segregation, "surprisingly little attention has been paid to the effect of employers' gender-role attitudes on their personnel decisions."

Integrating cognitive and contextual perspectives on gender-based

selection decisions increases our understanding of gender segregation because contextual and cognitive approaches each offer only a partial explanation for gender segregation. An integrated approach provides a more nearly complete explanation of the forces that create and sustain segregation. Three examples illustrate this idea. First, research from a cognitive perspective that has been used to investigate whether job applicant gender affects the judgments of decision makers has yielded inconsistent results. Some researchers have found that applicant gender affects decision makers' judgments (e.g., Cohen & Bunker, 1975; Rosen & Jerdee, 1974b; Zickmund, Hitt, & Pickens, 1978), whereas other researchers have reported no effects of applicant gender (e.g., Renwick & Tosi, 1978; Sharp & Post, 1980; Terborg & Ilgen, 1975). The search for a main effect of applicant gender on decision makers' judgments may be misguided because *both* cognitive and contextual factors must be considered to understand selection decisions. Decision makers' perceptions that cause them implicitly or explicitly to use gender as a selection criterion will lead to biased selection decisions only when contextual factors permit decision makers to act on these perceptions. Similarly, contexts that magnify decision makers' use of applicant gender as a selection criterion only result in biased selection decisions when gender is associated with decision makers' perceptions of the typical jobholder.

Second, a number of researchers have explored the effects of organizational context on gender segregation. This research indicates that contextual factors such as the gender composition of a workgroup or organization influence gender segregation (Baron, Mittman, & Newman, 1991; Rose & Andiappan, 1978). However, contextual research does not provide a complete explanation of the process through which contextual factors affect segregation. For example, some researchers have argued that the gender composition of a workgroup may make the gender of job applicants salient to decision makers (Kanter, 1977a). However, there has been little discussion of how gender influences the judgment processes of organizational decision makers as gender becomes salient. Given that gender segregation is the cumulative result of many individual selection decisions, the study of contextual factors alone provides an incomplete explanation for the generation and maintenance of gender segregation unless contextual factors are explicitly linked to the cognitive processes and selection decisions of organizational decision makers.

Third, the level of gender segregation remains substantial despite a modest decline during the 1970s (Blau & Ferber, 1992; Jacobs, 1989). However, the persistence of gender segregation is difficult to explain from either a contextual or a cognitive perspective alone. We argue that some relatively stable contextual features of organizations can influence the cognitive processes of decision makers so that decision makers are more likely to use gender in selection decisions. Also, the cognitive processes of decision makers can reinforce the organizational-level attributes that

generate segregation (Baron & Pfeffer, 1993). Through this interactive process, cognitive and contextual variables may jointly sustain segregation, thus accounting for the persistence of segregation.

Although gender-based selection decisions are a necessary condition for gender segregation, other processes may affect gender segregation. Reskin (1993) suggested that gender segregation is the result of two major processes: self selection (men and women choose different kinds of jobs) and organizational selection. We focus on the effects of organizational selection, which includes all situations in which an organizational decision maker selects an individual to fill a vacant position at any level in the organization. The individual could be selected from outside the organization or from inside the organization through transfer or promotion. Although decision makers involved in transfers or promotions may have a different amount and type of information than decision makers involved in external hiring, there is little evidence that the basic cognitive processes used in both types of selection decisions are different (Rosen & Jerdee, 1974a,b; Terborg & Ilgen, 1975). For both internal and external selection decisions, decision makers appear to base selection decisions on the fit between the attributes of the job applicant and the decision maker's perceptions of the typical jobholder (Heilman, 1983; Terborg & Ilgen, 1975). Although there may be some idiosyncratic aspects of these perceptions, decision makers within the same organization tend to exhibit high agreement about the perceived attributes of typical jobholders (Rynes & Gerhart, 1990).

There are three reasons for our focus on organizational selection. First, a substantial amount of research suggests that gender segregation cannot be explained fully by self selection (e.g., Bergmann, 1989; England, 1982; Reskin, 1993). Second, Blau and Ferber (1992) have argued that the effects of gender-based selection decisions in organizations can affect women's labor market behavior (e.g., discourage their investment in human capital, weaken their attachment to the labor force). Thus, gender-based selection decisions can affect the self-selection processes of future job applicants. Third, given that gender differences in job choice are due to a variety of acculturation practices that begin in childhood (Heilman, 1979; Marini & Brinton, 1984), altering organizational practices may be a more effective way to reduce gender segregation than attempting to change individual preferences for jobs.

Gender segregation can be examined at multiple levels of analysis, but we focus on gender segregation at the job level. Job-level segregation is of particular interest because it is a necessary precondition for segregation at other levels of analysis. Also, job-level segregation is more extensive, costly, and persistent than segregation at other levels (Bielby & Baron, 1986; Reskin, 1993).

The remainder of this article is divided into six sections. First, we briefly review contextual explanations for gender segregation. Second, we review the cognitive literature on selection decisions. Third, we

describe how the two literatures can be integrated and discuss specific integrative propositions. Fourth, we explore how the interaction of cognitive and contextual factors may affect the persistence of gender segregation. Fifth, we discuss the implications of our ideas for personnel selection, and, finally, we discuss ideas for future research on selection and gender segregation.

CONTEXTUAL EXPLANATIONS FOR GENDER SEGREGATION

The literature on the contextual determinants of gender segregation suggests that gender segregation is affected by three factors: the demographic composition of applicant pools, organizations, and jobs; organizational structure and size; and the power of key interest groups inside and outside the organization.

Demography and Gender Segregation

The gender composition of an applicant pool, organization, or job (particularly the gender composition of key leadership positions) affects the level of gender segregation. A relatively large body of research suggests that the gender composition of an applicant pool may affect gender segregation. Specifically, a scarcity of male applicants (or a large number of female applicants) increases women's access to male-dominated jobs (see Reskin, 1993, for a review). If individuals learn about jobs from similar others (e.g., same gender) who are already in them, the gender composition of applicant pools may be stable over time, reinforcing current levels of segregation. This reinforcing process seems likely, given Granovetter's (1974) findings that most individuals find jobs through informal contacts.

There is also some evidence that the current gender composition of an organization affects future levels of gender segregation. Pfeffer, Davis-Blake, and Julius (In press) found that the proportion of female administrators in colleges and universities had a positive effect on the proportion of women in administrative positions five years later (cf. Baron et al., 1991). Kanter (1977b) has argued that the gender composition of a work group affects both current patterns of interaction among group members and the future gender composition of the group. For example, token women may be highly salient, face increased performance pressures, and may be viewed only in terms of stereotyped roles. These interaction patterns may discourage other women from entering the job.

The gender of key leaders also may affect levels of gender segregation. Kanter (1977a) argued that because similarity generates interpersonal attraction, many organizations engage in "homosocial reproduction": individuals hire and promote those who are like themselves. Managers who are female may be more willing than male managers to hire and promote women, thus reducing levels of gender segregation. Baron and colleagues (1991) reported that California state agencies with

female heads achieved higher levels of gender integration over a six-year period than agencies with male heads (cf. Pfeffer et al., *In press*, 1992).

Organizational Structure and Gender Segregation

Many firms create formal job ladders to govern the recruitment and mobility of employees (Doeringer & Piore, 1971). There is a growing body of evidence that formal job ladders create "rational" mechanisms that sustain gender segregation. As Charles (1992: 484) reported in her cross-national study of occupational segregation, when work is organized in a rational, bureaucratic manner, "any sex differences in family obligations, preferences, skills, cultural identity, and social and political power are more likely to be manifested in the form of occupational divisions than is the case in simpler economies, where public- versus domestic-sphere distinctions and direct wage discrimination are the salient dimensions of gender stratification" (emphasis in original). Baron and colleagues (1986) found that the formal job ladders in a sample of California establishments were typically segregated by gender, with women's job ladders offering fewer mobility prospects than job ladders occupied by men. DiPrete and Soule (1988) reported similar findings in their examination of white collar federal government employees: women were concentrated in lower level job ladders and moved into midlevel jobs at lower rates than men (see Halaby, 1979, and Martin & Harkreader, 1993, for similar findings in studies of single firms).

Research on the effects of organizational size on gender segregation reinforces the idea that formal employment arrangements often generate segregation. There is ample theoretical and empirical evidence that large firms are more likely than small ones to have formal arrangements that govern employment (Baron et al., 1986; Cohen & Pfeffer, 1986; Pfeffer & Cohen, 1984). Although hiring and promotions tend to be more bureaucratic, and presumably less particularistic, in large firms than in small ones, some researchers have reported that the level of gender segregation is higher in large firms than in small firms (Baron et al., 1991; Bielby & Baron, 1986). The positive effect of organizational size on gender segregation can be explained in two ways. First, large firms tend to be older and more inertial than small ones (Hannan & Freeman, 1984). Therefore, the relatively unchanging employment structures in large firms merely reinforce existing high levels of gender segregation. This possibility is supported by Baron and colleagues (1991) finding that young organizations had low levels of gender segregation. Second, large firms tend to proliferate job titles (Baron & Bielby, 1986), and this larger number of positions to which the organization's workforce can be assigned facilitates the segregation of work by gender.

Power and Gender Segregation

There is a growing body of evidence that the balance of power both within an organization and between an organization and key external

constituents affects the level of gender segregation. Pfeffer and colleagues (In press) reported that merely having an affirmative action officer had no effect on gender integration. However, when the affirmative action officer was highly paid relative to other administrators (and therefore likely to be powerful inside of the organization), the pace of gender integration was faster than when the affirmative action officer was less highly paid and less powerful. This result is consistent with Edelman's (1992) argument that the creation of affirmative action offices may be largely a symbolic response to environmental pressure for equal opportunity. Thus, the mere presence of an affirmative action officer may not have substantive results unless the affirmative action officer actually has the power to ensure equal employment opportunity.

Organizations whose hiring and employment practices are exposed to scrutiny by powerful external constituents appear to have lower levels of gender segregation than organizations whose employment practices are not subject to external scrutiny. For example, Baron and colleagues (1991) reported that state agencies that were reprimanded by the State Personnel Board for failure to comply with affirmative action and equal opportunity mandates had lower levels of gender segregation after the reprimand than nonreprimanded agencies. These findings are consistent with Leonard's (1984) result that firms that experienced an affirmative action compliance review increased their hiring of black females.

In order for organizational context to affect gender segregation, context must affect individuals' selection decisions. In the next section, we describe the cognitive processes underlying selection decisions. We then develop propositions about the ways in which organizational context might affect these cognitive processes.

COGNITIVE PROCESSES AFFECTING SELECTION DECISIONS

Proponents of a cognitive perspective on selection decisions argue that organizational decision makers (including personnel managers, supervisors, or any other organizational representatives involved in personnel decisions) are imperfect evaluators who render social judgments about job applicants. A cognitive perspective on selection elaborates on the theory of statistical discrimination (Aigner & Cain, 1977). This theory suggests that, based on decision makers' perceptions of the average marginal productivity of men and women, they use "some type of mental discriminant function, [to] classify jobs into one cluster reserved for males and another reserved for females" (Bielby & Baron, 1986: 781). A cognitive perspective explains in detail the nature and operation of this "mental discriminant function."

Proponents of models of social judgment argue that decision makers do not store information about jobs and jobholders in memory as an exact representation of real world phenomena (Fiske & Taylor, 1984; Wyer & Srull, 1981). Instead, organizational decision makers gradually acquire a

set of generalized mental models of important, repeatedly encountered categories of people and objects. These mental models guide the processing of new information and the retrieval of stored information (Fiske & Linville, 1980).

Various researchers have used the terms *schemas* (e.g., Kalin & Hodgins, 1984), *stereotypes* (e.g., Glick, Zion, & Nelson, 1988), and *prototypes* (e.g., Fiske & Taylor, 1984) to describe these mental models. The term *schema* is used to describe the most general type of cognitive representation. A schema may leave some attributes of the model unspecified. In contrast, a prototype is a model of a single instance that has all features specified using default values (Fiske & Linville, 1980). A stereotype is a specific type of schema that organizes knowledge about people who fall into clear categories defined by age, race, religion, etc. (Fiske & Taylor, 1984). Although *schema*, *prototype*, and *stereotype* are sometimes used interchangeably in the literature, we use *schema* because it is the most general and inclusive term (Fiske & Taylor, 1984). Thus, we use the term *jobholder schema* to describe the cognitive representation of a jobholder available to a decision maker. A jobholder schema organizes knowledge about people who perform a job and includes the most essential (although not necessarily all) attributes associated with the jobholder (Kulik, 1989). In the following sections, we describe how jobholder schemas are developed and used.

The Content of Schemas

Jobholder schemas may develop in three ways. First, schemas may be abstracted from repeated observations of similar events (Fiske & Taylor, 1984; Holyoak & Gordon, 1984; Park & Hastie, 1987). For example, an organizational decision maker may observe that typists are generally careful and fast and perform their work while seated. Eventually, these observations may be abstracted into a schema of a typist that includes typical behaviors (e.g., sitting before a typewriter) and personal characteristics (e.g., careful, fast).

Second, new schemas may be developed by modifying the basic elements of existing schemas (Holyoak & Gordon, 1984; Weber & Crocker, 1983). Repeated exceptions to a schema may result in the development of a new subschema. These subschemas allow the perceiver to retain many features of the initial schema while allowing for variation on some features that differ across jobholders (Fiske & Neuberg, 1990). For example, an organizational decision maker may observe that, although most first-line supervisors are tough, first-line supervisors in a particular organizational division are relaxed and easygoing. If a decision maker observes repeated instances of this exception, he or she may develop a subschema of first-line supervisors in that division that is a variant of the superordinate schema of all first-line supervisors. A cognitive perspective on selection is based on the assumption that individuals are cognitive misers (Fiske & Taylor, 1984; Heilman & Martell, 1986) who prefer one superordinate

schema to many idiosyncratic subschemas. However, there is evidence that observing repeated exceptions to critical schema features prompts subschema formation (Fiske & Neuberg, 1990; Weber & Crocker, 1983).

Third, some aspects of schemas may be explicitly taught (Holyoak & Gordon, 1984; Park & Hastie, 1987). For example, an employee may be told during orientation that all supervisors are expected to wear business suits. This direct communication may result in the employee developing a schema of supervisors in his or her organization that includes the attribute "wears a business suit."

A number of researchers have suggested that gender can be included in decision makers' jobholder schemas, either directly or indirectly. Like other jobholder characteristics, gender can become associated with a decision maker's schema through the processes of repeated observation, subschema formation, or socialization. Gender may be directly included in decision makers' schemas through the process of sex typing (e.g., Cash, Gillen, & Burns, 1977; Cohen & Bunker, 1975; Rosen & Jerdee, 1974b). This process occurs when a decision maker observes or is taught that persons of one gender usually perform a particular job. As a result, the decision maker may explicitly include gender (e.g., "male") as an attribute in his or her jobholder schema. Alternatively, gender may not be an explicit attribute of the decision maker's schema. Instead, the decision maker may include in his or her schema attributes that are perceived by the decision maker to be gender linked (e.g., warmth, mechanical ability) (Broverman, Vogel, Broverman, Clarkson, & Rosenkrantz, 1972). The decision maker may then expect gender to be associated with attributes that are explicitly included in the schema (e.g., Arvey, 1979; Dipboye & Wiley, 1977; Zebrowitz, Tennenbaum, & Goldstein, 1991).

Activation of Schemas

Once formed, schemas are stored in memory and become available for use (Wyer & Srull, 1981). A decision maker is likely to have developed a large number of schemas that are kept in long-term memory. These schemas may exist at the same level of abstraction, and any one of several schemas may plausibly be used in making a particular judgment. The specific circumstances surrounding the judgment will determine which schema is used when the judgment is made. For example, a decision maker who is asked to select an individual for a job involving recording and using financial data may have stored alternative job schemas (e.g., "accountant" or "bookkeeper") that share some essential attributes (e.g., "keeps financial records," "works with computers") but differ on other attributes such as gender of the job incumbent (Kulik, 1989). However, each of these alternative schemas is inactive and can only be used if it is activated or "switched on" (Devine, 1989; Fiske & Taylor, 1984; Gilbert & Hixon, 1991). Depending on whether the "accountant" or the "bookkeeper" schema is activated during the selection decision, the

individual making the selection may stress different aspects of the job in the selection decision and may view different types of job candidates as appropriate. The recency and frequency with which a schema is used and the distinctiveness of schema attributes in the decision maker's environment affect which schema is activated for a particular selection decision.

Rather than conducting an exhaustive search of relevant schemas, the decision maker relies on the most accessible schemas. Schemas appear to be stored in order of use so that the most recently and frequently used schemas are most accessible (Srull & Wyer, 1979; Wyer & Srull, 1981). For example, an organizational decision maker who regularly hires typists will have easy access to his or her schema of the typical typist.

The distinctiveness of attributes in the decision maker's environment also may affect the activation of schemas containing those attributes. For example, McGuire and Padawer-Singer (1976) found that children were more likely to include a personal attribute (e.g., race) in their spontaneous self-descriptions if that attribute had a skewed distribution in the child's class. In other words, a self-schema that contained a specific attribute was more likely to be activated when that attribute was a distinctive feature of the child's environment; a different environment may have activated a different schema of the self.

When a jobholder schema is activated for use in a selection decision, the information encoded in the schema is compared to the attributes of the job applicant. A job applicant who displays many attributes associated with the decision maker's activated schema is more likely to be perceived as a good fit for the job than a job applicant who displays few attributes associated with the decision maker's schema (Cohen & Bunker, 1975; Perry, *In press*; Rosen & Jerdee, 1974b, 1976).

Gender-associated schemas, like all schemas, are stored in an inactive state until they are activated during a selection decision. If the schema includes gender (e.g., "male"), applicants displaying the congruent gender are more likely to be selected than noncongruent applicants. For example, Rosen and Jerdee (1974b) found that individuals making hiring decisions for a managerial position (sex-typed male) hired male applicants more frequently than female applicants, even when male and female applicants were equally qualified. Even if the decision maker's schema does not explicitly include gender, applicant gender may influence the decision maker's evaluation of fit with the schema. Decision makers may use gender as a cue to determine whether job applicants possess attributes that are in the schema. For example, Zebrowitz et al. (1991) reported that college students perceived women as warm and submissive and men as shrewd and managerially oriented. They also favored women for jobs requiring warmth and submissiveness and men for jobs requiring shrewdness and leadership.

The activation of gender-associated schemas leads to the judgment that individuals of one gender are most suitable for the job. However, because the activation of a schema is a function of recency, frequency,

and attribute distinctiveness, the context of the selection decision affects which of the possible schemas may be applied when the decision is activated (Higgins & King, 1981). A variety of schemas, some gender associated and some not, may all be available for use in the selection decision and may be competing for limited cognitive attention. Context is likely to affect which of these schemas is activated.

Constraints on the Use of Schemas

Schemas will only affect selection decisions if the decision maker is able to use them. Researchers have frequently noted that organizational members operate in "strong situations" that may constrain a decision maker's ability to act on schemas (Davis-Blake & Pfeffer, 1989; Mitchell, 1979; Weiss & Adler, 1984). Although individuals may activate schemas that create a preference for particular types of job applicants, legislated programs, organizational policies, and organizational culture may limit the decision maker's ability to act on those preferences.

EFFECTS OF ORGANIZATIONAL CONTEXT ON THE CONTENT AND USE OF JOBHOLDER SCHEMAS

To understand how gender segregation is created and maintained, the effect of organizational context on the content, activation, and use of decision makers' schemas in selection decisions must be explored. Specifically, we argue that both organizational context and individual cognition influence whether the gender of a job applicant affects a specific selection decision (i.e., whether a specific selection decision is gender based or gender neutral). Cumulatively, these specific selection decisions determine the extensiveness of gender segregation. Each of these effects is described in more detail. Figure 1 lists the specific ways context affects schemas and the processes through which those effects occur. It also shows how the selection decisions that result from those schemas can affect organizational context; we elaborate on this issue later.

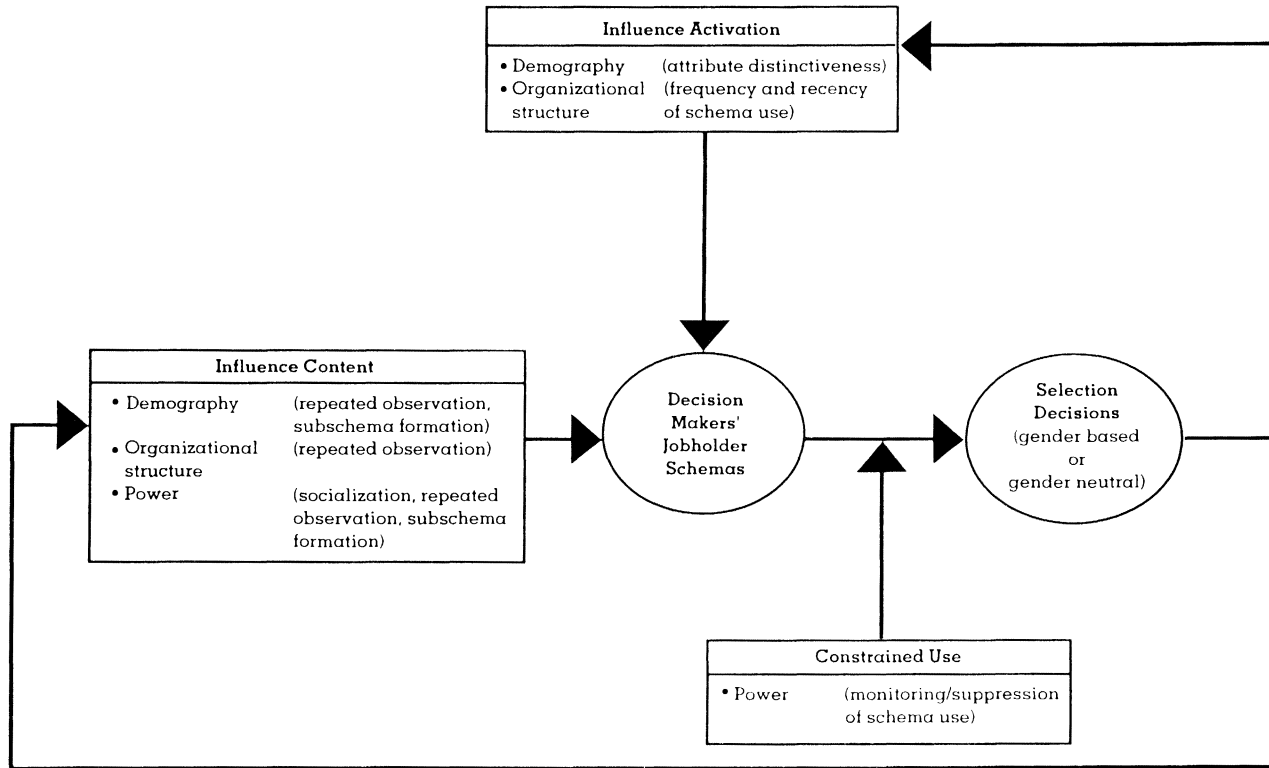
Organizational Context and the Content of Schemas

As discussed earlier, schemas are formed in several ways: through repeated observations of events that occur together (e.g., an association between a particular job and persons of one gender), formation of sub-schemas, and learning and socialization. In this section we discuss how job, applicant pool, organizational demography, organizational structure, and the distribution of power inside an organization may cause gender to become associated with decision makers' jobholder schemas.

Demography. Job demography may influence the content of schemas through the process of repeated observation. If a job is occupied primarily by persons of one gender, decision makers repeatedly observe persons of one gender performing the job. Therefore, gender is likely to be associated with decision makers' schemas of the typical jobholder. This

FIGURE 1^a

Effects of Organizational Context on the Content, Activation, and Use of Decision Makers' Jobholder Schemas in Selection Decisions



^a Each rectangle contains specific contextual factors that affect the content, activation, or use of jobholder schemas. The process(es) through which a specific contextual factor affects schemas are shown in parentheses.

argument is consistent with Ford and Stangor's (1992) finding that individuals' schemas of a group were most likely to include attributes of the group that had low within-group variability. If a job currently includes both men and women, decision makers do not consistently observe persons of one gender performing the job, and gender is unlikely to be part of decision makers' jobholder schemas.

The point at which gender becomes associated with decision makers' schemas is an empirical question. However, Kanter (1977b) has argued that skewed groups (in which persons of one gender constitute more than 85 percent of the group members) are more likely to exhibit dynamics that lead to the formation of gender-based schemas (e.g., an emphasis on differences between the majority and minority groups) than tilted or balanced groups (in which persons of one gender constitute between 50 and 85 percent of the group members). There is some empirical evidence that the dynamics of skewed groups are different from the dynamics of tilted or balanced groups. For example, Izraeli (1983: 160) studied Israeli trade union committees with different gender compositions and found that "attitudes reflecting boundary heightening, role entrapment and asymmetrical power relationships are more apparent in skewed than in balanced committees." By calling attention to the gender of job incumbents, these dynamics are likely to encourage the association of gender with decision makers' jobholder schemas.

There is also some evidence that, in a balanced job, when the proportion of persons of one gender increases so that the gender composition of the job becomes skewed, the gender of the new majority group becomes associated with the position. For example, Heilman (1979) found that an anticipated increase in the proportion of women in an occupation decreased male high school students' interest in entering that occupation (cf. Touhey, 1974a,b). Similarly, Reskin and Roos (1990) reported that once a substantial proportion of women entered male-dominated occupations, the occupations often quickly resegregated from male dominated to female dominated. The preceding arguments suggest that

Proposition 1: Gender is more likely to be associated with decision makers' jobholder schemas when the job is occupied primarily by persons of one gender.

We have argued that when the gender composition of a job is skewed, the dominant gender is likely to be associated with decision makers' jobholder schemas. Similarly, whether the gender composition of the applicant pool is skewed or balanced can also influence the content of decision makers' jobholder schemas. Just as repeatedly observing that individuals of one gender typically perform a job can cause gender to be associated with a decision maker's jobholder schema, repeated contact (e.g., through interviews) with job seekers of only one gender can lead to the association of gender with decision makers' schemas for that job. Thus, the composition of the applicant pool affects not only who is

available to perform a task but also how decision makers evaluate the available job applicants. For example, a female job applicant may be evaluated differently if she is part of a primarily male applicant pool than if she is part of a balanced applicant pool. When the composition of the applicant pool is skewed (mostly male), gender ("male") may be associated with the decision makers' jobholder schemas, and the female applicant, although available to work, may be seen as inappropriate for the position. This argument is consistent with Heilman's (1980) finding that, when the gender composition of the pool of available applicants is composed primarily of persons of one gender, individuals not of that gender are seen as inappropriate for the position. The preceding arguments suggest that

Proposition 2: Gender is more likely to be associated with decision makers' jobholder schemas when the applicant pool is occupied primarily by persons of one gender.

The gender of key leaders may lead to the creation of subschemas to describe jobholders in a variety of leadership positions. Unlike job and applicant pool demography, which affect the schemas associated with specific positions, the visibility of leaders means that their gender is likely to influence schemas for a wide variety of jobs for which leadership is required. Lord and Maher (1991) have noted that decision makers have "leadership schemas," or schemas about the attributes of leaders. These schemas are used to make judgments about the leadership ability of a target individual. Thus, these schemas may influence selection in a variety of jobs for which leadership is a critical attribute.

There is evidence that decision makers see the ability to lead as a trait possessed primarily by men. For example, Schein (1973) found that individuals' schemas of men and their schemas of managers contained more overlapping characteristics than individuals' schemas of women and their schemas of managers. Sixteen years later, Heilman, Block, Martell, and Simon (1989) replicated Schein's findings (cf. Brenner, Tomkiewicz, & Schein, 1989). Similarly, Auster and Drazin (1988) reported that, at upper levels of one firm's managerial hierarchy, men received greater salary increases than women who had the same performance-appraisal ratings (cf. Baron & Newman, 1990). Auster and Drazin argued that, because of the ambiguity surrounding managerial jobs, decision makers engaged in a subjective process of translating ratings into salaries, a process that may have been affected by stereotypes about the leadership abilities of men and women. Auster and Drazin's (1988) findings are consistent with the evidence from cognitive research that decision makers' leadership schemas are very likely to include "male" as a critical attribute. These beliefs about leadership ability are probably reinforced by the reality that, in most organizations, top leadership positions are held primarily or exclusively by men (Halaby, 1979; Kanter,

1977a), with many women who occupy managerial positions confined to the bottom levels of the hierarchy where they are able to exercise relatively little decision-making authority (Reskin & Ross, 1992, but see Jacobs, 1992, for an alternative viewpoint).

When multiple women move into leadership positions, decision makers may question the association between leadership positions and male attributes and may create subschemas of their superordinate leadership schemas (Brewer, Dull, & Lui, 1981; Fiske & Neuberg, 1990; Weber & Crocker, 1983). It is not clear how this process of subschema formation operates. Lord and Maher (1991) have argued that the subschema-creation process may lead to separate subschemas for male and female leaders. Alternatively, these subschemas may not include gender. Instead, repeated exposure to successful women may result in the development of a leadership subschema that is gender neutral. It is important to note that single exceptions to a leadership schema are unlikely to lead to the development of subschemas (Weber & Crocker, 1983). Single exceptions (e.g., tokens) are likely to be discounted and to be negatively evaluated (Heilman et al., 1988; Kanter, 1977b) because these exceptions are inconsistent with superordinate leadership schemas. Only repeated exposure to multiple schema exceptions is likely to lead to modifications of superordinate leadership schemas (Weber & Crocker, 1983). Only decision makers who are systematically exposed to multiple individuals who are inconsistent with the general schema (e.g., when women occupy several leadership positions) will create subschemas. This argument is consistent with Heilman and Martell's (1986) finding that gender bias in selection decisions for a traditionally male job was attenuated when decision makers were exposed to a number of women who successfully performed a similar job. It is also consistent with Konrad and Pfeffer's (1991) finding that the proportion of female administrators was positively associated with whether women were hired for a specific administrative job. The preceding arguments suggest that

Proposition 3: When both men and women repeatedly occupy leadership positions, decision makers' leadership schemas are less likely to include gender than when persons of only one gender are in key leadership positions.

Organizational structure. The number of job titles in an organization is likely to affect decision makers' jobholder schemas through the process of repeated observation. Large organizations are likely to have more job titles than small organizations; however, two organizations of the same size can have very different numbers of job titles. The proliferation of job titles affects decision makers' schemas in two ways. First, the fact that each job has a different title encourages decision makers to think of each job as unique. Therefore, decision makers are likely to build distinct schemas of the typical jobholder associated with each job. To the extent that

most incumbents of the job are of a single gender, decision makers' jobholder schemas are likely to include gender. This argument is consistent with Strang and Baron's (1990) finding that, in the California civil service, high levels of job title proliferation were associated with high levels of gender segregation.

Second, when job titles proliferate, many jobs are likely to have only one incumbent. When jobs have a single incumbent, there is no variance in incumbent attributes within the job. Therefore, each time a decision maker observes the job being performed, the decision maker also observes all attributes of the single incumbent (including gender). In this case, attributes of the incumbent, including gender, are likely to become associated with the decision maker's jobholder schema (Ford & Stangor, 1992). Therefore, when the current incumbent leaves the job and must be replaced, that incumbent's gender continues to be part of the decision maker's jobholder schema and may influence the selection of a new incumbent. This argument is consistent with Konrad and Pfeffer's (1991) finding that, in jobs with only one incumbent, the gender of the previous incumbent had a significant effect on the gender of the current incumbent; current incumbents tended to be of the same gender as previous incumbents. The preceding arguments suggest that

Proposition 4: When organizational size is controlled, decision makers' jobholder schemas are more likely to include gender when an organization has many job titles than when the organization has few job titles.

The existence of formal job ladders may affect decision makers' schemas through the process of repeated observation. When a nonentry job is part of a formal job ladder, the applicants for the job will typically be those who are already in the job ladder. As Althauser and Kalleberg (1981) have argued, one of the key attributes of formal job ladders is entry only at the bottom of the ladder. Thus, within job ladders, if entry-level jobs are segregated by gender, the pool of individuals available for promotion will consist primarily of individuals of one gender. There is evidence that a number of institutional forces (such as the use of gender-based networks to find a job) will lead to gender-segregated applicant pools for entry-level jobs (Blau & Ferber, 1992). For example, Kirnan, Farley, and Geisinger (1989) found that, although informal recruiting sources were more likely to generate a job offer than formal recruiting sources, women relied more extensively on formal rather than informal sources. Thus, women may be systematically excluded from some entry-level positions simply because of the recruiting sources they typically use. Because employers have little individuating information (e.g., detailed observations of ability) about applicants for entry-level positions, decision makers are likely to rely heavily on cues such as gender in making decisions about entry-level applicants (Heilman et al., 1988; Tosi & Einbender, 1985), leading to gender segregation of entry-level positions. Because of job ladder gender

segregation, typical promotion systems only bring either male or female applicants to the attention of decision makers. This argument is consistent with Baron et al.'s (1986) finding that job ladders are often segregated by gender (cf. DiPrete & Soule, 1988; Martin & Harkreader, 1993). Therefore, we argue

Proposition 5: Decision makers' jobholder schemas are more likely to include gender when the job is part of a formal job ladder than when it is not.

Power. Key leaders can affect the content of jobholder schemas in three ways. First, leaders can influence the balance of power inside an organization so that subunits designed to ensure equal employment opportunity (e.g., personnel, affirmative action) are powerful. Edelman (1992) has argued that one reason for the persistence of gender segregation is that, in many organizations, affirmative action offices are largely a symbolic response to legal pressures and lack the power to change decision makers' actions or cognitions. When these subunits are powerful, they may take an active role in developing and implementing training programs designed to alter decision makers' jobholder schemas (e.g., encourage the creation of gender-neutral subschemas).

Second, leaders may try directly to influence the content of schemas. If a decision maker has not yet developed a jobholder schema, the content of the schema can be learned through communication from and observation of powerful leaders (Holyoak & Gordon, 1984). For example, managers can attempt to influence the initial content of jobholder schemas through organizational orientations and mission statements. However, Park and Hastie (1987) suggested that schemas acquired through the explicit presentation of information (e.g., when a decision maker learns through a formal training program about the inappropriateness of associating gender with a particular job) are more narrowly defined and have more limited application than schemas abstracted through observation (e.g., when a decision maker observes the gender-neutral selection practices of leaders). Therefore, observation of gender-neutral practices by organizational leaders may be more influential than programs or policies alone in determining whether gender is associated with jobholder schemas.

Also, leaders may be able to change existing schemas, either through the process of repeated observation or subschema formation. Although schemas are generally thought to be relatively stable and difficult to change (Fiske & Taylor, 1984), it is possible to change schemas by directly altering their content or by developing subschemas over a period of time (Crocker, Fiske, & Taylor, 1984; Weber & Crocker, 1983). However, only repeated observations of leader actions that are counter to current schemas are likely to result in long-term change in schema content or the development of subschemas. Morrison (1993) noted that all organizations she studied that had been effective at increasing workforce diversity had the support and active involvement of top management. Her results

suggest that top managers may have been able to alter decision makers' schemas, resulting in greater workforce diversity.

Third, leaders can change the human resource management systems (e.g., performance appraisals, bonuses) to reward evidence of schema change (see Cox, 1991, for a detailed discussion of tools available to leaders). For example, leaders can make the performance appraisals and rewards of managers contingent on improving workforce diversity. The ability of leaders to affect schema content over time suggests that

Proposition 6: When leaders formally (e.g., through mission statements) and informally (e.g., through gender-neutral hiring decisions) express a desire to hire and promote persons of both genders, decision makers' jobholder schemas are less likely to include gender than when key leaders do not express a desire for gender-neutral hiring standards.

Organizational Context and the Activation of Schemas

Once a decision maker has developed schemas and stored them in memory, these schemas are available for use in selection decisions. Some of a decision maker's schemas are gender associated, and some are not. The organizational context determines which schema is activated during a selection decision and therefore determines whether gender is likely to influence that decision. As previously discussed, the activation of a specific schema is influenced by how frequently and recently the schema was used and the distinctiveness of attributes in the decision maker's environment. Organizational demography and organizational structure are likely to affect the activation of decision makers' jobholder schemas.

Demography. A job's current demographic composition may affect the extent to which the gender of job applicants is distinctive to decision makers. If a job is occupied primarily by persons of one gender, job applicants of the minority gender are likely to seem particularly distinctive to decision makers (because they are clearly different from most persons who occupy the job). Because gender is a distinctive attribute of the job applicant, it is likely to influence which schema is activated. Specifically, when gender is the cue that activates schemas, the activated schemas are likely to be gender associated. Repeated activation will make gender-associated schemas accessible, increasing their likelihood of use during subsequent decisions. However, if the job currently includes both men and women, the gender of job applicants is not very distinctive, and gender-associated schemas are less likely to be activated. Thus, we argue

Proposition 7: Decision makers are more likely to activate existing gender-associated jobholder schemas when the job includes primarily persons of one gender.

Like the gender composition of the job, the gender composition of the applicant pool can affect which schemas are activated. If most applicants are of one gender, then applicants of the minority gender are likely to be distinctive, resulting in the activation of gender-associated schemas (in which the majority gender is included as an element of the schema). Conversely, if the applicant pool includes both men and women, gender of applicants is not a distinctive attribute, making the activation of gender-associated schemas unlikely. This argument is consistent with Heilman's (1980) finding that the proportion of women in the applicant pool affected evaluations of a female applicant for a traditionally male managerial position. Evaluations of female applicants were less favorable when women represented 25 percent or less of the total applicant pool. Heilman argued that when women comprised a small percentage of the pool, their gender was salient and activated gender stereotypes. The preceding arguments suggest that

Proposition 8: Decision makers are more likely to activate existing gender-associated jobholder schemas when the applicant pool includes primarily persons of one gender.

Organizational structure. We have argued previously that there are two reasons why decision makers in large firms are more likely than decision makers in small firms to have developed gender-associated schemas that are available for activation. First, large firms are more likely than small ones to proliferate job titles (Baron & Bielby, 1986). In our discussion of Proposition 4, we argued that job title proliferation was likely to lead decision makers to include gender in their jobholder schemas. Second, in large organizations, past decisions that promoted gender segregation are likely to become "institutionalized" in job ladders and other formal procedures. In our discussion of Proposition 5, we argued that formal job ladders bring individuals of one gender to the attention of decision makers, resulting in the development of gender-associated jobholder schemas.

As a result of these processes, the set of jobholder schemas available to decision makers in large firms is likely to contain a larger proportion of gender-associated schemas than the set of schemas available to decision makers in small firms. For any particular selection decision, there is a higher probability that a gender-associated schema will be activated in a large firm than in a small firm. However, the probability of a particular schema being activated during a specific decision episode depends on the schema's frequency and recency of activation. A gender-associated schema's activation on one occasion increases the probability of its activation on the next occasion. Decision makers in large firms evaluate more applicants for hiring and promotion than decision makers in small firms. Therefore, the frequent and recent use of gender-associated schemas in the large firm will eventually displace other schemas that do not include

gender, reducing their probability of activation. Thus, some inertial properties of gender segregation in large organizations (Baron et al., 1991) may be due to the continual activation of gender-associated schemas by decision makers. Thus,

Proposition 9: Decision makers in large firms are more likely to activate existing gender-associated schemas of jobholders than decision makers in small firms.

Organizational Context as a Constraint on the Use of Schemas

Activation of gender-associated jobholder schemas will only influence the gender distribution within organizations if the decision maker is able to use the schemas in selection decisions. The intra- and interorganizational distribution of power may prevent decision makers from basing decisions on activated gender-associated schemas.

Power. The existence of a specialized personnel function may constrain decision makers from using schemas that include gender. A specialized personnel function typically emerges as part of an overall attempt to rationalize employment, and there is some evidence that the personnel function usually implements standardized hiring and selection procedures that should reduce the use of gender-associated jobholder schemas (Baron, Jennings, & Dobbin, 1988; Cohen & Pfeffer, 1986). There is also some evidence that the affirmative action component of the personnel function arises in response to pressures to achieve gender or racial integration and that the mandate of the personnel function often includes reducing gender-based selection (Dobbin, Edelman, Meyer, Scott, & Swidler, 1988; Edelman, 1992). Standardized policies, procedures, and training programs implemented by personnel departments may affect the way decision makers use schemas. There is some evidence that the use of schemas can be suppressed by telling people to think carefully about how they are evaluating information and to be aware of their biases as they go through the process of interpreting data (Lord, Lepper, & Thompson, 1980). Organizational policies and training that encourage this reflective process may reduce gender segregation. For example, Newman and Krzystofiak (1979) found that when employment managers were sensitized to the fact that they were involved in a study of race discrimination, they were less likely to discriminate than when they were not sensitized.

As Edelman (1992) has noted, the mere existence of a specialized personnel function and formalized hiring and promotion procedures does not ensure that these procedures will be followed. These procedures may constrain decision makers only when the personnel function is powerful enough to reward those who comply and sanction those who do not. When the personnel function is relatively powerless, it may not affect how decision makers operate (Pfeffer et al., In press). For example, Leonard (1984) reported that greater gains in gender integration occurred among federal contractors (settings in which personnel and affirmative action offices are likely to have the greatest means of enforcement) rather than

among noncontractors. Because a powerful personnel function is more likely to be able to constrain gender-associated schema use than a weak personnel function, we argue

Proposition 10: Decision makers are less likely to use existing gender-associated jobholder schemas when the personnel function is powerful.

As Tetlock (1985: 297) has argued, much research on judgment and choice in organizations has "virtually ignored the social and organizational context" in which decision makers operate. He suggested that one key feature of context is whether decision makers are accountable for the results of their decisions. We argued earlier that, in the long run, leaders may be able to change schema content through a combination of formal statements and training, symbolic action, and changes in organizational reward systems and power distributions. However, changing schema content takes time; in the short run, leaders may be able to affect the use of schemas by holding decision makers accountable for selection decisions. This argument is consistent with Cvetkovich's (1978) finding that individuals who were accountable for their decisions switched to more effortful (i.e., nonstereotypic) cognitive processing that increased awareness of the determinants of their decisions. The preceding arguments suggest that

Proposition 11: Decision makers are less likely to use existing gender-associated jobholder schemas when leaders implement organizational evaluation and reward systems that sanction gender-based selection decisions.

When an organization's hiring and promotion practices are likely to be scrutinized by powerful external groups (e.g., those who control access to monetary resources or legitimacy), decision makers may be prevented from using existing schemas that lead to gender-based selection decisions. External scrutiny of the outcomes of hiring and promotion decisions may affect decision makers in much the same way as internal attempts to encourage decision makers to scrutinize their cognitive processes: decision makers may monitor their cognitive processes and may try to suppress their use of job applicant gender when making decisions. For example, Salancik (1979) reported that large, visible consumer products firms were more likely to respond to unsolicited requests for information about job opportunities for women than firms that did business primarily with the government. Salancik concluded that, because the consumer products firms were very dependent on consumers' goodwill, they were more responsive to possible consumer concerns about women's employment than firms that were not as dependent on consumer goodwill. Thus, we argue

Proposition 12: Decision makers are less likely to use existing gender-associated jobholder schemas when selection decisions are scrutinized by powerful external constituents.

Summary of Propositions

Together, these propositions predict the conditions under which a specific selection decision will be either gender based or gender neutral. The propositions suggest that selection decisions are most likely to be gender based when *all* of the following three conditions are present: (a) the individual making the selection decision has developed gender-associated jobholder schemas, perhaps through exposure to organizational contexts that facilitated the development of these schemas; (b) the organizational context in which the selection decision occurs results in the activation of one of the available gender-associated jobholder schemas; and (c) the organizational context permits or facilitates the use of this activated schema. If the combination of these three conditions occurs repeatedly, many selection decisions are likely to be gender based, leading to high levels of gender segregation.

THE PERSISTENCE OF GENDER SEGREGATION

Many researchers have noted that the level of gender segregation in most jobs and organizations remains substantial despite significant changes in labor force composition and the legal environment (e.g., Bielby & Baron, 1986; Reskin, 1993). One explanation for the persistence of gender segregation is that organizational decision makers' schemas are simply resistant to change (Crocker et al., 1984). For example, Bielby and Baron (1986) argued that statistical discrimination may act as a self-fulfilling prophecy because the stereotypes that underlie statistical discrimination are resistant to change, causing decision makers to engage in biased information processing and to make decisions that are consistent with those stereotypes. Although biased information processing based on existing schemas is probably an important factor in the maintenance of gender segregation, we argue that gender segregation is stable in part because many contextual features of organizations actually reinforce the content, activation, and use of gender-associated jobholder schemas. Thus, we build on Bielby and Baron's (1986) argument that stereotypes are resistant to change and outline some key processes that make stereotypes resistant to change. The reinforcing effect of contextual factors on schemas may explain why gender segregation is very persistent. Because context often strengthens the link between gender and jobholder schemas, decision makers continue to use gender-associated jobholder schemas in selection decisions, resulting in little change in gender segregation.

The reinforcing effects of contextual factors may be particularly

powerful because several contextual factors that reinforce the content, activation, and use of gender-associated schemas are stable over time and therefore may continually strengthen and reactivate existing schemas. Firm size changes relatively slowly for most organizations. Similarly, the number of job titles and the structure of job ladders tends to be stable, particularly in large organizations (Hannan & Freeman, 1984). Given the tendency toward "homosocial reproduction" identified by Kanter (1977a), the gender of key leaders is also likely to be stable over time.

The reinforcing effects of context on decision makers' jobholder schemas are one important reason for the persistence of gender segregation. A second reason why gender segregation persists is that gender-associated jobholder schemas may reinforce contextual factors that generate segregation. For example, if a job's current gender composition is skewed, then gender becomes part of decision makers' schemas (through the process of repeated observation). Consequently, when decision makers use these gender-associated schemas in hiring and promotion decisions, the current gender composition of the job is recreated. Strang and Baron (1990) argued that the gender composition of jobs in the California civil service affected job title proliferation because decision makers took beliefs about gender appropriateness of jobs into account when defining job titles. Their results suggest that jobholder schemas may indirectly affect organizational structures that are associated with segregation (e.g., the definition of job titles). Thus, context and cognition may operate in a mutually reinforcing fashion to sustain gender segregation.

Our propositions about constraints on the use of schemas help explain why gender segregation may have remained relatively stable despite laws and internal organizational procedures designed to counteract the use of gender in hiring and promotion decisions. We suggest that the mere existence of a unit designed to scrutinize decisions may not create any changes in the use of gender-associated schemas. Unless that unit has power over decision makers, their actions may be unlikely to change.

Our propositions also highlight instances when we would expect gender segregation to be either limited or decreasing. Leadership succession, particularly when it involves an influx of women into key leadership positions, may be associated with decreasing gender segregation. This argument is consistent with Baron et al.'s (1991) finding that turnover among agency heads increased the pace of gender integration in the California civil service. Also, when top management supports the idea of gender integration and conveys this philosophy through training programs, mission statements, and reward systems, and by providing the personnel department with more power, gender-based selection decisions are less likely to occur. In the short run, use of gender-associated schemas may be constrained for fear of organizational sanctions. In the long run, the content of decision makers' schemas may become more gender neutral. External scrutiny of a firm's gender composition may have similar short-run effects on top management's attention to the issue:

suppression of schema use. However, because external scrutiny works primarily through threatening the organization with sanctions, it is unlikely to lead to the types of long-run changes in schema content that can be created by top management.

Other factors may reduce gender segregation by limiting the activation of gender-associated jobholder schemas. Efforts to recruit women into male-dominated jobs (or vice versa) may prevent the activation of gender-associated jobholder schemas. As the percentage of women in a male-dominated applicant pool increases, "female" may become a less distinctive attribute of the decision maker's environment, reducing the activation of gender-associated jobholder schemas. Over time, the content of decision makers' jobholder schemas may become more gender neutral because of repeated observation of individuals of both genders in the applicant pool.

Although we have emphasized that context often affects cognition, cognition is not fully determined by context for three reasons. First, as previously discussed, schemas and context influence each other slowly over time. Thus, at any point in time, schemas may not fully reflect the existing context because of delayed feedback effects. Second, as discussed in the next section, organizations can take active steps to change existing schemas in ways that would make those schemas inconsistent with key contextual features of the organization. Most organizational programs designed to manage diversity focus on changing the cognitive processes of decision makers (Cox, 1991; Wigglesworth, 1992). If these programs are successful, context may not predict schema content or use, because the content of existing schemas has changed. Third, changes in schema content may eventually lead to structural changes. Downey and Brief (1986) have argued that decision makers who design the organizational context use their schemas to guide design decisions. Therefore, the use of specific schemas by organizational decision makers may eventually lead to the creation of a context that is consistent with and supports the use of those schemas.

IMPLICATIONS FOR PERSONNEL SELECTION

Our model suggests that gender-based selection decisions in organizations can be reduced by influencing the content, activation, or use of gender-associated jobholder schemas. Thus, our model suggests specific strategies that organizations can develop to reduce gender-based selection, even when stable contextual factors encourage or support gender segregation. For example, it may be possible to alter the content and use of gender-associated schemas even when factors such as skewed applicant pools and existing job ladders tend to reinforce the content and use of these schemas. Just as computer software can be designed to accommodate and compensate for limitations in computer hardware, the decision maker's jobholder schemas can be redesigned *within* the existing

organizational context. Next, we discuss three specific strategies organizations could use to reduce gender segregation.

First, organizations can attempt directly to change the content of decision makers' jobholder schemas. Repeated exposure to instances that are incongruent with the existing schema (e.g., exposure to successful women in male-dominated jobs) may alter the content of a jobholder schema (Heilman & Martell, 1986). Changing the content of individuals' schemas is a time-consuming and difficult process. The content of schemas is the product of years of socialization. In addition, individuals tend to process new information in a way that is consistent with and confirms their schemas (Fiske & Taylor, 1984). However, Crocker et al. (1984) pointed out that decision makers do attend to incongruent material and change the content of their schemas when they have sufficient time and motivation to do so. Thus, organizations may be able to change decision makers' schemas through long-term education and incentive programs.

Second, organizations can attempt to activate new or existing jobholder schemas that are gender neutral so that these schemas become more accessible and more likely to be used. A number of schemas may be relevant for decisions about a particular job and its incumbents. Some of these schemas may be gender associated, and some may be gender neutral. For example, Kulik (1989: 82) demonstrated that individuals used one of several different schemas (e.g., "manager" or "supervisor") to evaluate a standardized job description that stated that the jobholder was required to "monitor and evaluate the performance of subordinates." Whereas "manager" has a strong association with the male gender (Rosen & Jerdee, 1974b; Schein, 1973), "supervisor" may be gender neutral because it may encompass both typing pool supervisors (frequently female) and assembly line supervisors (frequently male). In complex environments with competing demands and heavy time pressure, decision makers are likely to limit their search for jobholder schemas to the most available and accessible schemas (Martell, 1991). If the decision context repeatedly activates a gender-associated schema (e.g., "manager"), the alternative schema with no gender association (e.g., "supervisor") will become less accessible (Wyer & Srull, 1981). Repeated activation of the "manager" schema could occur if the vast majority of current job incumbents were male. Even though a relevant gender-neutral schema exists, gender-based selection decisions persist because the gender-neutral schema is not activated. However, organizations can encourage the activation of alternative gender-neutral schemas by providing more time during the decision process for the decision maker to consider alternative schemas. Organizations can also intentionally activate alternative schemas by highlighting attributes unique to the new schema. For example, an organization trying to activate a gender-neutral jobholder schema might remind decision makers of gender-neutral college majors that have predicted high performance on the job (and that are included in the gender-neutral jobholder schema).

Finally, constraining the use of gender-associated schemas may be the most feasible way to reduce gender segregation in the short run. With the support of top management, the personnel function can become a powerful group who has the ability to enforce organizational policies and procedures designed to constrain the use of gender-associated schemas. Accountability, appraisal, and compensation systems intended to prevent the use of gender-associated jobholder schemas can be designed into existing reward systems. Powerful groups outside the organization can also constrain the use of gender-associated schemas. These constraints may result in a shift in the gender distribution within jobs. As organizational decision makers are exposed to these new gender distributions, they may accommodate these demographic shifts by changing their schemas of typical jobholders in these jobs, reducing the need for powerful groups to monitor selection decisions. In other words, the monitoring efforts of powerful groups may initiate a cycle of change that becomes self-reinforcing over time.

In the short run, monitoring may be the easiest way to reduce gender segregation. However, organizations may also adopt a long-term perspective for reducing gender segregation. A longer-term perspective may include altering decision makers' schemas through training so that, over time, biased selection decisions and gender segregation decrease even without formal monitoring systems.

IMPLICATIONS FOR RESEARCH

Our approach to gender segregation suggests a need for future researchers to explore the effects of both contextual and cognitive factors on selection decisions. We propose several directions for future research. First, the content of decision makers' schemas needs to be studied in greater detail. Typically, selection research has inferred the content of schemas (e.g., gender stereotypes) from decision makers' selection decisions. Consequently, little is known about the content of decision makers' schemas. Understanding the content of schemas would allow researchers to assess the conditions under which gender affects selection decisions. Specifically, gender should affect selection decisions when it is associated with a frequently activated schema. Future researchers might explicitly measure the content of decision makers' schemas prior to studying how these schemas influence selection decisions. For example, it is likely that a personnel officer's schema for a job differs from the schema of the position's immediate supervisor, because the supervisor is likely to have different information about the job and its incumbents. These differences in schema content are important to assess because they can result in different selection decisions.

There are multiple, tested methods for measuring schema content. Individuals can be asked to list features associated with particular categories (e.g., jobs, jobholders) (Kulik, 1989; Roach, 1978). Individuals can

also be asked to rate the extent to which features are associated with a category (e.g., incumbents of a particular job) (Rynes & Gerhart, 1990). Individuals' reactions to attributes that might be included in a schema can be timed (by giving individuals a category and asking if the attribute is consistent with the category). Faster reaction times indicate stronger associations between the attribute and the category (see Gaertner & McLaughlin, 1983; Meyer & Schvaneveldt, 1971; Rosch, 1975, for examples of this approach).

Second, although the methods just described can be used to elicit the content of the alternative jobholder schemas that are available to decision makers, additional research must be conducted to determine which of these available schemas are actually activated during selection decisions. One possibility is to compare the attributes of new hires with the attributes associated with alternative jobholder schemas. Chatman (1991) used a variant of this procedure when she compared new hires' value profiles with the value profile of their firms. Chatman argued that the degree of overlap between an individual's value profile and the value profile of his or her firm was an index of "fit" between individual and organizational values. Similarly, greater overlap between the attributes of new hires and a specific jobholder schema suggests a higher probability that the schema was activated during the hiring decision (Tversky & Gati, 1978).

Third, decision makers' recall of applicant attributes may also suggest which jobholder schema was activated during the hiring decision. When a specific jobholder schema is activated during the decision process, decision makers are likely to recall that applicants displayed characteristics that are part of the activated schema but that the applicants did not possess (O'Sullivan & Durso, 1984; Tsujimoto, Wilde, & Robertson, 1978). Kulik and Clark (In press) demonstrated that decision makers who used a particular jobholder schema to evaluate job applicants skewed their recall of the applicants' attributes in the direction of that jobholder schema. In addition, decision makers' performance on tasks unrelated to the selection decision can provide evidence of schema activation. For example, Gilbert and Hixon (1991) used subjects' recall of words that were consistent with ethnic stereotypes as evidence of schema activation. When completing a word fragment task (e.g., "fill in the word POLI_E"), subjects whose Asian stereotype was activated used more words that were consistent with an Asian stereotype (e.g., polite) than subjects whose Asian stereotype was not activated.

Fourth, the effect of context on selection decisions in organizations should be systematically evaluated. Field research in the area of selection often pools decision makers from a variety of contexts (Gilmore, Beehr, & Love, 1986; Glick et al., 1988; Zickmund et al., 1978), making it difficult to identify the impact of different contexts on the decisions made by individuals. To assess the effect of context on selection decisions, future researchers should measure contextual variables and assess their

impact on selection outcomes. One fruitful strategy might be to examine the outcomes of selection decisions in different contexts (e.g., organizations where the personnel departments differ in power). For example, future researchers might assess whether decision makers held accountable for their selection decisions actually make different decisions than those who are not held accountable.

Fifth, the effect of contextual variables on schemas needs to be studied. Our approach suggests that the content, activation, and use of schemas differs systematically across organizational contexts and that individuals within the same organizational context are likely to have similar jobholder schemas. The idea that schemas will be shared by individuals in the same organizational context is consistent with Rynes and Gerhart's (1990) finding of higher within- than across-firm interrater reliabilities for assessments of the same applicant's employability. Similarity of jobholder schemas is likely to facilitate group selection decisions by individuals working in the same organization. However, particularly when organizational newcomers are present in a group making a selection decision, the schemas of group members may differ, making a group decision more difficult to achieve. Therefore, it is important to understand the circumstances under which the content of group members' schemas differs and how heavily each member's judgment is weighted by the group to understand how individual schemas affect selection decisions made by a group.

Sixth, future researchers need to assess both cognitive and contextual factors in a single study. We suggest that decision makers' schemas mediate the effect of contextual factors on selection outcomes and gender segregation. To the extent that the effect of schemas on selection outcomes is contingent on the context in which the selection decision occurs, it is important to study contextual and cognitive factors simultaneously.

Seventh, the effects of other contextual factors not discussed in this article deserve further attention. One important area for future research may be whether relational demography (Tsui & O'Reilly, 1989) affects decision makers' jobholder schemas and selection decisions. The selection literature has generally reported that the gender of the decision maker does not affect selection decisions (Arvey & Faley, 1988; Dipboye, Arvey, & Terpstra, 1977; Dipboye, Franklin, & Wiback, 1975; Renwick & Tosi, 1978), although some researchers have reported that female decision makers are more lenient than male decision makers in their evaluations of both male and female applicants (London & Poplawski, 1976; Muchinsky & Harris, 1977; Rose & Andiappan, 1978). However, this selection research seems to contradict the research on relational demography that indicates that, in some instances, jobholders are evaluated more favorably when the rater and ratee are of the same gender (Mobley, 1982; Tsui & O'Reilly, 1989). The differences between the two literatures may be due to the fact that the relational demography literature has focused on performance evaluation rather than selection. However, it may be useful to

explore whether relational demography affects selection, and, if so, how relational demography influences decision makers' jobholder schemas.

We have suggested that any attempt to study selection bias and gender segregation must consider both contextual and cognitive process variables. Contextual factors affect decision makers' jobholder schemas, which in turn create and sustain the current gender distribution. A consideration of gender-based selection decisions from cognitive and contextual perspectives provides several valuable insights. First, this approach explains the process through which contextual factors influence gender-based selection. Second, it explains the organizational conditions under which gender-associated jobholder schemas are likely to develop and to be used in making selection decisions. Finally, a consideration of both perspectives may help explain the persistence of segregation. Cognitive and contextual factors jointly sustain gender segregation. Future explorations of gender-based selection decisions should not treat either decision makers or organizational context in isolation.

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