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CHAPTER I

INTRODUCTION

Sociologists have long observed that numerous social benefits—ranging from social esteem and evaluations of general competency to income and other forms of reward—are differentially allocated to individuals on the basis of their sex category. Arguing that sex categories serve as a ubiquitous “fundamental code” for social organization, Goffman (1977:326) states, “Surely the argument that ours is a sexist society is valid—as it is for societies in general.” Social scientists have posited a variety of theoretical explanations for how sex differences translate into gender-based inequality. Dispositional explanations for gender inequality (i.e. that females attend primarily to social as opposed to instrumental aspects of tasks, or that females are characteristically more deferential than males) have been largely discredited (Meeker and Weitzel-O’Neill 1977; Pugh and Wahrman 1983). Rather than focusing on innate or socially acquired gender differences, many sociologists have turned to situational explanations for gender-based inequality. Such explanations are rooted in understanding how specific forms of social interaction, not trait differences between the sexes, produce and sustain inequality.

Status characteristics theory (Berger et al 1977) represents an influential and well-supported explanation for the maintenance of social inequalities. According to status characteristics theory, many bases of social categorization, such as race/ethnicity and sex, are associated with broad, culturally-supported status beliefs. Cultural status beliefs organize social behavior by assigning relative value to different states of a status
characteristic, such that possessing the more highly valued state accords an individual greater prestige, power, and influence (Berger, Cohen, and Zelditch 1972; Berger et al 1977). As a situational explanation for inequality, status characteristics theory contends that certain forms of group interaction, particularly interactions involving collective tasks, create conditions under which group members draw on status beliefs as a means to assess the relative value of individuals’ contributions to the task, thereby importing macro-level status beliefs into micro-social interaction (Berger et al 1977; Ridgeway 1991). Because status characteristics theory focuses on the relationship between immediate interaction settings and larger social frameworks, Wagner (2007) contends that it should not be viewed as a wholly situational explanation; rather, status characteristics theory is an “interactor” theory that bridges macro- and micro-level structures.

Given that status beliefs are associated with specific categories of persons, it is fair to assert that status characteristics theory deals largely with the social consequences of the various ways that people categorize others with whom they interact. That is, the overt characteristics that actors display (skin tone, secondary sex characteristics, style of dress, etc.) provide information that other group members employ as a basis to sort individuals into various social categories related to race/ethnicity, gender, occupational prestige, and so forth. Although actors are likely not necessarily consciously aware of the categorization process or the attendant performance expectations that arise (Wagner 2007), it is clear that the process of social categorization is a central component of status characteristics theory.
Within the current formulation of status characteristics theory, however, the informational structure of an interaction is viewed as consisting only of the direct and explicit information that actors possess about each other (i.e. status characteristics and/or purported task abilities). Considerable research in the field of cognitive social psychology points to the fact that the overt characteristics of social stimuli represent only one part of the equation by which individuals categorize others. Specifically, research on priming and construct accessibility (Bruner 1957; Higgins, Rholes, and Jones 1977) suggests that individuals tend to categorize objects according to the construct that is most cognitively accessible, and that a variety of factors, including recency of activation and frequency of activation, affect the relative accessibility of a category (Higgins and King 1981; Higgins, Bargh, and Lombardi 1985). To this end, several studies have demonstrated that activating (or priming) a category or construct in one setting increases the likelihood that the category or construct will be applied in subsequent unrelated settings (cf. Srull and Wyer 1979; Bargh, Chen, and Burrows 1996).

Recognizing that the activation of cognitive constructs profoundly shapes the process of social categorization, the question arises as to what bearing category accessibility has on the status-related informational structure of an interaction. If increasing the accessibility of a category increases the likelihood of its application in future settings, then the potential exists to manipulate the informational structure of an interaction by altering the relative accessibility of different cognitive constructs. For example, whereas priming group members with low-status exemplars should increase inequality by increasing the accessibility of negative status beliefs, priming members
with high-status exemplars should decrease inequality by activating positive status beliefs or by interfering with the activation of negative status beliefs (Blair and Banaji 1996).

The purpose of the present study is to theorize and examine the role of priming effects in status-organizing processes. In doing so, I seek to demonstrate that altering the accessibility of cognitive constructs related to gender-based status beliefs influences the informational structure of an interaction, which consequently affects behavioral displays of status inequality. In bridging two unique research paradigms, the specific questions I ask are: 1) What role do non-conscious processes related to categorizing self and other play in the formation of status hierarchies?; and 2) Can structurally-based inequalities be reduced by manipulating the relative accessibility of gender stereotypes? This latter question is particularly intriguing because it points to the possibility of exploring new avenues of intervention to address gender inequality at the micro-social level.

Employing status characteristics theory as my theoretical framework, I present the results of a laboratory experiment building on the standardized experimental setting (SES) in the expectation states tradition. My experiment departs from the typical expectation states study, however, in that participants completed a status-priming task prior to interacting with their ostensive partners. By examining priming effects within a status characteristics theory framework, I seek to further understand the cognitive processes that contribute to inequality based on gender and other status characteristics, with an eye toward identifying potential pathways of intervention by which inequality can be reduced.
CHAPTER II
LITERATURE REVIEW

Psychologists have been interested in priming effects and construct accessibility for several decades. In one early example, Berkowitz and LePage (1967) demonstrated that the presence of weapons in a social situation can increase the amount of aggression that individuals exhibit toward interaction partners. Based on their findings, Berkowitz and LePage (1967) argue that certain behaviors that are typically attributed to the conscious decisions and motivations of actors are actually brought about through situational cues that arouse specific behavioral tendencies, even when individuals do not consciously detect the presence of such cues. A wealth of research has amassed that not only supports Berkowitz and LePage’s (1967) initial findings regarding aggression (cf. Anderson, Benjamin, and Bartholow 1998), but also extends their arguments to apply to other forms of behavior (cf. Higgins et al 1977; Srull and Wyer 1980; Devine 1989; Bargh et al 1996; Blair and Banaji 1996).

Despite substantial evidence that construct accessibility affects how people perceive and behave toward others, priming effects have received relatively little attention within sociology. This is not to say that sociologists have completely ignored research on priming effects, as sociological criminologists have recently begun to examine the processes through which media priming affects attitudes and beliefs about crime (cf. Doyle 2006). Nonetheless, sociologists—and sociological social psychologists in particular—have yet to take full advantage of the potential explanatory power that
priming effects can offer regarding a variety of social processes, including social influence processes. The present research can be seen as a first step in bringing insights on priming effects from cognitive social psychology to bear on sociological explanations of social behavior (namely influence) in groups.

In the remainder of this section, I review literature that examines how priming effects and construct accessibility shape social behavior, and develop a theoretical argument that incorporates priming effects into status characteristics theory. I begin with an overview of the psychological literature on category accessibility, with particular attention to research that examines how priming effects shape evaluations of other social actors and how the activation of cognitive constructs related to self and other influences behavior. Second, I provide a review of status characteristics theory, focusing on the theory’s central tenets and graph-theoretic formulation. Third, I identify several points of overlap between status characteristics theory and research on priming effects, calling attention to how priming effects can potentially expand the explanatory capacity of status characteristics theory. I conclude this section by elaborating three theoretical models.

**Category Accessibility and Priming Effects**

One of the most intriguing developments to come out of the extensive research on cognitive accessibility is the discovery that activating (or priming) cognitive constructs in one situation increases the likelihood that those same constructs will shape behavior in subsequent unrelated settings (Srull and Wyer 1979; Srull and Wyer 1980; Higgins and King 1981). Psychologists explain these priming effects based on the argument that “activating” a cognitive category temporarily increases the category’s accessibility,
thereby increasing the likelihood of its application to other stimuli. Researchers have postulated a variety of cognitive mechanisms and processes to describe exactly how construct accessibility operates. Examples include Srull and Wyer’s (1980) “storage bin” model, Higgins, Bargh, and Lombardi’s (1985) “synapse” model, and Tulving and Schacter’s (1990) Perceptual Recognition System model. Regardless of the specific cognitive process driving cognitive accessibility, the existence of priming effects and the role of construct accessibility in creating those effects is widely accepted within the field of psychology.

Research on priming effects and cognitive accessibility evidences at least two different but related lines of inquiry: 1) examinations of the behavioral and evaluative outcomes associated with priming, as well as the situational determinants of priming effects (i.e. frequency of prime, recency of prime, awareness of prime; cf. Srull and Wyer 1979; Devine 1989); and 2) investigations of the neurological and/ or cognitive processes that produce and support priming effects (i.e. Tulving and Schacter 1990; Lebreton et al 2001). Given that the proposed research follows closely in line with the former approach to understanding priming effects, my literature review will draw primarily on this body of work, with an emphasis on a number of foundational studies.

Perceptual Readiness and Category Accessibility. Psychologists and sociologists alike have long recognized that social perception is largely a process of categorization. In perceiving and interpreting the social environment, individuals categorize not only the inanimate and natural components of their surroundings (Bruner 1957), but also themselves (Tajfel and Turner 1979; Turner 1985) as well as other people they encounter
(Tajfel and Turner 1979; Perdue et al 1990). Individuals employ a variety of physical cues—including but not limited to a person’s sex and race/ethnicity—as the basis for assigning category membership (Shomer and Centers 1970; Devine 1989). The categorization process, in turn, exerts a substantial influence over how individuals evaluate and behave toward others. Furthermore, categorization often occurs automatically, and outside of conscious awareness (McCrae, Milne, and Bodenhausen 1994; Bargh and Chartrand 1999).

In his seminal theoretical discussion of perceptual readiness, Bruner (1957) contends that the process of categorizing individuals and objects entails more than simply examining the overt properties of that object or person. According to Bruner, (1957), perceptions of any given stimulus will vary depending on the perceiver’s “readiness” to categorize different properties of that stimulus. Category accessibility shapes perception in three ways: “The greater the accessibility of a category, (a) the less the input necessary for categorization to occur in terms of [the] category, (b) the wider range of input characteristics that will be ‘accepted’ as fitting the category in question, (c) the more likely that categories that provide a better or equally good fit for the input will be masked” (Bruner 1957:129). Stated differently, when individuals encounter a social stimulus, they are likely to interpret that stimulus in the light of the most accessible relevant construct, even to the point of rejecting more plausible explanations (Bruner 1957; Srull and Wyer 1980).

Bruner (1957) argues that the relative accessibility of a category is influenced by two factors. First, an individual’s expectancies regarding the events she or he is likely to
encounter shape category accessibility (Bruner 1957). When an individual anticipates that she or he will encounter a specific category of person or object, the anticipated encounter increases the accessibility of the category. Second, Bruner (1957) posits that a person’s motivations influence the accessibility of a category. Higgins and King (1981) expand Bruner’s argument by calling attention to four additional determinants of category accessibility: recency of activation, frequency of activation, salience, and relation to other accessible constructs. Whereas Bruner focused on the internal psychological drives that cause accessibility to vary, Higgins and King highlight situational factors that shape category accessibility.

Two of Higgins and King’s (1981) additional factors affecting category accessibility—recency of activation and frequency of activation—have long been understood as the primary means through which priming increases category accessibility (Higgins et al 1977; Srull and Wyer 1979; Rholes and Pryor 1982). In this vein, Higgins and colleagues (1985:59) state, “it is known that the priming of an applicable construct [or category] increases the likelihood that it will be used to process a subsequent stimulus, that the likelihood of utilization increases as the frequency of priming increases, and…decreases as the temporal delay between priming and stimulus presentation increases.” Priming effects represent temporary increases in the relative accessibility of recently and/ or frequently activated cognitive constructs.¹

¹ The term “construct” refers to a broad array of cognitive elements, including stereotypes, schemas, and attitudes. Although in this paper I employ “construct” and “category” somewhat interchangeably, it is worth noting that categories represent a specific type of cognitive construct.
Accessibility versus Availability. To this point I have considered only how constructs and categories vary in their relative accessibility. Another factor that bears directly on category accessibility is the issue of category availability. That is, a category has the potential to shape perception only if that category has been encoded somewhere within the perceiver’s stored memory (Higgins and King 1981). Although a great number of individual cognitive idiosyncrasies shape construct availability, there is growing evidence that cognitive constructs that embody broadly-supported cultural beliefs, such as racial or gender stereotypes, are ubiquitous; they are available to all individuals within a given culture, whether or not those individuals endorse or reject the cultural content of the beliefs (Devine 1989).

For example, in examining automatic and controlled processes related to racial stereotypes and prejudice, Devine (1989) demonstrated that experimental participants who rejected negative stereotypes of African Americans still acted on the basis of negative stereotypes when those constructs were activated outside the individuals’ conscious awareness. Similarly, Blair and Banaji (1996) examine the activation of gender stereotypes. Their results echo the findings of previous researchers: gender stereotype activation occurred whether or not the perceiver endorsed the content of the stereotype. As such, research suggests that priming can activate culturally-based stereotypes (and consequent behavioral responses) both for individuals who accept and those who reject the stereotype (Devine 1989).

Priming Effects, Evaluations, and Behavior. Priming effects occur when the activation of a cognitive construct or category in one situation increases the likelihood
that the construct or category will be employed in subsequent unrelated situations
(Higgins et al. 1977; Srull and Wyer 1979; Srull and Wyer 1980). As stated above,
category accessibility is the primary theoretical mechanism driving priming effects. A
category that is activated in one setting becomes more accessible based on the recency
(and frequency) of its activation, which in turn increases the probability that stimuli
encountered in later settings will be perceived as “fitting” the category—even if a better
fitting category is available (Bruner 1957). Explaining the relationship between construct
activation and categorization of social stimuli, Bargh (1989:17) states:

> Recent category-relevant conscious experience…increases the
> accessibility (and likelihood of use) of that category for some time
> thereafter, after the relevant input is no longer in conscious
> awareness…The primed constructs, while active, exert a contextually
> preconscious influence on the selection and interpretation of relevant
> proximal stimuli.

Thus, priming effects represent a form of implicit memory (Tulving and Schacter 1990;
Schacter 1992) whose residual influence shapes the selection and encoding of
subsequently encountered stimuli (Bargh 1989).

There is a growing body of neurological research that has begun to identify the
biological processes that facilitate priming effects. Using Positron Emission
Tomography (PET), Lebreton and colleagues (2001) demonstrated that when participants
were consciously primed with a stimulus picture and then subsequently presented with
the same picture outside of conscious awareness, regional cerebral blood flow in several
areas of the brain was significantly reduced for individuals who had been primed
compared to those who had not. Koutsaal and colleagues (2001) found similar results
using fMRI technology. Taken together these studies suggest that the brain expends
fewer resources in categorizing a stimulus when a relevant category for that stimulus has been recently activated.

Priming effects have been shown to influence a wide variety of fundamental social processes, including impression formation (Higgins et al. 1977; Srull and Wyer 1979; Srull and Wyer 1980; Bargh and Pietromonaco 1982; Higgins et al. 1985), stereotype activation (Devine 1989; Blair and Banaji 1996; Rudman and Glick 2001), social attribution (Rholes and Pryor 1982), certain aspects of the self-concept (Gardner, Gabriel and Lee 1999), and a variety of behaviors ranging from hostility (Herr 1986) to the speed at which a person walks (Bargh et al. 1996). Further, research has convincingly demonstrated that such affects are created and sustained outside the conscious awareness of the person who has been primed.

The influence of priming effects on perceptions and evaluations of other social actors is a well-documented phenomenon. Higgins and colleagues (1977) supra-liminally primed experimental participants with either positive trait descriptors (such as adventurous and self-confident) or negative descriptors (such as reckless and conceited) and found that participants who were primed with the positive traits in fact described a fictional person (presented in a vignette as part of an ostensibly separate study) using positive terms that were often analogous to the specific traits that had been primed (i.e. “daring” instead of “adventurous”). Likewise, participants who had been primed with negative trait descriptors offered significantly more negative evaluations of the fictional

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2 Supra-liminal or conscious priming occurs when individuals are exposed to a stimulus which they perceive within their conscious awareness. Conversely, pre-conscious priming occurs when stimuli are presented in a manner that precludes conscious processing of the content of the stimulus object.
actor—despite the fact that participants in both conditions read the exact same vignette (Higgins et al 1977). Using a similar methodology, Srull and Wyer (1979; 1980) primed participants with concepts related to hostility or kindness, and found that participants’ reactions to a fictional individual were significantly impacted by the content of the priming words.

Just as priming category-relevant descriptors can help facilitate the future application of a category to other stimuli, priming with category-conflicting descriptors may inhibit the application of a category. For example, Blair and Banaji (1996) primed participants with masculine, feminine, or neutral descriptors and then instructed them to categorize a list of names as either typically male or typically female. The variable of interest was how quickly participants categorized the names. Blair and Banaji (1996) point out that neutral priming produced slower reaction times than priming with stereotypic terms. Further, they suggest that priming with counter-stereotypic terms should produce even slower reaction times, as the category-conflicting information would interfere with the accessibility of the stereotypic category. This argument points to the intriguing possibility that priming can decrease the cognitive accessibility of negative stereotypes.

Bargh and Pietromonaco (1982) provide a conceptual replication of Srull and Wyer’s (1979; 1980) hostility-kindness study, employing pre-conscious (subliminal) priming instead of supra-liminal priming. The results support the hypothesis that categories activated outside of conscious awareness influence subsequent impressions of others. In an interesting extension of Bargh and Pietromonaco’s (1982) research, Devine
(1989) demonstrated that subliminally priming individuals with racial stereotype descriptors increased the probability that later-presented stimuli would be evaluated according to the dominant ideas embodied in the stereotype. That is, when participants were primed with negative labels pertaining to African Americans, they evaluated a later ambiguous stimulus person (presented within a vignette) as hostile. Devine (1989) suggests that the relationship between negative labels and evaluations of hostility is due to the fact that hostility is a significant component of stereotypes about African Americans.

Aside from simply affecting impressions that people form of others, priming and construct accessibility have also been shown to influence overt behaviors. Along these lines, Bargh and colleagues (1996; experiment 1) primed participants with either rude or polite concepts and then instructed participants to meet another researcher in a different part of the building. When the participants arrived, the researcher (a confederate) was engaged in conversation with a colleague and, while acknowledging the presence of the participant, continued his conversation. In a fascinating finding, more than 60 percent of individuals who were primed with rude concepts interrupted the confederate’s conversation, while those who were primed with polite concepts interrupted less than 20 percent of the time—and many of those did not interrupt at all during the allotted ten minute window (Bargh et al 1996).

In a second demonstration of the power of priming in shaping behavior, Bargh and colleagues (1996; experiment 2) employed a similar approach to that described above, priming concepts related to old age. In this second study, after completing the
priming task, participants were secretly timed as they walked down the hall. Results indicate that compared to individuals who were primed with neutral concepts, those who were primed with old age concepts took significantly more time to walk to the end of the hall (Bargh et al 1996). Accordingly, Bargh and colleagues (1996) argue persuasively that activating a cognitive construct in one setting has substantial impact on behavior in other, unrelated situations.

Whereas Bargh and colleagues (1996) focused on how priming abstract trait constructs shapes behaviors, Herr (1986) examines the ways in which evaluations of others that develop in one context shape not only the evaluations people form of others in a later and unrelated setting, but also how those later evaluations influence behavior. Specifically, Herr (1986) provided participants with a list of names which served as social exemplars of hostile or non-hostile behavior. Having primed hostility as an other-relevant category, Herr (1986) instructed his participants to complete a prisoner’s dilemma game in a seemingly unrelated experiment. Herr (1986) hypothesized that individuals who were primed with hostile (or non-hostile) exemplars would perceive their partner in the prisoner’s dilemma game as more (or less) hostile.\(^3\) Results indicated that participants primed with moderately hostile exemplars made significantly more competitive (as opposed to cooperative) choices and won more points in the prisoner’s dilemma game. This demonstrates that social perceptions activated toward one set of

\(^3\) This prediction was made only for individuals who were primed with moderately hostile exemplars. Herr (1986) predicted that priming participants with exemplars of extreme hostility (i.e. Hitler) would lead them to evaluate their partner as non-hostile, as the primed construct would serve not as an acceptable category for other stimuli, but would instead create a contrast effect (Herr 1986).
actors in one setting can influence behaviors toward an interaction partner in a separate and unrelated setting.

Summary. In sum, when a social category is activated in one situation, the likelihood that the same category will be applied to stimuli encountered in a later situation increases. This effect is explained through the concept of category accessibility; when a social category is activated, it becomes temporarily more accessible than other categories—even categories that may be more appropriate for the stimulus in question. Although individuals differ in terms of the cognitive availability of categories and constructs, research suggests that certain categories (such as racial or gender stereotypes) that are based in broad cultural consensus are available regardless of individual endorsement of stereotypic beliefs.

The effects of category accessibility have been demonstrated to affect evaluation of social targets (Higgins et al 1977; Srull and Wyer 1979; Bargh 1982) and attributions for others’ behavior (Rholes and Pryor 1982). Category accessibility can influence social behavior through the activation of abstract trait constructs (Bargh et al 1996) or through the activation of target-relevant categories (Herr 1986). In addition, Blair and Banaji (1996) suggest that activating category-conflicting constructs can inhibit the application of a category to a target person. Taken together, research on construct accessibility suggests that priming can either facilitate or inhibit the activation of cognitive categories, based on the content of the priming stimulus.

Status Characteristics Theory
Within small, task-oriented groups, hierarchies of power and prestige tend to arise, typically leading to inequality among group members in terms of action opportunities, performance output, reward action, and overall influence within the group (Berger, et al 1972; Berger et al 1977). Expectation states theories address the issue of structural inequality by exploring how small group hierarchies form, how they function, and how they are related to macro-level structural sources of social inequality (Correll and Ridgeway 2003). As a branch of expectation states theory, status characteristics theory (SCT) examines how group members’ overt status characteristics contribute to the development and maintenance of hierarchies of power and prestige. SCT research has demonstrated that status characteristics organize group behavior both when characteristics are specifically related to the group task and when they are initially unrelated to the task (Berger et al 1977).

The central goal of SCT is to explain status organizing processes, which Berger and colleagues (1977:3) define as “process[es] by which differences in cognitions and evaluations of individuals, or social types of them, become the basis of differences in the stable and observable features of social interaction.” Berger and colleagues (1977) outline four stages involved in status-organizing processes: 1) cognitive and evaluative information associated with status characteristics becomes available to the actors; 2) actors “connect” the available cognitive and evaluative information to features of the immediate social situation; 3) these connections lead to the formation of a status hierarchy; and 4) once formed, the status hierarchy shapes behavior and interaction within the group. The entire status-organizing process is embedded in what Berger and
colleagues (1977) term the “informational structure” of the interaction. That is, the amount and nature of the information that actors have about each other determines the nature of the status hierarchy that emerges. When the information structure of the interaction changes, a corresponding change in the status hierarchy should occur.

Berger and colleagues (1977:35; emphasis in original) state that “a status characteristic may be thought of as any characteristic that has differentially evaluated states that are associated directly or indirectly with expectation states.” SCT focuses on the role that specific and diffuse status characteristics play in organizing group behavior. Specific status characteristics embody cultural beliefs about individuals’ clearly defined capabilities, for example, whether or not someone is good at math or knowledgeable about computer programming. Diffuse characteristics, on the other hand, are not associated with any specific ability. Rather, the cultural beliefs attached to diffuse status characteristics involve evaluations of a person’s general abilities, based on the social categories to which that person is perceived to belong.

According to SCT, the informational structure of the interaction includes the perceptions and evaluations that group members form of others based on their specific and diffuse characteristics. This information leads to the formation of performance expectations, which in turn lead group members to anticipate which individuals within the group will offer more valuable input related to the task at hand (Berger et al 1977). Consequently, performance expectations act as self-fulfilling prophecies (Merton 1948), whereby individuals form behavioral expectations for other group members, and act in ways that facilitate or constrain the other individual’s participation in group activities, in
essence creating the conditions for expectations to be confirmed (Correll and Ridgeway 2003). There is substantial research that supports the contention that gender functions as a diffuse status characteristic, with females possessing the less-valued state of the characteristic (Meeker and Weitzel-O’Neill 1977; Pugh and Wahrman 1983; Riordan 1983; Foschi 1996; Hopcroft 2002; Rashotte and Webster 2005; Kalkhoff, Younts, and Troyer 2008).

The characteristics of the actual interactants are not the only components of the informational structure of the interaction. Berger and colleagues (1977) argue that the availability of referent actors also affects the performance expectations that arise. A referent actor is an individual who is not engaged directly in interaction, but whose status information is available to those who are interacting (Berger et al 1977; Markovsky, Smith, and Berger 1984). Accordingly, persons who are external to the group interaction can alter the informational structure by activating status beliefs that either increase or decrease the expectations that group members form for themselves and their interaction partners. The argument I discuss below builds on research about referent actors by elaborating how the activation of status beliefs in one setting alters expectations in subsequent and unrelated situations.

**Scope conditions and theoretical assumptions.** The explanatory and predictive capacity of SCT is bound to a set of scope conditions that delineate the situational conditions under which the theory is expected to operate. The five scope conditions that define SCT’s range of applicability are: 1) group members are participating in a valued task (T); 2) associated with T is a specific skill (C*); 3) group members are task oriented;
4) group members are collectively oriented; and, 5) group members are socially
differentiated only by the status characteristic(s) under observation. These five scope
statements outline conditions that are sufficient, but not necessary for status organizing
processes to operate. That is, the theory does not preclude the possibility that status
organizing processes may also operate in situations that do not strictly meet the
theoretical scope conditions. Nonetheless, meeting these situational conditions is an
important goal of any test of SCT (Foschi 1997).

Along with the scope conditions described above, SCT also embodies a set of five
theoretical assumptions. First, specific or diffuse status characteristics that differentiate
group members from one another are salient in the situation (Berger et al 1998). Thus,
for example, as a status characteristic, gender would be salient in a mixed-sex group, but
not in a group composed entirely of males. Second, any salient status characteristic
becomes relevant to the group task unless it is otherwise specifically disassociated
(Berger et al 1998). This assumption is referred to as the “burden of proof” assumption
because any status characteristic will become relevant to the collective task unless group
members are presented with (or otherwise encounter) “proof” suggesting that it is not
relevant.

Assumption three states that as new actors enter the situation, the group structure
develops sequentially according to the first two theoretical assumptions. Further, the
sequencing and maintenance assumption states that “those parts of an actor’s structure
previously completed will remain while the actor is in the given status situation” (Berger
et al 1998). This statement suggests that the status-based evaluations that an actor forms
regarding a specific interaction partner remain part of the actor’s information structure after that partner has exited the interaction and been replaced with a new interaction partner (Pugh and Wahrman 1983). Lastly, assumptions four and five state that actors combine all relevant status information into a single aggregated expectation state, and that behavioral displays of power or deference are a direct function of a group member’s expectation advantage or disadvantage (Berger et al 1998). Taken as a whole, SCT’s five theoretical assumptions spell out the cognitive steps that group members follow in processing information about other individuals and in forming impressions of them, as well as how these cognitions and evaluations translate into overt behaviors.

*Consistent and inconsistent status information.* When individuals possess multiple points of status-related information about each other, all of the relevant information is incorporated into a single expectation state (Berger et al 1977). Perhaps the simplest multi-characteristic situation is the case of consistent status. For example, a white male would be considered status-consistent because he possesses the high-valued states of both gender and race. In the same manner, a black female is also status-consistent because she possesses the low-valued states of both characteristics. In both of these situations, expectations are formed through an additive process (Berger et al 1977). For example, a group will form high expectations of a white male based on his race, and will also form high expectations of him based on his gender. These correspondingly high expectations combine to form one single set of expectations that is higher than either of the single-characteristic expectations alone, though according to the attenuation principle, as the
number of consistent status characteristics increases, the relative weight of new consistent information decreases.

Inconsistent status characteristics, on the other hand, tend to produce weakened effects. That is, when a person possesses the positive part of one diffuse status characteristic and the negative part of another, individuals cognitively “sort” the characteristics into subsets of high- and low-status information, which are then combined to create an aggregate expectation state value (Berger et al 1992). As such, introducing status-inconsistent information decreases the expectations that others form for high-status actors by combining the effects of positively and negatively valued characteristics. Likewise, introducing status-inconsistent information increases the expectations that group members form for low-status others, as the inconsistent information mitigates the impact of negative evaluations. The introduction of status-inconsistent information into the interaction, then, represents one potential means by which the effects of status inequalities can be reduced.

Transfer of expectations across interaction partners and settings. To this point we have considered only how status characteristics and performance expectations organize behavior in a single interaction setting. There is also substantial evidence that expectations that develop in one group context can transfer to other situations and apply to other actors. For example, Pugh and Wahrman (1983) demonstrate that gender-based status inequalities can be reduced or eliminated by providing group members with information that females are more competent than males at a separate task if group members perceive it to be related to the immediate group task. Accordingly, the
researchers conclude that gender-based performance expectations transfer across tasks when interacting with the same partner.

In a second experiment Pugh and Wahrman (1983) provide evidence that demonstrating female task superiority in one group setting reduces inequality in later groups with different partners. The transfer effect across actors is hypothesized to operate by activating status beliefs through a referent actor. That is, individuals interact with a partner in one setting, and that actor becomes a referent for later interactions (Pugh and Wahrman 1983; Markovsky et al 1984). The transfer effect associated with referent actors has been shown to operate across task settings that are immediately temporally adjacent (Markovsky et al 1984) and across interactions that are separated by a full day (Pugh and Wahrman 1983).

*Graph-theoretic formulation.* Within SCT research, the effects of status differentiation on group behavior are predominately measured by examining patterns of interpersonal influence. Berger and colleagues (1977) outline a formal mathematical model that allows researchers to hypothesize the magnitude of status differentiation with a great degree of specificity. Using SCT’s graph-theoretic formulation, researchers can model complex status situations and derive an estimate of one actor’s relative status advantage over another.

Figure 1 presents a graph of a simple dyadic interaction in which one individual (p) is differentiated from another individual (o) according to a single diffuse status characteristic, such as gender. This graph depicts a situation in which p’s possession of the more highly valued state of the characteristic (D+) allows p to form expectations (Γ+)
that he is more competent than o at the instrumental skill (C*) required to complete the task. In essence, path lengths represent the cognitive reasoning process that actors follow in inferring others’ task abilities based on states of a salient status characteristic (Berger et al 1977). The strength of the cognitive association is modeled as paths of different lengths, with the magnitude of the resulting performance expectations increasing as line length decreases. As can be seen in Figure 1, actor p is connected to successful task outcome (T+) through two positive paths—one four-length path and one five-length path (all lines in the graph have a length of 1; see Berger et al 1977 for a detailed description of path counting).

By assigning functions to paths of different lengths, it is possible to mathematically model the magnitude of one actor’s status advantage over another. The process begins by calculating an expectation state value following the formula:

$$e_x = e_x^+ + e_x^-$$  \(1\)

where
Equation 1 represents the assumption of aggregated expectation states which, as stated above, posits that p’s aggregated expectation state value \( e_x^+ \) captures the combined effect of all relevant positive and negative status information, where \( e_x^+ \) is a subset of positive expectations and \( e_x^- \) is a subset of negative expectations. Equations 2 and 3 state that p’s positive and negative expectation values are a function of the number and lengths of positive or negative paths connecting p to the task outcome. In the equations above, \( i \) represents a path of length \( i \), and \( f \) represents a function designating the strength of that path. In the status situation diagrammed in Figure 1, p’s aggregate expectation state value is .1927, and because performance expectations are symmetrical, o’s expectation state value is -.1927 (see Berger et al 1977 and Balkwell 1991 for discussions regarding path functions and the calculation of expectation states values). Group member p’s expectation advantage relative to o is obtained by subtracting o’s aggregate expectation value from p’s expectation value, and is denoted as:

\[
e = e_p - e_o
\]

In the example presented in figure 1, then, p’s total expectation advantage equals .3854, or .1927 – (-.1927).

Measuring influence in the standardized experimental setting. SCT posits that individuals who possess the more socially valued state of a status characteristic typically
exert greater influence over group decision making processes compared to lower-status group members. Berger and colleagues (1977) outline a standardized experimental setting that allows researchers to manipulate the activation of status beliefs and to measure the resultant patterns of social influence that arise based on performance expectations. The standardized setting is designed to optimize the instantiation of theoretical scope conditions and to provide researchers with a substantial degree of experimental control.

Research within the standardized setting typically follows a two stage process that involves: 1) the activation of status beliefs; and 2) the completion of a collective task designed to measure the extent to which individuals are open to influence from an interaction partner. Because in the SES research participants cannot actually see each other, status differentiation is easily accomplished by conveying fabricated information about interaction partners. In fact, many expectation states researchers employ protocols in which participants never interact with a true partner, but instead complete the experimental task with a computer-emulated partner who they are led to believe is real. The use of computer-emulated partners provides researchers an added level of experimental control over which status characteristics become relevant to the group task.

Following the manipulation of relevant status characteristics, participants in the standardized setting work with their ostensive partners to complete a decision-making test, such as “contrast sensitivity” or “meaning insight” (See Methods section below for a description of the contrast sensitivity task). In the collective task, participants are presented with a series of ambiguous, binary choice questions in which they are led to
believe there is a single correct answer. Over a series of trials, participants record an initial decision, and then learn their partner’s decision. After hearing their partner’s decision, participants are given the opportunity to either keep their initial choice or to change it based on the feedback they received from their partner. In fact, the ostensive interaction partners’ responses are experimentally manipulated so that a set number of critical trials generate disagreement between the participant’s initial choice and the partner’s initial choice. Openness to influence is operationalized, then, as the probability that an individual will reject influence attempts from her or his task partner. This is referred to as the probability of a “stay” response, or P(S).

P(S) is estimated using the ratio between participants’ stay responses and the number of critical trials. Berger and colleagues (1977) estimate P(S) with the following equation:

$$P(S) = m + q(e_p - e_s)$$

(5)

where $m$ and $q$ are empirical constants derived from the data, and denote the population baseline tendency to reject influence and the situational factors, such as experimental manipulations that affect P(S), respectively (Fox and Moore 1979). Also note that P(S) contains the effects of expectation advantage. As such, calculations derived from the graph-theoretic model are useful for predicting specific patterns of social influence.

**Summary.** When individuals interact in small, task-based groups, stable patterns of inequality quickly develop. These patterns have substantial ramifications for how group members evaluate and act toward each other. SCT represents a social psychological account for how group members’ overt status characteristics contribute to
the development of hierarchies of power and prestige. Not only do status characteristics shape behavioral patterns for actors within their immediate social context, but the performance expectations that arise in one setting can carry over into future interactions. Empirical support for the core tenets of SCT and other branches of expectation states theory is extensive, particularly as it pertains to patterns of social influence in groups.

**Incorporating Priming Effects into the Informational Structure of the Interaction**

As stated above, the structure of status hierarchies that develop in small task groups are a direct product of the informational structure of the interaction, with status characteristics (and corresponding expectation states) representing the social and cognitive substance of the informational structure. Although research on referent effects suggests that expectations activated in one setting carry over into subsequent task situations with new interaction partners, SCT in its current form does not address the question of how perceptual readiness affects the informational structure by facilitating or interfering with the categorization process. There is, however, substantial common ground between SCT and priming literature regarding the cognitive bases of social evaluation and interaction, and this common ground points to several avenues through which the two perspectives can be employed together to explain gender-based status inequality.

*Areas of theoretical agreement and disagreement.* My review of relevant SCT and priming literature points to five areas of broad theoretical agreement between the two perspectives. First, both perspectives view the categorization of interaction partners as a primary basis by which individuals understand and interpret their immediate social
situation (Higgins and King 1981; Ridgeway 2009). Second, both perspectives contend that the process of categorizing others produces differences in how individuals evaluate others, based on the category into which the other is placed (Srull and Wyer 1979; Berger et al. 1977). Third, both SCT and research on construct accessibility suggest that the evaluations that individuals form of others produce specific behavioral tendencies (Herr 1980; Berger et al. 1977). Fourth, the two perspectives seek to explain how cognitions that are activated in one context transfer to later interactions (Pugh and Wahrman 1983; Markovsky et al. 1984). And fifth, both SCT and research on priming effects largely assume that the categorization-evaluation-behavior link occurs outside of conscious awareness (Bargh 1989; Wagner 2007; Ridgeway 2009).

Importantly, many of the commonalities between SCT and construct accessibility research align in such a way that each perspective speaks to specific issues that the other overlooks. For example, whereas priming research focuses on the internal cognitive mechanisms that increase or decrease the accessibility of a category, SCT examines how particular situations make categories relevant. Additionally, because both perspectives share a focus on categorization and a view that categorization is a non-conscious process, the relevance of priming effects to status organizing processes is fairly straightforward. In combining the two approaches we can derive a theoretical argument that addresses how processes that affect the organization of cognitions interact with specific structural elements of a social situation to increase or decrease inequality.

In order to spell out a clear relationship between priming effects and performance expectations, it is also necessary to address areas in which the theoretical perspectives do
not fully agree. First, SCT does not account for situational variation in the accessibility of cognitive categories. Whereas the salience assumption clearly delineates when a status characteristic becomes activated, it does not explicitly assume that status beliefs are affected by their relationship to other cognitive constructs. Following SCT, it is safe to assert that gender is a salient characteristic in mixed-sex groups. Based on the priming literature, however, it is also safe to assert that the effects of gender as a salient status characteristic should vary in magnitude across situations depending on the relative accessibility of status-related constructs. That is, increasing the accessibility of status-consistent information should facilitate cognitive access to gender-based stereotypes, thereby increasing behaviors that reflect stereotypic beliefs. On the other hand, increasing the accessibility of status-inconsistent information should impede access to stereotypes, and as such, behaviors that reflect stereotypic beliefs should decrease.

Second, SCT restricts its focus to behavior in task groups, while the construct accessibility literature contains no similar restriction in scope. Accordingly, SCT research on transfer effects has been limited to the transfer of status beliefs between two task situations. Although the activation of performance expectations requires involvement in a collective task, the construct accessibility literature suggests the possibility that status beliefs that arise in non-task related interactions can influence expectation states as well. Activating a construct increases its accessibility relative to other constructs, with accessibility decreasing as time between interactions increases. Again, research on construct accessibility points out that cognitions that arise in one context shape evaluations and behavior in later contexts, even when the two situations are
entirely unrelated. Pertaining to SCT, if previously completed parts of an actor’s informational structure remain (according to the sequencing and maintenance assumption), then it stands to reason that the effects of any status beliefs that are activated in non-task situations also remain.

In sum, to argue that priming effects influence performance expectations, it is necessary to assume that such expectations arise based on all of the status-related information that is cognitively accessible to actors. That is, priming shapes expectation states because status information activated in previous contexts increases or decreases expectations that develop in subsequent interactions. Likewise, in forming expectations in a task situation, actors do not rely solely on status information from other task situations, but incorporate status information from any temporally adjacent interactions, whether or not such interactions are explicitly task-based.

Priming effects and SCT. The question now arises as to how priming affects performance expectations that develop in small task groups. Drawing on both SCT and the cognitive accessibility literature, my theoretical argument is based on seven main insights discussed above:

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In addition, Ridgeway (1991; 2000) argues that status beliefs originate in task groups based on the distribution of rewards between actors differentiated by a nominal trait, but as status beliefs spread throughout the population they become increasingly general cultural beliefs. These status beliefs are incorporated into broad cultural schemas and stereotypes, and are activated when individuals interact in situations that meet the initial structural conditions of a collective task (Ridgeway 1991).
1. Individuals categorize social stimuli according to the most accessible construct, even when more appropriate categorization schemes are available.

2. Accessibility is influenced by the recency and frequency of activation, with recency exerting stronger effects when the time between initial activation and subsequent stimulus presentation is brief.

3. Categorization influences individuals’ evaluations of and behavior toward others.

4. Individuals in task groups categorize each other based on possession of states of salient status characteristics.

5. In addition to the characteristics of specific actors engaged in a collective task, the characteristics of referent actors also contribute to the informational structure of the interaction.

6. Status-consistent information increases inequality between group members.

7. Status-inconsistent information decreases inequality between group members.

Based on the above seven insights, I predict that when members of status-differentiated dyads are primed with status exemplars, the performance expectations that arise regarding the ability to complete a collective task will vary based on the accessibility of status beliefs. When exemplars present information that supports dominant cultural status beliefs, inequality should increase. When exemplars present information that conflicts with cultural status beliefs, inequality should be reduced.
**Theoretical Models**

Drawing on insights from different branches of expectation states theory, it is possible to derive three distinct theoretical models offering predictions about the process through which construct accessibility influences behavioral outcomes in task groups. Each model is based on a different set of assumptions about the ways in which group members weight information and incorporate that information into the informational structure of the interaction. Taken as a whole, model one (the baseline model) predicts that priming effects will produce no increased differentiation in expectations. Alternatively models two and three assert that priming individuals with low-status exemplars will increase inequality between group members, while priming individuals with high-status exemplars will reduce such inequality. I describe these models in more detail below, and summarize the four sets of predictions I test.

*Model one: the traditional SCT model.* To this point I have argued that the relative accessibility of status-related cognitive constructs should affect the magnitude of expectations that individuals form for themselves and their interaction partners. As a competing explanation, it is possible to argue that the traditional formulation of SCT is sufficient to explain the magnitude of expectations that develop. That is, the possibility exists that either: 1) status-based performance expectations are unaffected by construct accessibility; or 2) SCT already adequately captures any such effects. To rule out this possibility, it is necessary to assess how well the traditional model explains behavioral outcomes when status-related constructs are primed prior to group members entering interaction.
Because I focus on priming effects in groups in which gender is the only salient status characteristic, it is appropriate to model expectations as arising from a single diffuse characteristic. Returning to Figure 1 above, we see that when actors are differentiated according to a single diffuse status characteristic, SCT models expectations in terms of a graph with paths of lengths four and five. This produces an expectation advantage of .3854 for high status actors and an expectation disadvantage of -.3854 for low status actors. Thus, if priming effects have no influence on expectations, or if such effects are already accounted for in the traditional model, the four-five path model should account for differences in behavior regardless of differences in construct accessibility.

**Model two: the relevance model.** Recall that in the graph-theoretic model, the magnitude of expectations is affected by two things: the length of paths connecting actors to task outcomes, and the number of paths in the model. While the number of paths in the model is determined by the number of salient status characteristics operating in the interaction, the length of paths is determined by the perceived relevance of salient status characteristics to the group task. The more cognitive effort an actor must exert (whether consciously or non-consciously) to infer a connection, the longer the path (Berger et al 1977). Shorter paths produce stronger expectations, while longer paths produce weaker expectations. Further, lengthening and shortening of paths can be accomplished in two ways: altering the length of lines within the existing graph or altering the length of paths by adding or removing lines. Because the priming task I employ does not introduce additional salient status characteristics into the informational structure of the interaction, I
focus on altering path lengths as the mechanism by which construct accessibility shapes expectations.

Quite possibly the most straightforward way to model the effects of priming on expectations is to assume that more accessible status-related constructs require less cognitive effort required to infer connections between salient status characteristics and task outcomes, in turn rendering status characteristics more relevant within the interaction. And because status-inconsistent primes may interfere with the categorization process (Blair and Banaji 1996), the need for increased cognitive effort would serve to reduce the relevance of a salient characteristic. Thus, priming actors with status-relevant information should increase the magnitude of status differences (as represented by expectation advantage), and priming actors with status-inconsistent information should reduce those differences.

The preceding argument suggests two things. First, when actors are primed with status-consistent information, the length of paths in the graph should be shortened. This in essence produces a situation in which a diffuse characteristic functions as a specific characteristic. Figure 2 depicts a graph of an interaction based on a single specific status characteristic. Whereas diffuse characteristics are typically modeled with paths of lengths 4 and 5 (see Figure 1), the relevance model of status priming leads to expectations based on paths of lengths 3 and 4. This is accomplished by removing one inferential step ($\Gamma$) actors and the instrumental skill associated with the collective task ($C^*$). The magnitude of expectations associated with a 3-4 path model are substantially larger than those derived from a 4-5 path model.
And second, when actors are primed with status-inconsistent information, the lengths of paths should be extended to capture the need for increased cognitive effort. When considering a diffuse status characteristic, the addition of a further inferential step leads to paths of lengths 5 and 6, producing expectations substantially weaker than those typically associated with diffuse status characteristics. In fact, six lines are essentially the theoretical limit to how long a path can be and still produce expectations, as the function of a path of length 7 is almost zero.

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p  C+  C*+  T+
     |
  o  C-  C*-  T-
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**Fig 2.** Graph of an interaction between individuals differentiated according to a single specific status characteristic

*Model three: the imputed possession model.* While the relevance model just described conceptualizes priming effects as adding or subtracting lines from the graph, the imputed possession model focuses on how priming effects might alter the length of individual lines within a path. Webster and Whitmeyer (1999) provide a model whereby the length of an actor’s *possession* line (the first line in a path, connecting actors to states of a status characteristic) can be altered according to the imputed expectations of another group member (i.e., second-order expectations). Changing the length of the possession line by creating either consistent or inconsistent second-order expectations serves to
either: 1) associate an actor more closely with a state of a status characteristic; or 2) to distance the actor from that characteristic. Figure 3 depicts the Webster and Whitmeyer model. While all of the lines in Figure 1 (the traditional SCT model) have a length of 1, Figure 3 allows the possession line to be greater than one. Although Webster and Whitmeyer focus on expectations imputed from an interaction partner, their model is well-suited to incorporating expectations that are imputed from the prior activation of status-related beliefs.

Fig 3. Graph of an interaction between individuals differentiated according to a single diffuse status characteristic with inconsistent first- and second-order expectations

The formula for calculating the length of an actor’s imputed possession line is

\[ l_c = \lambda e_i + \beta \]  

(6)

where \( l_c \) is the length of the imputed line, \( e_i \) are the expectations actor p holds for the imputing other (as calculated using eq. 1 above), \( \lambda \) is a term reflecting the “importance of expectations associated with an imputer in strengthening or weakening an imputer's
evaluative opinions” (Webster and Whitmeyer 1999:26), and $\beta$ is the average effect of all potential imputations. Webster and Whitmeyer (1999) determine that when actors are differentiated according to a single diffuse status characteristic, the values for $\lambda$ and $\beta$ are -2 and 3, respectively.5

After determining the length of the possession line, it is next necessary to compute the function of the entire path by adding the remaining lines to the model. From there, expectation state values can be calculated by adding the full imputed path to the appropriate subset of expectations and aggregating the effects of positive and negative expectations. When primes increase an actor’s expectations they are included in her or his positive subset, and primes that decrease an actor’s expectations are entered into the negative subset. Thus, high status gender primes go into the positive subset for females (increasing their self-expectations) and into the negative subset for males (reducing their status advantage).

Applying Webster and Whitmeyer’s model to the effects of cognitive primes requires a minor modification to the assumptions underlying the equations. In equation 6, values for $e_i$ are derived from the expectations that actor p holds for a certain interaction partner o, but with priming effects, the referent source of imputed expectations is absent from the immediate interaction and in fact may not even be a person with whom actor p has directly interacted (i.e. priming can occur via photographs or other media depictions). The most logical approach to addressing this difference in sources of information is to recognize that status characteristics are abstract, and as such

5 See Appendix B for calculations of the imputed possession lines I employ.
the beliefs associated with status characteristics are not bound to any specific place, time, or actor. In other words, when modeling expectations in a status-heterogeneous group, one does not need to know specifically who actor p and partner o are in order to calculate actor p’s expectations. The only information required to calculate expectations is the number and types of characteristics (specific, diffuse, instrumental) that differentiate between actors. As such, we can derive expectation state values for priming effects if we know the category that is activated, regardless of the specific source of the activation.

Summary of models. The three theoretical models I test can be summarized as follows: the traditional SCT model is based on the assumption that expectations that arise from a single diffuse characteristic are adequate to explain patterns of interaction in mixed-gender groups, regardless of the prior activation of relevant status beliefs. The relevance model of priming contends that activating status-related cognitive constructs prior to group interaction either reduces or increases the amount of cognitive effort required to form expectations, shortening or extending the length of a path. And the imputed possession model captures the effects of priming by altering the length of the line connecting actors to states of a salient status characteristic. Both the relevance model and the imputed possession model argue that priming actors with status relevant concepts prior to group interaction will affect the magnitude of the expectations that arise, though the relevance model predicts a substantial shift in expectations, while the imputed possession model predicts more modest effects.

In the remainder of this paper, I describe an experiment designed to test the extent to which construct accessibility shapes status-based performance expectations. In
examining the relationship between priming effects and expectations, I discuss three competing theoretical models offering unique predictions concerning the magnitude of priming effects. In addition to a baseline model, which predicts no effects from priming, I also describe two alternative models that embody different assumptions about the processes by which priming effects become incorporated into the informational structure of the interaction. Although I offer no predictions concerning which alternative theoretical model will best fit the data, I do predict that models that explicitly incorporate priming effects will explain the data better than models that do not directly account for priming effects.
CHAPTER III

METHODS

To examine how priming effects influence gender-based status inequality in small groups, I conducted a laboratory experiment following the standard research protocol laid out by Berger and colleagues (1977). As such, my primary behavior of interest is participants’ openness to influence from their interaction partner. Following standard expectation states research procedures, the experiment involves: 1) the manipulation of a status characteristic—in this case, participant gender provides the basis for status differentiation; 2) the completion of a collective task, specifically “contrast sensitivity,” commonly employed in expectation states research; and 3) the assessment of rates of influence.

My experiment deviates from the standardized experimental setting in one important way: prior to group interaction, participants individually completed a priming task designed to activate either status-consistent or status-inconsistent beliefs. Bargh and Chartrand (2000) provide a basic framework to guide the development and implementation of priming manipulations. In short, supraliminal priming involves engaging participants in a task in which they are aware of the presence of the stimuli, but are unaware of the connection between the stimuli and the concept being activated. Following the priming task, participants typically engage in a separate, seemingly unrelated task to assess the impact of the priming stimuli on behavior. Given the potential for participant suspicion, Bargh and Chartrand (2000) also provide procedures
for assessing participants’ awareness of the relationship between the priming task and the subsequent behavioral task. Based on previous research, as well as on the basic guidelines offered by Bargh and Chartrand (2000), the experimental task I describe below follows accepted procedures established in the priming literature.

The experiment was conducted at the Group Processes Research Laboratory in the Department of Sociology and Kent State University, and employed a three variable treatment by level design, leading to twelve total conditions. The three experimental variables are: 1) participant sex; 2) status differences (status-equal versus status-differentiated); and 3) priming effects (high-status exemplar versus low-status exemplar versus no priming manipulation). In examining the relationship between priming effects and status-based performance expectations, I test three theoretically-derived models (described above) and assess the extent to which the models fit the experimental data.

Participants

A total of 269 volunteers were recruited from undergraduate sociology classes at a large Midwestern university. Participants registered and scheduled research sessions via an online experiment scheduling website (Experimetrix), and also completed a brief pre-screening survey. In order to reduce suspicion about the relationship between the priming task and the contrast sensitivity test, the website informed volunteers that they were registering to participate in two separate studies: 1) a study to examine attitudes toward various media portrayals of women; and 2) a study that examines decision making in computer-mediated interactions. Volunteers received extra credit in one sociology course in exchange for their participation, and as a condition of receiving extra credit,
participants were asked to verbally agree not to discuss their experience in the study with any other students. All volunteers agreed to this condition.

**Procedures**

Upon arriving at the laboratory, participants were greeted by the experimenter and escorted to a private room where they completed the study. To avoid potential encounters between participants, I staggered appointment times by several minutes and utilized two separate waiting areas. Once inside the subject room, participants were given an informed consent document, which advised them that they would be asked to participate in two separate tasks, one of which they will complete alone, and one of which would involve interacting with a partner. The experimenter provided additional information that the two experimental tasks represented separate and unrelated studies. This approach is consistent with previous studies examining priming effects. Participants were randomly assigned to experimental conditions, and to ensure standardization, all task instructions were administered via computer (with the exception of a few brief introductory remarks from the experimenter).

*Phase one: priming task.* After providing informed consent, participants were informed that they would begin the first study, which involved completing a “photograph rating task” designed to assess attitudes about media depictions of women. In fact, the true purpose of the task was to administer the priming stimuli. In completing the photograph rating task, participants were randomly assigned to view a series of ten
photographs that depicted women as either low status actors or high status actors. Each photograph conveyed a number of different status cues, based on the woman’s setting, attire, and behavior. Low status primes depicted women engaged in gender-stereotypical behaviors, such as housework or low-wage domestic labor, in a variety of settings both in the home and in the workplace. Conversely, high status primes portrayed women as occupants of high status, powerful social roles. All women in high status priming images were dressed in attire suggesting professional status, and inhabiting stereotypically high paying jobs that require high levels of education (such as doctors and judges). Further, each photograph contained only one person (the focal female actor).

Photographs were displayed against a black background on a 17 inch computer monitor, and were displayed one at a time for five seconds each, providing participants with a sufficient amount of time to view and evaluate the women portrayed in the picture. As with other aspects of supraliminal priming research, there is no established “optimal” amount of time to allow participants to view the stimuli. Based on pre-tests of the experimental protocol, I found that five seconds was an acceptable amount of time for participants to process the relevant aspects of the photographs. After viewing each photograph, participants provided a subjective rating of the woman portrayed by answering questions pertaining to their perceptions of their goodness (status), potency (power), and liveliness. Participants were instructed that the study required them to make

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6 The decision to employ only stimulus photographs depicting females was based on the overarching goal of the present study. One avenue by which gender-based inequality might be reduced is by decreasing expectations for males. The aim of this study, however, is to work toward a status intervention by which we can increase equality by increasing expectations for female group members.
quick judgments about the women in the photographs, and as such ratings should be based on their “initial gut reaction.” To reduce the possibility that the photograph rating task would induce pressures to provide socially desirable responses, participants were reminded that all of their ratings were confidential. Photograph rating questions served two functions: to increase the experimental realism of the task and to provide a manipulation check for the priming task.

*Pre-testing priming stimuli.* To ensure the strongest possible priming manipulation and to ensure that the contents of the photographs activate the intended concepts, a number of potential priming stimulus photographs were pre-tested. A total of 202 male and female undergraduate students rated 30 photographs (15 low status, 15 high status) using scales identical to the questionnaires employed in the experiment. In addition, pre-testing involved assessing the performance expectations activated by the women in the photographs, as measured by Zeller and Warnecke’s (1973) three-item general expectations index. Research suggests that males and females sometimes reveal minor differences regarding evaluation, potency, and activity ratings of social stimuli (Heise 2007), and as such, only photographs that produced consistent ratings between sex categories were employed as priming stimuli. The ten images from each set that produced the greatest average differentiation in pre-test ratings of general expectations were selected for inclusion in the final set of priming images. Appendix A presents the results of image pre-tests.

*Phase two: contrast sensitivity task.* After completing the photograph rating task, participants were instructed that they would participate in a second study which involved
interacting with a partner via computer network to complete a test of a “newly discovered ability” known as contrast sensitivity. In fact, participants did not interact with a true partner, but rather, a computer emulated partner provided participants with a pre-determined pattern of contrived responses. The contrast sensitivity task was administered following the standardized expectation states research protocol as outlined by Berger and colleagues (1977). In this task, the computer program displayed a series of slides depicting a pair of black and white boxes. Participants were instructed to determine which of the two boxes contained more white area (Moore 1968). In truth, both contained a nearly equal amount of white space, though participants were led to believe that there was a single correct answer for each trial.

Each trial in the contrast sensitivity test consisted of three stages. First, participants are prompted by the computer program to record an initial decision. Second, the computer program informed participants of their ostensive partner’s initial decision. And third, after learning their partner’s decision, participants were given the option to either stay with their initial decision or to change their initial choice. This three-stage decision making process was repeated over 25 trials, and partner feedback was manipulated so that 20 critical trials generated disagreement between the participant’s initial choice and the partner’s initial choice. To increase task orientation and collective orientation, participants were informed that the total amount of extra credit earned was contingent on the percentage of correct responses they provide. In fact, all participants received the full amount of possible extra credit.
Status manipulation. Following the standardized research protocol, I manipulated participants’ relative status by providing them with fabricated demographic information about their ostensive (actually computer-simulated) partner. As discussed above, participant gender—a diffuse status characteristic—served as the basis for status differentiation. That is, female participants (low relative status conditions) were informed that their partner was male, and male participants (high relative status conditions) were informed that their partner is female. Status-relevant information was conveyed through a fabricated exchange of “background information” between partners, in which participants learned their ostensive partner’s name. Specifically, female participants were led to believe they were interacting with a male undergraduate named “Michael” and male participants were informed they were interacting with a female undergraduate named “Jessica.”

To help ensure the activation of gender as a salient status characteristic, participants were instructed to record their partner’s first name on a “partner information sheet.” Participants in “status equal” conditions did not receive any information regarding their partner.

Previous research on gender as a status characteristic has typically employed a somewhat stronger manipulation of gender differences. For example, aside from informing research participants about the sex of their partners, Foddy and Smithson (1999) also provided information regarding whether males or females were expected to perform better on the group task. Other studies have conveyed gender information by

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7 According to http://www.babynamewizard.com/voyager, “Michael” and “Jessica” were the most common baby names for boys and girls born during the 1980s and 1990s—the two decades during which the majority of likely participants were born. These names, then, were selected to maximize the believability of the emulated partners.
informing participants that their female partners’ enjoyed a variety of gender stereotypical hobbies. To avoid potentially confounding the effects of status and priming manipulations, I deemed it necessary to activate gender as a salient characteristic using as little information as possible. Although this decision may lead to a weakened status manipulation, extensive pre-testing of the experimental protocol suggested that the information exchange was sufficient to activate small but detectable differences in expectations.

Post-Experimental Questionnaire and Debriefing. After finishing the contrast sensitivity task, participants completed a brief post-experimental questionnaire designed to ensure that participants met the theoretical scope conditions of task orientation and collective orientation as specified by Berger and colleagues (1977). Participants also answered questions about their basic demographic characteristics, as well as items assessing their subjective evaluations of their partners. Following the questionnaire, participants were debriefed about all deceptive aspects of the study including the fictitious nature of the tests employed and the related nature of the two experimental tasks. Following debriefing, participants were given a final opportunity to withdraw their participation in the study.

Variables and analyses

To test the fit of the three theoretical models described at the end of chapter 2, I estimate a series of linear regression models employing two variables. First, the dependent variable for my analyses is participants’ openness to influence, which I operationalize as the participant’s proportion of “stay responses” — p(s) — derived from
the contrast sensitivity task. This measure of influence has been shown to be a very accurate and reliable indicator of an actor’s position within a hierarchy of power and prestige (Kalkhoff and Thye 2006). My focal independent variable in estimating these models is a measure of the performance expectations that individuals hold for their interaction partners. As stated above, based on different assumptions about what information is available to group members, each of the three theoretical models predicts expectations of different magnitudes. The specific variable I employ is expectation advantage (see equation 4). Expectation advantage is calculated directly from the graph-theoretic model. Accordingly, my independent variable captures theoretical predictions concerning the magnitude of expectations, and not group members’ self-reported level of expectations. See Appendix B for a detailed presentation of the mathematical computations of expectation advantage values derived from each of the three theoretical models.

Analytical strategy. Previous researchers (i.e. Fisek, Berger, and Moore 2002) have employed regression analyses, along with chi-square “goodness of fit” tests to compare the explanatory and predictive ability of competing models. This has become the standard procedure for testing competing models within the expectation states tradition. Employing this approach, I examine the relative fit of my theoretical models. As stated above, the first analytical step involves estimating regression equations for each

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8 Expectation states theory makes no assumptions about the level of cognitive processing at which expectations develop. Driskell and Mullen (1988) demonstrate that certain subjective measures of expectations produce extremely reliable results. Nonetheless, because my analyses involve testing the relationship between expectations an influence as depicted in equation 5, the use of theoretical values—as opposed to subjective measures—is necessary.
relevant model. Next, predicted p(s) values are calculated based on the regression weights and expectation advantage values. Chi-square tests then compare model-predicted p(s) values with the observed distribution of p(s) from the data. Significant chi-square values indicate a lack of fit between the model and the data, while non-significant chi-squares indicate acceptable fit. Degrees of freedom for all chi-square comparisons are determined by taking the total number of experimental conditions in the model and subtracting two.

Chi-square tests also allow for the calculation of a second statistic whereby researchers can compare the relative fit of multiple models. The $G^2$ statistic is defined as the proportional reduction in chi-square of a theoretical model compared to a “naïve model (Fisek et al 2002). Naïve model chi-square values are determined by predicting condition mean p(s) values from the grand mean of all conditions. Theoretical models that reduce the baseline chi-square by a larger proportion can be viewed as providing a better fit to the data. Thinking of it differently, $G^2$ functions similarly to an $r^2$ statistic in that values of $G^2$ range from 0 to 1, with values indicating “the proportion of the dispersion in the data” accounted for by the theoretical model (Fisek et al 2002:337). Use of $G^2$ expands the utility of chi-square tests beyond the simple acceptance or rejection of a model to allow for comparison of the relative explanatory capacity of models when more than one model fits the data (or, in fact, when no model demonstrates acceptable fit).
CHAPTER IV

RESULTS

In this chapter I report results based on data collected from 240 participants (120 female, 120 male). Data from 29 participants (10.78 percent) were excluded from analysis for a variety of reasons. The average experiment in the standardized experimental setting excludes approximately 15 percent of participants (Dippong 2012), and my exclusion percentage is well below that mark. In total, eight participants (2.97 percent) were excluded for expressing clear suspicions that they were either not interacting with an actual partner or that they did not believe contrast sensitivity was a real ability. Importantly, not a single participant expressed any suspicion that the two phases of the study were in fact related, suggesting the deception was successful.

Further, three participants (1.12 percent) were excluded based on failure of the status manipulation (as determined by a post-experiment manipulation check), two participants (0.74 percent) were excluded from status-equal conditions for stating that they assumed they were interacting with an opposite-sex partner, and one participant (0.37 percent) was excluded based on equipment malfunctions, in which the computer program failed to allow the participant to record a final answer prior to time expiring for several individual trials.

In addition, fifteen participants (5.58 percent) were excluded from analysis for failure to meet the scope conditions of SCT (nine for failing to report an adequate level of collective orientation and six for insufficient task orientation). I assessed both task
orientation and collective orientation using single-item measures included in the post-experiment questionnaire. Task orientation was assessed with an item that stated “I was very serious about finding the correct answers during the task that my partner and I completed today,” and collective orientation was assessed with the item “During the task I paid careful attention to the input provided by my partner.” Responses for both items ranged from 1 (strongly disagree) to 9 (strongly agree).

Because there is no clear-cut theoretically-defined threshold for acceptable levels of task orientation or collective orientation (see Dippong 2012), I employed an empirical approach to assessing scope conditions. Specifically, I converted scores for the two scope condition questionnaire items to z-scores, and excluded from analysis any participants whose score deviated from the mean at a significance level of $p \leq .01$ (one tailed). The exclusion criterion corresponded to a score of three on the assessment items for both task and collective orientation. As such, participants included in analysis reported a score of four or higher.

Table 1 presents descriptive statistics for the analytic sample. As can be seen in Table 1, the mean age of experimental participants was 19.53 years, and ranged from ages 18 to 38. Approximately 80 percent of the sample reported their ethnicity as white (non-Hispanic). An additional 7.9 percent self-reported as black or African American,

---

9 Again, there are no clear theoretical criteria governing how researchers should operationalize scope conditions and no quantitative criteria governing what constitutes a scope violation. I employ a somewhat liberal cutoff point based on the assumption that excluding participants who meet scope conditions is equally as problematic as including participants who fail to meet scope conditions.

10 Mean scores for task orientation and collective orientation for the analytical sample were 7.96 and 7.35 respectively, with scores ranging from four to nine on both items.
and slightly more than four percent identified as Asian or Pacific Islander. Lastly, over 87 percent of the sample was comprised of freshman and sophomore students.

Table 1. Sample Descriptive Statistics (N=240)

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<tr>
<th>Variable</th>
<th>Mean/ Proportion</th>
</tr>
</thead>
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<td>Female</td>
<td>.500</td>
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<tr>
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<tr>
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<tr>
<td>Junior</td>
<td>.071</td>
</tr>
<tr>
<td>Senior</td>
<td>.058</td>
</tr>
</tbody>
</table>

Manipulations Checks

I conducted manipulation checks to determine the effectiveness of both the priming task and the status manipulation. In terms of the priming task, I employed evaluation and potency scores that participants provided during the photograph rating
task. Results suggest that participants’ perceptions of the stimulus photographs activated the intended concepts. Concerning ratings of evaluation (an indicator of social status) and potency (an indicator of power), on average, participants rated women in the high status images significantly more positively \( t = 6.768, p < .0001 \) and as more powerful \( t = 21.302, p < .0001 \). Regarding the status manipulation check, I employed Zeller and Warnecke’s (1973) general expectations index to assess the activation of differentiated performance expectations between conditions. The measure involved taking the mean of three separate post-experimental questionnaire items, each measured on a nine-point scale.\(^{11}\) Although the manipulation check revealed no statistically significant differences in subjective expectations between conditions, the means revealed the anticipated pattern between high and low status conditions. This was in part due to the necessarily weak status manipulation I employ, and as such I assessed that the manipulation was successful, though not as strong as expected.\(^{12}\)

**Testing Theoretical Models**

Table 2 presents means and standard deviations in p(s) for the twelve experimental conditions. As can be seen in the table, mean p(s) values for the four baseline conditions (conditions 1 through 4) line up in the predicted manner, with females

\(^{11}\) The three questions in the Zeller and Warnecke index are: 1) How would you rate this person in terms of how well you expect him or her to do in situations in general?; 2) How would you rate this person in terms of intelligence?; and 3) How would you rate this person in terms of other things that count in this world?

\(^{12}\) Similar to Thye (2000), my manipulation check revealed evidence of a potential self-serving bias in subjective ratings of status differences, in which responses from low status actors revealed a narrower gap in expectations compared to ratings by high status actors, which also partially accounts for the lack of significant differences.
deferring more to their partners in status-differentiated groups compared to status-equal groups, and males deferring less when interacting in status-differentiated groups. Conditions in which participants were primed with status exemplars but interacted with status-equal partners reveal no clear pattern of results, which is somewhat expected given the lack of salient status information about partners. In other words, in the absence of salient status information, individuals’ decisions to stay or change could be based on any number of idiosyncratic factors unrelated to the structural conditions of the interaction.

Looking at the models containing the combined effects of status and priming, we see that females in mixed-gender groups who were primed with high status exemplars (condition 11; $\bar{x} = .5800$) rejected influence at essentially the same rate as those interacting with a status-equal partner (condition 2; $\bar{x} = .6175$). Females in mixed-gender groups primed with low-status images (condition 12; $\bar{x} = .4400$), however, rejected influence at a lower rate than those in mixed-gender groups who were not primed (condition 4; $\bar{x} = .5350$, and the difference is marginally significant ($t = 2.005; p = .052$). For males the pattern is somewhat different, in that those primed with high status exemplars (condition 9; $\bar{x} = .5550$) rejected influence at the same rate as those interacting with a status-equal partner (condition 1; $\bar{x} = .5375$), and priming males with low status exemplars had no effect on rates of rejection of influence (condition 3; $\bar{x} = .5975$ versus condition 10; $\bar{x} = .5900$).
Turning next to tests of the theoretical models, Table 3 presents results for all three models for the combined analytical sample. Column three in Table 3 includes the theoretically-derived expectation advantage values (calculations for all three models are illustrated in Appendix B). Column 4 presents the model predicted p(s) scores for each condition, and column 5 presents the observed p(s) score. Finally, column six presents the differences between predicted and observed values. Furthermore, for each model I include equations from which model predicted values are calculated, as well as the chi-square goodness-of-fit statistics.

In examining the chi-square values and $G^2$ statistics, we see that neither the traditional SCT model nor either of the alternative theoretical models adequately fits the
data. Of the three non-fitting models, the relevance model fares best at explaining the data, with a $G^2$ of .4621. Nonetheless, on a simple accept-or-reject basis, all three models fail and as such, are rejected.\footnote{I also estimated an alternative version of the imputed possession model in which conditions with primes but no salient status characteristics were assigned an expectation advantage of zero. This change did not substantially improve the fit of the model.} Because my selection of only female status exemplars may be influencing the extent to which males and females attend to or are affected by the status cues contained in the images, the possibility exists that my choice of stimulus materials may be priming gender-related constructs differently for males and females. To assess this possibility, it is necessary to analyze the models separately by participant gender.

Looking first at male participants, Table 4 compares the fit of the models when we separate data by participant gender. An examination of Table 4 reveals major differences in results compared to results derived from the entire sample. Whereas when data were combined none of the models adequately fit the data, separating the data leads to the case in which for males, all three models provide an acceptable fit. Because all three models produce a non-significant chi-square statistic, we cannot reject any particular model on this basis. However, turning to the $G^2$ statistic, we can adjudicate which model provides the best fit. In doing so, we see that by a small margin, the traditional SCT model explains the data best ($\chi^2 = 6.849$  df = 4  $p = .1440$  $G^2 = .3829$).

For males primed with female status exemplars, the traditional SCT model is most adequate. This suggests at least two possibilities: 1) that males are not attending to the status cues within the priming photographs; or 2) for males, the information conveyed by
the priming photographs is irrelevant to the expectations they develop for their female task partners.

Turning next to the female only data, in Table 5 we again see a noticeably different pattern of results compared the combined male and female data, as well as compared to the male only data. In the case of females, the traditional SCT model and imputed possession models fail to adequately describe the data. However, for females we see that the relevance model provides an exceptional fit. The chi-square statistic is reduced to 1.387 and is far from significant (p = .8464). And the $G^2$ indicates that the model accounts for close to 96 percent of the dispersion of the data. In short, we can conclude that activating gender-related status beliefs prior to group interaction substantially affected the expectations that females formed for themselves relative to their ostensive male interaction partners. Because the imputed possession model failed to achieve an acceptable fit, we can further confidently conclude that for females, priming affected expectations by increasing or decreasing the relevance of gender to the collective group task. In the next chapter I discuss possible explanations for the different model outcomes between males and females.
Table 3. The Fit of the Models to the Data: Combined Male and Female Data

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
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<td><strong>Model 1: Traditional SCT Model</strong></td>
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</table>

\[ P(S) = .559 + .081(eₚ - eₒ) \quad \chi^2 = 34.009 \quad df = 10 \quad p = .0001 \quad G^2 = .2208 \]

| **Model 2: Relevance Model** |     |            |            |           |       |
| Male Status Equal, No Prime    | 20 | 0          | .5590      | 0.5375    | -.0215|
| Female Status Equal, No Prime  | 20 | 0          | .5590      | 0.6175    | +.0585|
| Male High Status, No Prime     | 20 | .38534     | .5902      | 0.5975    | +.0073|
| Female Low Status, No Prime    | 20 | -.38534    | .5278      | 0.5350    | +.0072|
| Male Status Equal, High Prime  | 20 | 0          | .5590      | 0.5800    | -.0210|
| Male Status Equal, Low Prime   | 20 | 0          | .5590      | 0.5000    | -.0590|
| Female Status Equal, High Prime| 20 | 0          | .5590      | 0.5775    | +.0185|
| Female Status Equal, Low Prime | 20 | 0          | .5590      | 0.5925    | +.0335|
| Male High Status, High Prime   | 20 | .12972     | .5902      | 0.5550    | -.0352|
| Male High Status, Low Prime    | 20 | .98990     | .5902      | 0.5900    | -.0002|
| Female Low Status, High Prime  | 20 | -.12972    | .5278      | 0.5800    | +.0522|
| Female Low Status, Low Prime   | 20 | -.98990    | .5278      | 0.4400    | -.0878|

\[ P(S) = .559 + .074(eₚ - eₒ) \quad \chi^2 = 23.4774 \quad df = 10 \quad p = .0091 \quad G^2 = .4621 \]
Table 3. continued

**Model 3: Imputed Possession Model**

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<thead>
<tr>
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<th>N</th>
<th>P</th>
<th>Q</th>
<th>R</th>
<th>S</th>
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\[ P(S) = .559 + .089 (e_p - e_s) \]
\[ \chi^2 = 31.1892 \quad df = 10 \quad p = .0005 \quad G^2 = .2834 \]
Table 4. The Fit of the Models to the Data: Males Only

<table>
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<tr>
<th>Condition</th>
<th>N</th>
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<th>Pred. P(S)</th>
<th>Obs. P(S)</th>
<th>Diff.</th>
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</thead>
<tbody>
<tr>
<td><strong>Model 1: Traditional SCT Model</strong></td>
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\[ P(S) = .539 + .108 \ (e_p - e_o) \quad \chi^2 = 6.849 \quad df = 4 \quad p = .1440 \quad G^2 = .3829 \]

<table>
<thead>
<tr>
<th>Condition</th>
<th>N</th>
<th>( (e_p - e_o) )</th>
<th>Pred. P(S)</th>
<th>Obs. P(S)</th>
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</table>

\[ P(S) = .546 + .057 \ (e_p - e_o) \quad \chi^2 = 7.080 \quad df = 4 \quad p = .1316 \quad G^2 = .3621 \]

<table>
<thead>
<tr>
<th>Condition</th>
<th>N</th>
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<th>Obs. P(S)</th>
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<td><strong>Model 3: Imputed Possession Model</strong></td>
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<td>.5824</td>
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<td>+.0019</td>
</tr>
</tbody>
</table>

\[ P(S) = .541 + .097 \ (e_p - e_o) \quad \chi^2 = 7.2614 \quad df = 4 \quad p = .1227 \quad G^2 = .3458 \]
Table 5. The Fit of the Models to the Data: Females Only

<table>
<thead>
<tr>
<th>Condition</th>
<th>N</th>
<th>( (e_p - e_o) )</th>
<th>Pred. P(S)</th>
<th>Obs. P(S)</th>
<th>Diff.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model 1: Traditional SCT Model</strong></td>
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<td>.5185</td>
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<td>+.0165</td>
</tr>
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<tr>
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<td>.5185</td>
<td>0.4400</td>
<td>-.0785</td>
</tr>
</tbody>
</table>

\[
P(S) = .596 + .201(e_p - e_o) \chi^2 = 17.7262 \text{ df = 4 } p = .0013 \ G^2 = .4544
\]

<table>
<thead>
<tr>
<th>Condition</th>
<th>N</th>
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<th>Obs. P(S)</th>
<th>Diff.</th>
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</thead>
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<tr>
<td><strong>Model 2: Relevance Model</strong></td>
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\[
P(S) = .597 + .158(e_p - e_o) \chi^2 = 1.387 \text{ df = 4 } p = .8464 \ G^2 = .9573
\]

<table>
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<th>Pred. P(S)</th>
<th>Obs. P(S)</th>
<th>Diff.</th>
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</thead>
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<td><strong>Model 3: Imputed Possession Model</strong></td>
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</tbody>
</table>

\[
P(S) = .602 + .290(e_p - e_o) \chi^2 = 10.7893 \text{ df = 4 } p = .0290 \ G^2 = .6679
\]
CHAPTER V

DISCUSSION

SCT explains the status-related behavior of actors in small, task-based groups, such as patterns of influence among members of a jury. Jurors do not, however, step into the deliberation room from a social vacuum. Rather, they enter through a courtroom in which they have encountered a judge, a bailiff, multiple attorneys, victims, offenders, and witnesses, each representing a particular constellation of race, gender, occupational prestige, and education. Do the characteristics of these non-jurors have consequences for subsequent deliberation room interactions? Do situational cues that surround group interactions have unintended consequences for the gender-based expectations that arise?

Similarly, the proliferation of visual media as a teaching tool has brought status effects into the classroom in a powerful yet subtle way. Many instructors utilize visual images in multimedia presentations. They require their students to access course materials via the internet. They use film and television as a means to present difficult or dry material. The images that students encounter in the classroom either affirm or contradict dominant ideologies about gender, race, and sexuality. Do these media representations have unanticipated effects on our students’ interactions after they leave our classrooms? When we assign group projects, do we unwittingly help assign status positions within that group? In short, do we inadvertently reinforce the very patterns of inequality that we seek to alleviate?
In the remainder of this section I consider the results of my analyses in greater detail. I begin with a general discussion of the analytical results and a consideration of the primary implications of the present study as it pertains to both SCT and the literature on priming effects. In doing so, I give particular attention to ways in which my results point to new avenues for status interventions, whereby structural inequalities might be reduced at the micro-social level by changing the features of the interaction setting. Second, drawing on research pertaining to the cognitive processing of self- and other-relevant information, I explore possible theoretical explanations for why male and female participants produced such vastly different results. Lastly, I reflect on some limitations in the present study, all of which logically point to future directions for priming and status characteristics research.

**General Discussion**

Recall that the present study began by posing two primary research questions: 1) What role do non-conscious processes related to categorizing self and other play in the formation of status hierarchies?; and 2) Can structurally-based inequalities be reduced by manipulating the relative accessibility of gender stereotypes? Analyses of three competing theoretical models examining the possible contribution of priming effects to explaining status organizing processes within the SCT framework reveal the promising finding that priming females with high status female exemplars can reduce the degree of status inequality in mixed-gender task groups. At the same time, results pertaining to priming females with low status female exemplars suggest a possible mechanism by which disadvantaging gender beliefs activated outside the group setting are imported into
group interactions. By exploring the role of construct accessibility in the formation of hierarchies of power and prestige, the current study points to new avenues for status interventions and opens a new line of communication between two prolific research traditions.

Admittedly, the pattern of results obtained is a bit complicated. Whereas none of the three possible models adequately fit the data when examining the combined data from both male and female participants, analyzing the data separately for males and females reveals that the traditional SCT model (which takes no account of priming effects) fits the data best for male conditions, while the relevance model (which predicts a substantial degree of status differentiation based on priming effects) fits best for female conditions. The observed differences between males and females in this study in terms of the relative fit of the three theoretical models, then, suggests different processes by which male and female participants organized and processed status-relevant information (or more accurately, what constituted status-relevant information).

The fact that male and female participants relied on different social psychological processes when interpreting and responding to the structural features of the interaction helps explain the lack of fit when their data were combined. For females, priming effects were incorporated into the informational structure of the interaction by rendering status differences less relevant or more relevant to the group task, which increased or decreased the amount of cognitive effort required to infer a connection between group members and task abilities. What this result suggests, then, is that females behaved as if the primes contributed additional information to the structure of the interaction beyond that which
could be deduced by simply knowing that they were interacting with a male partner. 

Comparing the excellent fit of the relevance model with the obvious lack of fit for the imputed possession model, we see that priming females with high status exemplars does not serve to distance them from their lower status category, but rather, that these primes created weaker inferences about the relationship between gender and task abilities. 

Conversely, priming effects were effectively non-existent for males; the high status primes were insufficient to activate beliefs that were inconsistent with existing beliefs or to interfere with the categorization process. And in the case of low status primes, because they were already consistent with existing gender beliefs, they provided males with no further relevant information. In other words, knowing that they were interacting with a female partner was sufficient to develop expectations, and the prior activation of gender-related status beliefs did not alter their perceptions of their partner. 

Explaining Different Results for Males and Females

Why did male and female participants respond to the priming stimuli differently? Gender constructs are uniquely powerful bases for organizing social behavior (Ridgeway 2009), and as such, priming gender beliefs about another social actor may be more difficult than priming beliefs about another person’s particular personality traits—which is a common approach in priming research—or priming self-related gender beliefs. 

The most noticeable difference between the experiences of male and female participants in the present study is that female participants were exposed to primes that

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14 Despite the fact that all three models actually fit the data for male participants, none did a particularly good job at explaining the dispersion of data, with the best fitting (traditional SCT) model producing a proportional reduction in chi-square of only .3829 (compared to a $G^2$ of .9573 for the best fitting model for females).
conveyed self-relevant information, and males were exposed to primes with other-relevant information. Because for both male and female participants the priming task involved rating photographs of females, the possibility exists that employing photographs of males would produce different results. One potential explanation for the observed gender differences in the effectiveness of priming beliefs about females is that the self-relevance of the priming stimuli shaped responses. Although the present data are not sufficient to determine if this is in fact the case, a brief theoretical discussion may help illuminate the underlying processes and lay the groundwork for future research.

A substantial amount of psychological research has demonstrated that in processing social information, individuals are keenly attuned to self-relevant aspects of the situation. Bargh (1982:434) notes that the self is essentially a chronically active construct, and people are cognitively pre-disposed to notice and recall self-relevant information. Thus females and males likely engaged the priming photographs with different levels of cognitive processing, in which the self-relevant nature of the stimuli for females both rendered the information contained in the photographs more salient and allowed for automatic processing and encoding. Moreover, when making social judgments about others, actors attend more closely to self-relevant traits (Carpenter 1988). And because the effects of the recency and frequency of construct activation are additive (Bargh et al 1986) the accessibility of gender-related constructs should increase when primes are self-relevant as opposed to other-relevant.

Pertaining directly to the role of self-relevance in the processing of gender cues, evidence exists that gender schemas are central constructs around which our self-concept
is organized (Markus et al 1982). To this end, Markus and colleagues (1982:39) state, “As an important component of the self concept, a gender schema is likely to be highly available and centrally implicated in information processing about gender in general and about the gender aspects of the self in particular.” Further, Markus and colleagues (1982) argue that gender self-schemas do not reflect beliefs about gender “as a whole,” but rather that males (on average) process information through schemas of masculinity, and attend to gender-related information as it bears on their own masculinity.

Research on self-relevance and the processing of gender information suggests that an effective approach to altering the cognitive accessibility of gender beliefs may require targeting males and females differently with self-relevant information. Interestingly, some evidence exists which indicates that although both males and females express greater understanding of their own gender category, the differential socialization of males and females as children (with violations of masculine norms for boys typically sanctioned more severely than violations of feminine norms for girls; Fling and Manosevitz 1972) leads to a case in which females develop a better understanding of masculine gender norms than males develop regarding feminine gender norms (Sokal 2000). More generally, research indicates that males, much more so than females, tend to pay attention to information that is relevant to their own sex (Martin 1989; 1993). That being the case, it is possible that although males may respond only to self-relevant gender information, females may respond to status cues pertaining to both other-relevant male and self-relevant female status exemplars. This may explain why males effectively ignored the (female) primes in my research.
Cohen and Lotan’s (1995) research provides another plausible explanation for the lack of effectiveness of priming in males. In their application of status interventions in the classroom, Cohen and Lotan (1995) predicted (and found support for the prediction) that interventions raised the performance of status-disadvantaged students, but had no effect on the performance of status-advantaged students. In other words, those whose relative status position conveyed an initial benefit maintained that benefit, even as lower status students improved. What this suggests, then, is that certain interventions may affect the expectations that lower status actors hold for themselves, but do not alter the self-expectations of higher status actors. Although previous research has suggested that interventions can impact the self-expectations of high status actors (c.f. Markovsky et al 1984), expectations based on statuses and identities that are integral to the self-concept (such as gender or ethnicity) may be more resistant to the effects of new information, especially when such information threatens one’s privileged status.

Implications

In many ways, SCT and research on priming effects deal with parallel processes. Both address questions pertaining to the attitudinal and behavioral consequences of categorizing social objects, though they have focused on different ends of the continuum. While research on priming effects has shed light on the ways in which people categorize and evaluate each other, SCT has developed around a sociological framework centering on how cultural beliefs about social categories provide a basis for inequality and stratification at a micro-social level. Given the potential for the explanatory capacity of SCT to be enhanced by developing an integrated account for the construction and
maintenance of status hierarchies that takes into account both psychological explanations
of categorization processes and sociological explanations of status organizing processes,
the most direct contribution of the present research is in opening a line of communication
between the two research traditions.

One further potential contribution of this study is that it provides a plausible
explanation for the transfer of expectations across group settings. For example,
Markovsky and colleagues (1984) demonstrate that the effects of status interventions
applied in one setting transfer to new groups comprised of different members, but that the
effects are attenuated in the second group. This is exactly the pattern of effects we would
expect to see if the initial status intervention served to alter the accessibility of status-
related constructs. Specifically, we know that the effects of temporary accessibility
achieved through cognitive priming decay rather rapidly following the presentation of
stimuli (Srull and Wyer 1979). We would expect, then, to see the effects of a status
intervention attenuate over time as actors complete an initial task and then move to a new
setting or new group. In effect, informational status interventions may be priming status-
disconfirming beliefs. This of course is an empirical question. Because Markovsky and
colleagues do not test specific theoretical models to account for their results, further
research is needed to explore this possibility.

A second and more noteworthy contribution of the present study is that it points to
new avenues of status intervention. If the relative accessibility of status-disadvantaging
beliefs can be altered by changing visual cues within a situation, this provides a way
forward for reducing inequality at the micro-social level. One particular domain to which
this possibility is particularly applicable, as suggested above, is the classroom. Speaking
to the applicability of expectation states theory to reducing inequality in the classroom,
Cohen (1982:209) states, “If a student has generally low expectations for academic
competence s/he will be less likely to put out the requisite effort to become a more
successful student.” Raising students’ expectations, then, improves a variety of
classroom outcomes.

Cohen’s successful application of SCT to reducing racial inequality in the
classroom provides a model by which priming effects (as a positive force) can improve
outcomes for disadvantaged groups. For example, a noteworthy amount of research has
been devoted to examining the major gender disparity within the STEM disciplines
(science, technology, engineering, and mathematics), with females being widely under-
represented (c.f. Xu 2008; Miyake et al 2010). Might it be possible to recruit more
women into STEM disciplines by increasing their self expectations in the classroom?
And can this be accomplished by creating physical spaces in which the value and
intelligence of women is affirmed?

The present study suggests the possibility that the media we bring into the
classroom can shape the expectations of female students, with either positive or negative
outcomes, depending on the beliefs that are activated. Instructors can either affirm or
refute dominant cultural beliefs about gender by creating a classroom environment in
which the contributions of female scholars, politicians, historical figures, and artists are
accorded the same attention as that paid to prominent male figures. If the visual images
that surround an interactional setting can increase or decrease gender inequality, then it behooves conscientious instructors to select classroom media with great care.

Aside from advancing SCT, the present study also advances the priming literature in one important way: although priming effects have been widely studied, they have (to the best of my knowledge) never been employed to explain social phenomena within a clear theoretical framework. By bringing priming effects into the SCT paradigm, we can begin to parse out the true social consequences of this fascinating psychological mechanism. Likewise, by drawing on the graph-theoretic framework of SCT, priming researchers gain a powerful mathematical tool whereby they can actually predict the magnitude of priming effects. In short, scholars within both the SCT and priming traditions have much to offer each other.

**Limitations and Future Directions**

The present study is limited in at least two ways, both of which call for future research. First, the use of female-only priming stimuli produced a situation in which we cannot adequately assess how cognitive accessibility and priming effects might affect males and females differently. I have posited two possible explanations for the lack of priming effects in male participants, though the present data are not suited to adjudicate between them. As such, future researchers can address the questions raised in this study by utilizing priming stimuli that include both male and female status exemplars. If the self-relevance argument is accurate, males should respond to images that convey information that bears on their masculinity and prestige. If the alternative suggested by
Cohen and Lotan is accurate, males should be unresponsive to any targeted status intervention.

And second, future research on priming effects and expectations would benefit by employing a stronger status manipulation. Although the decision to utilize a weak manipulation served a tactical purpose (i.e., to allow for a clear separation of effects between priming effects and the status manipulation), it nonetheless adds a tentative character to any conclusions drawn based on the present study. This study represents a first step in bridging two research paradigms across two disciplines, and if an integration of SCT and priming effects is to be successful, it will likely require sociologists and psychologists to work collaboratively to develop and refine a research protocol that will allow for strong status manipulations and appropriate priming manipulations.

Aside from addressing questions pertaining to the nature of the stimuli I employed, future research is needed in several areas. First, the present research begins to illuminate the relationship between priming effects and status organizing processes, but I have focused only on gender as a diffuse status characteristic. As such, further research is needed to determine whether the process works the same for other diffuse characteristics, such as age, race, educational attainment, and social class.

Furthermore, priming can occur through a variety of sources, at both the conscious and non-conscious level. More research is necessary to determine if the magnitude of effects obtained when priming status-related ideas differs according to the method of delivery. In this study, female participants did respond to the visual primes, though it is unclear if the use of semantic primes would create the same degree of
differentiation. And because primes were presented within participants’ conscious awareness, they may have activated both controlled and uncontrolled cognitive processes. Thus, further research can address this question by priming gender beliefs outside of participants’ awareness.

Lastly, future research is needed to determine if the integration of SCT and priming effects has any useful application (either in the classroom or elsewhere). Above I have outlined how classroom settings might be altered to raise gender-based status expectations. Further developing Cohen’s expectation states interventions in the classroom could provide a fruitful line of research with practical applied value.
CHAPTER VI

CONCLUSION

Structural social psychologists focus largely on how situational aspects of a micro-social interaction impinge upon individuals’ cognitive and affective processes to shape the behaviors of social actors. Research within the expectation states and SCT tradition has contributed to the sociological understanding of gender by exploring the processes through which such “macro” concepts as cultural beliefs are imported into small group settings to generate and reinforce systems of stratification at the interactional level. Cultural beliefs about gender are deeply entrenched, and because they often shape behavior automatically at a non-conscious level, they can provide an appearance of innate differences, and their effects are difficult to overcome. Because status beliefs about the unequal abilities of occupants of certain social categories originate at the micro-social level and then diffuse throughout a society (Ridgeway 1991; 2000), it is theoretically possible to change cultural beliefs by invoking equality in micro-social interaction.

By examining gender as a situational variable rather than an essential and dichotomous characteristic of individuals, expectation states theory both raises the hope for increased gender equality and offers clear suggestions for how that equality can be attained. Research on status interventions and the transfer of status-based expectations across situations provide models by which inequalities can be reduced within the traditional SCT framework. Although SCT explicitly models how the available
information about other social actors within the situation affects individuals, in its current formulation it excludes a variety of sources of information that shape how we perceive and interpret social stimuli. By incorporating priming effects into SCT, the current study opens the door to exploring status organizing processes with a specific eye toward bringing in and accounting for new sources of information, including media effects.

Although the results I have presented here are promising, further research is needed to elaborate the utility of the present study for explaining and addressing issues of gender-based inequality. By demonstrating a potential connection between construct accessibility and performance expectations, my research not only highlights previously unconsidered sources of social inequality, but also highlights pathways of intervention. Part of the power of gender stereotypes in shaping behavior may be in that pervasive situational cues within the physical and social environment support the beliefs such stereotypes embody. Accordingly, it may be possible to change stereotypes that support gender inequality by changing the beliefs and attitudes we continually (and often unintentionally) activate.

In conclusion, Sewell (1989) reflects on a “golden age” of social psychology following World War II, in which researchers explored ideas and developed knowledge primarily by bringing together individuals from multiple disciplinary viewpoints. The present study demonstrates the utility of continued interdisciplinary research to advance theoretical knowledge about social structures and processes within multiple fields of inquiry. Beginning with diverse theoretical and practical interests, researchers from across the social sciences explore a variety of parallel questions, and the answers they
find to those questions often have broad implications. By looking across theoretical boundaries, sociological social psychologists (and sociologists more generally) have much to gain in terms of accumulated theoretical knowledge, and by doing so, stand to lose nothing.
CHAPTER VII

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APPENDIX A: PRIMING STIMULUS PRETEST RESULTS

Priming Stimulus Pre-test Ratings: Low Status Exemplars

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<th>Expectations</th>
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Average 1.122  -0.779  -0.347  5.271
Low  (2.033) (1.811) (1.957) (1.504)

* Denotes images selected for inclusion in priming stimulus set
### Priming Stimulus Pre-test Ratings: Low Status Exemplars

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| Average | 1.661 | 1.804 | 1.171 | 7.117 |
|         | (1.878) | (1.732) | (1.785) | (1.331) |

* Denotes images selected for inclusion in priming stimulus set
APPENDIX B.1: Calculating Expectation Advantage Model 1, Traditional SCT

(Males)

From Equation (2), positive expectations:

\[ e^+_x = [1 - (1 - f(i)) \cdots (1 - f(n))] = \\
[1 - (1 - f(4))(1 - f(5))] = \\
f(4) + f(5) - f(4) * f(5) = \\
.1503802384 + .0497787748 = \frac{.19267}{.19267} \]

From Equation (3), negative expectations:

\[ e^-_x = -[1 - (1 - f(i)) \cdots (1 - f(n))] = \\
- [1 - (1 - f(0))(1 - f(0))] = \\
f(0) + f(0) - f(0) * f(0) = 0 \]

From Equation (1), expectation state value:

\[ e_x = e^+_x + e^-_x = \\
.19267 + 0 = \\
.19267 \]

And from Equation (4), expectation advantage:

\[ e_x = e_p - e_o = \\
.19267 - (-.19267) = \\
.38534 \]

\[ ^{15} \text{In this Appendix, I provide example calculations of expectation advantages for one condition within each model. Path functions are based on Balkwell’s } f \text{ values.} \]
APPENDIX B.2: Calculating Expectation Advantage Model 2, Relevance Model

(Female, low status prime)

From Equation (2), positive expectations:

\[ e^+_x = [1 - (1 - f(0)) \cdots (1 - f(n))] = \]
\[ [1 - (1 - f(0)) (1 - f(0))] = \]
\[ f(0) + f(0) - f(0) * f(0) = 0 \]

From Equation (3), negative expectations:

\[ e^-_x = -[1 - (1 - f(0)) \cdots (1 - f(n))] = \]
\[ -[1 - (1 - f(4)) (1 - f(5))] = \]
\[ - [f(3) + f(4) - f(3) * f(4)] = \]
\[ - [0.4055563160 + 0.1503802384 - 0.4055563160 * 0.1503802384] = \]
\[ -0.49495 \]

From Equation (1), expectation state value:

\[ e_x = e^+_x + e^-_x = \]
\[ 0 + (-0.49495) = \]
\[ -0.49495 \]

And from Equation (4), expectation advantage:

\[ e_x = e^+_x - e^-_x = \]
\[ -0.49495 - 0.49495 = \]
\[ -0.98990 \]
Applying Equation (6), the length of the possession line is:

\[ l_e = \lambda e_i + \beta = -2(0.19267) + 3 = 2.61466 \]

Adding the remaining lines in the path, the total path lengths for second-order expectations become:

\[ 2.61466 + 3 = 5.61466 \]

and

\[ 2.61466 + 4 = 6.61466 \]

To find functions for paths of lengths 5.61466 and 6.61466, we use the equation:

\[ f(i) = 1 - \exp[-2.618^{(i-1)}] = \]

\[ f(5.61466) = 1 - \exp[-(2^{-3.61466})] = 0.030374 \]

and

\[ f(6.61466) = 1 - \exp[-(2^{-4.61466})] = 0.011713 \]

---

\(^{16}\) See Appendix B.1 for the calculation of \( e_i \) (expectation state value)
Assuming positive primes increase self expectations for females, the two paths just described are entered into the positive subset:

\[ e_+ = [1 - (1 - f(i)) \cdots (1 - f(n))] = \]
\[ [1 - (1 - f(5.61466)) (1 - f(6.61466))] = \]
\[ f(5.61466) + f(6.61466) - f(5.61466) \cdot f(6.61466) = \]
\[ .030374 + .011713 - .030374 \cdot .011713 = \]
\[ .04172 \]

The negative subset remains:

\[ -[f(4) + f(5) - f(4) \cdot f(5)] = \]
\[ - [.1503802384 + .0497787748] - [.1503802384 \cdot .0497787748] = \]
\[ -.19267 \]

From Equation (1), expectation state value:

\[ e_s = e_+ + e_- = \]
\[ .04172 + (-.19267) = \]
\[ -.15095 \]

And from Equation (4), expectation advantage:

\[ e_s = e_p - e_o = \]
\[ -.15095 - .15095 = \]
\[ -.3019 \]