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Testing and Extending Role Congruity Theory of Prejudice

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ABSTRACT

Testing and Extending Role Congruity Theory of Prejudice

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The current research tested the principles of role congruity theory of prejudice, which states that prejudice arises from an incongruity between a group stereotype and social role characteristics (i.e., the attributes and behaviors prescribed by the social role), such that prejudice occurs when members of a group enter or attempt to enter into social roles that are stereotypically mismatched for their group (Eagly, 2004; Eagly & Diekman, 2005; Eagly & Karau, 2002). This research examined prejudice toward men, women, and/or individuals with a mental illness; tested the theory's main premise that the degree of role congruity predicts the degree of prejudice; and attempted to manipulate role congruity. Study 1 measured the stereotypes of men, women, and people with a mental illness and the characteristics required for occupational roles as well as prejudice toward men, women, and people with a mental illness in these roles. Results indicated that men were more suited for roles requiring agentic traits and women for roles requiring communal traits. In addition, people with a masculine sex-typed mental illness (e.g., alcoholism) were more suited for roles requiring agentic traits and people with a feminine sex-typed mental illness (e.g., depression) for roles requiring communal traits. The match between stereotypes and role characteristics also predicted prejudice. Studies 2 and 3 each attempted to manipulate one of the components of role congruity in order to assess the causal effect of role congruity on prejudice. In Study 2, occupational roles were described in either an agentic or communal manner and participants indicated the suitability of a male or female for the role. In Study 3, different aspects of gender stereotypes (i.e., high or low agency or communion) were primed and

participants indicated the suitability of a male or a female for a role requiring high agency and high communion. Results from both studies showed role congruity effects in some of the roles, but also showed differences due to participant sex. Overall, the results from the second two studies provide weaker support for role congruity theory than those from the first study, but taken together, these studies support role congruity theory.

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Table of Contents

List of Tables

List of Figures

List of Appendices

Testing and Extending Role Congruity Theory of Prejudice

Prejudice results in the discriminatory treatment of individuals based on their group membership, regardless of their personal characteristics and skills. Prejudice is directed toward stigmatized groups in American society—that is, groups that possess an attribute that is part of a devalued social identity in a given context (Crocker, Major, & Steele, 1998). Being a member of a stigmatized group, whether based on race, gender, sexual orientation, mental illness, or physical disability, brings the possibility of prejudice and discrimination (Crocker et al., 1998).

In line with the negative attributes inherent in stigmatization, prejudice has historically been defined as a faulty negative attitude that develops from the overgeneralization of negative group stereotypes to individual members of a group (e.g., Allport, 1954). Although this definition has changed over time, its premise that prejudice stems from negative stereotypes is still a component of definitions of prejudice. A new formulation of prejudice, called role congruity theory (Eagly, 2004; Eagly & Diekman, 2005; Eagly & Karau, 2002), however, allows positive stereotypes to create prejudice. This new theory also gives prejudice a context—prejudice is situated in the intersection of (positive or negative) group stereotypes and the social roles members of a group are trying to occupy or currently do occupy. Thus, like stigmatization, prejudice involves a contextual component, such that members of any group may be the recipients of prejudice when certain conditions are met. Role congruity theory states that, although stereotypes may sometimes be true in the aggregate, when stereotypes are generalized to specific individuals, without regard to the individual's personal characteristics, prejudice could result if the individual is attempting to enter (or is occupying) an incongruent role.

Although much past research is consistent with this analysis of prejudice, its main tenets

have not been systematically tested. The current project aimed to expand role congruity theory to other group categorizations in addition to sex (i.e., people with a mental illness) and to test its main premise that the degree of role congruity predicts the degree of prejudice. More specifically, the first study assessed the degree of role incongruity and its relation to prejudice over a variety of occupational roles. This study measured prejudice toward men and women as well as men and women with sex-typed mental illnesses in occupational roles requiring agentic or communal traits. A second and third study attempted to manipulate role congruity by controlling either (a) the agentic and communal characteristics seen as requirements for success in a role or (b) the accessibility of the content of participants' gender stereotypes.

Rationale for Studying Prejudice

Although the discrimination that follows from prejudice is typically understood to be inappropriate in many situations, discrimination does still occur, and when it does it has personal consequences for its targets. Being the target of prejudice is stressful (e.g., Allison, 1998; Clark, Anderson, Clark, & Williams, 1999), and stress can contribute to mental and physical illness (e.g., Broman & Johnson, 1988; Dohrenwend, 1990; Kessler et al., 1994). Although the self-esteem of individuals from stigmatized groups is not generally lower than that of individuals from nonstigmatized groups (Crocker & Major, 1989), there are higher rates of poor mental health outcomes in many stigmatized groups. In fact, past research has shown that exposure to stigmatization and discrimination can lead to greater distress, anger, and other negative emotions (e.g., Armstead, Lawler, Gorden, Cross, & Gibbons, 1989; Dion & Earn, 1975; Swim, Hyers, Cohen, & Ferguson, 2001) and greater vulnerability to depression, anxiety, and other psychiatric disorders (e.g., Halpern, 1993; Kessler, Mickelson, & Williams, 1999; Markowitz, 1998; Meyer,

1995, 2003; Pak, Dion, & Dion, 1991). The discrimination that often follows from prejudice can also lead to stressors such as low income and low socioeconomic status (Allison, 1998). Low socioeconomic status can subsequently lead to mental health consequences, including decreased life satisfaction and increased depression, schizophrenia, cognitive impairments, and alcohol abuse (e.g., Aneshensel & Sucoff, 1996; Dohrenwend, 1990; Holzer et al., 1986; Schulz et al., 2000; D. R. Williams, Takeuchi, & Adair, 1992).

As a specific example, women's greater perceptions of sex discrimination (e.g., Swim et al., 2001) were associated with lower social state self-esteem and increased anger, anxiety, depression, and obsessive compulsive symptoms (Landrine, Klonoff, Gibbs, Manning, & Lund, 1995; Swim et al., 2001). Swim et al.'s (2001) study also assessed the impact of sex discrimination toward men, who showed similar associations between discrimination and anger, depression, and state self-esteem. Thus, sexism is associated with mental health problems for both men and women when it occurs, but the higher rates of discrimination toward women suggest that the impact of this link is greater for women than for men.

And it is not just major social categories, such as sex, that are affected by prejudice. For example, people with mental illness are also the recipients of prejudicial outcomes, including increased social rejection, fewer opportunities for employment, and lower income (Leff & Warner, 2006; Link, 1982, 1987; Thornicroft, 2006). In fact, individuals with mental health problems are often discriminated against, especially in employment (e.g., Drehmer & Bordieri, 1985; Farina & Felner, 1973; Stone & Sawatzki, 1980; Webber & Orcutt, 1984). This prejudice can create stress and have consequences for individual's perceptions of mastery, life satisfaction, and self-esteem (e.g., Link, Struening, Nesse-Todd, Asmussen, & Phelan, 2001; Markowitz,

1998; Wright, Gronfein, & Owens, 2000); increase feelings of discouragement, hurt, and anger (Wahl, 1999); and, perhaps in a cyclic manner, lead to increased depression and anxiety (Markowitz, 1998).

If prejudice leads to these negative health outcomes, reducing prejudice and discrimination may relieve the stress and decrease the rates of mental illness in stigmatized groups. Understanding when and why prejudice occurs is the first step in reducing prejudice, and role congruity theory helps to answer these questions by highlighting the contextual nature of prejudice. Thus, just as any group can be stigmatized in a cultural context wherein an attribute conveys a devalued social identity (Crocker et al., 1998), members of any group may find themselves the targets of prejudice in a context for which they are not assumed to have the appropriate attributes. In addition, if prejudice is inherently contextual, members of particular stereotyped groups are not vulnerable to prejudice under all circumstances. Rather, prejudice typically occurs only in specific situations, and in different situations for different groups. In order to appreciate the need for a contextual definition of prejudice, it is useful to discuss past definitions of prejudice.

Definitions of Prejudice

Allport's (1954) book *The Nature of Prejudice* was and is a primary source for scholars studying prejudice. In his book, Allport defined prejudice as "antipathy based upon a faulty and inflexible generalization" (p. 9). As prejudice included "thinking ill of others without sufficient warrant" (p. 7), the basic two components of his definition were hostility and misinformation. Allport did suggest, however, that there was a kernel of truth to stereotypes and that people could be prejudiced toward someone or some group in a positive way. However, perhaps because

Allport studied mainly racism and anti-Semitism, he elaborated prejudice only as a negative bias (or antipathy) based on what he classified as faulty generalizations.

Dictionary definitions of prejudice, which may be assumed to represent lay perceptions of prejudice (see Eagly & Koenig, in press), still adhere to Allport's definition by including both antipathy and irrationality as components of prejudice: "an adverse opinion or leaning formed without just grounds or before sufficient knowledge; an irrational attitude of hostility directed against an individual, a group, a race, or their supposed characteristics" (Merriam-Webster Online Dictionary, 2007).

As research on prejudice progressed, however, many social psychologists started to view prejudice as not necessarily stemming from false or irrational beliefs. These researchers kept the negative focus of Allport's definition, but they omitted inaccuracy as a requirement for prejudice, following the removal of inaccuracy from the definition of stereotypes (see Ashmore & Del Boca, 1981). The dismissal of prejudice as irrational by definition stemmed from the claims that the correctness of beliefs and stereotypes cannot always be known, in part because they are dependent on the group membership of the perceiver (R. Brown, 1995). Researchers also noted that stereotypes can represent reality when they are aggregated at the group level, even if they are inaccurate in relation to specific individuals (see Eagly & Diekman, 2005). Hence, a minimalist definition referenced prejudice as a negative attitude toward a group (e.g., Esses, Haddock, & Zanna, 1993). For example, Eagly and Chaiken (1993) classified prejudice as an attitude toward, or an evaluation of, a social group, usually assumed to be negative.

However, subsequent research revealed that many groups that experience prejudice and discrimination are not the targets of generalized negative attitudes. Prejudice toward women is a

good example: Women elicit predominantly positive evaluations because of the warmth dimension of the female stereotype (the *women-are-wonderful effect*; Eagly & Mladinic, 1994; Langford & MacKinnon, 2000), but are still often targets of prejudice. In addition, the negativity of stereotypes for Blacks has decreased over time (Madon et al., 2001), and stereotypes of Asian Americans include competence as well as a lack of warmth (Fiske, Cuddy, Glick, & Wu, 1999), even though prejudice and discrimination toward these racial groups has not disappeared. Thus, not all prejudice is based on negative evaluations.

Research on "modern" prejudices has also highlighted that prejudice is not always based on generalized negative attitudes or stereotypes. Modern racism (McConahay, 1986) and modern sexism (Swim, Aikin, Hall, & Hunter, 1995) are considered to be less overt measures of prejudice that do not measure prejudice in terms of the perceived character traits of stigmatized groups. For example, modern sexism is measured by the disapproval of policies designed to promote gender equality and a denial of continued sex discrimination (Swim et al., 1995), rather than the valence of attributes assigned to women or men.

Thus, not all prejudice is based on negative beliefs or evaluations, and past definitions of prejudice do not fully describe the complexity of prejudice. Some researchers invoke the use of group subtypes to account for different reactions to group members in different situations (Brewer, Dull, & Lui, 1981), but this is not a definitive answer to this problem because subtypes are not easily defined. Rather, as Smith (1993) points out, persons-in-situations (or types of persons-in-situations) rather than simply types of persons are the targets of prejudice (cf. Cantor, Mischel, & Schwartz, 1982). Thus, researchers need to account for both the person and the situation when predicting when and why prejudice occurs. Role congruity theory allows for such

contextual variation in prejudice. In this theory, members of the same group can evoke different reactions in different situations, making prejudice inherently contextual.

Role Congruity Theory of Prejudice

Role congruity theory of prejudice (Eagly, 2004; Eagly & Diekman, 2005; Eagly & Karau, 2002) states that prejudice arises from an incongruity between a group stereotype and social role characteristics (i.e., the attributes and behaviors prescribed by the social role), such that prejudice occurs when members of a group enter or attempt to enter into social roles that are stereotypically mismatched for their group. Prejudice is a less favorable attitude-in-context based on the evaluation of group stereotypes in that context. Prejudice thus involves a lowered evaluation of an individual in a given context, regardless of the overall context-free valence of the group stereotype. These contextual attitudes do not need to be objectively negative to constitute prejudice: Less positive attitudes toward members of one group compared to members of another group (or compared to members of the group in another context) can signify prejudice. In sum, when social perceivers hold a stereotype about a social group that is inconsistent with the attributes required for success in a role, prejudice can occur in the context of this role when the individual's specific attributes are not fully taken into account.

As already explained, role congruity theory emerged partially from the notion that women are seen in objectively positive terms, but are often discriminated against. Theories of prejudice that include only objectively negative attitudes without regard to context are unable to account for these findings. According to role congruity theory, however, the valence of the stereotype is irrelevant. Objectively positive attributes can be a liability in some social roles, and objectively negative qualities can become assets in some social roles. What matters instead is

how the stereotype compares to the social role—the relative evaluation of the stereotype in context. Any individual can be evaluated more negatively when he or she occupies a role that is incongruent with the group stereotype. For example, men, a high status group not normally considered targets of prejudice, are discriminated against when applying for jobs requiring feminine, communal traits (see Davison & Burke, 2000). Thus, the discrepancy between role characteristics and stereotypes is one source of prejudice.

Gender Stereotypes and Social Roles

Role congruity theory of prejudice is based on social role theory (Eagly, 1987; Eagly, Wood, & Diekman, 2000), which elaborates how social roles and stereotypes—important components of prejudice—arise. Although social role theory has been elaborated mainly with respect to gender, its basic concepts concerning stereotype content apply to other diffuse roles, such as ethnicity (Brewer & Campbell, 1976, LeVine & Campbell, 1972), race (Feldman, 1972; Smedley & Bayton, 1978), nationality (Eagly & Kite, 1987), and age (Kite, 1996) and are therefore useful in a broad sense.

With respect to gender, the theory states that physical sex differences, most specifically women's capacity for reproduction and men's greater size and strength, in interaction with the demands of socioeconomic systems, produce a division of labor between the sexes (Wood & Eagly, 2002). These gendered activities provide the basis of gender roles, or shared expectations in a society about what men and women actually do and ought to do regardless of any individual's special skills, abilities, or interests (Eagly, 1987). Gender roles are diffuse because they apply to all males and females regardless of their specific roles in society.

These differential expectations for women and men constitute stereotypes, which are

descriptive concepts that are associated with membership in a social category (Bodenhausen & Macrae, 1998). Observations of individual women and men performing certain tasks in society create stereotypes through the process of correspondent inference (Gilbert, 1998; Gilbert & Malone, 1995; Ross, 1977). In essence, perceivers do not give enough weight to situational constraints when they infer the traits of group members (Schaller & O'Brien, 1992). Therefore, because roles are often divided by group membership and these roles have different requirements and demands, observers make correspondent inferences from role behavior to the dispositions of role occupants, and stereotypes are born. Although these dispositional characterizations were once considered to be spontaneous processes that operate relatively automatically, more recent evidence on inferences from role-constrained behavior suggests that even deliberate attributional processing can create gender stereotypes if women and men perform well at the separate tasks assigned to them through gender roles (see Gawronski, 2003).

Stereotypes and roles have both descriptive and prescriptive components (Cialdini & Trost, 1998). Descriptive norms are expectations derived from observations of what people *do*, guiding group members to typical and most likely effective behaviors in a given situation. Prescriptive norms are expectations about what people *should do*, guiding group members to socially desirable and admirable behaviors in a given situation. For example, gender roles and stereotypes vary along the dimensions of communion (e.g., sensitive, nurturing, cooperative) and agency (e.g., aggressive, competitive, dominant; Bakan, 1966; Eagly, 1987). Women are seen by others as communal and men are seen as agentic (descriptive norms; e.g., Spence & Helmreich, 1978; J. E. Williams & Best, 1990) and people think women should be communal and men should be agentic (prescriptive norms; e.g., Glick & Fiske, 1996; Spence & Helmreich, 1978).

Gender roles also encompass beliefs about other aspects of men and women, including their physical characteristics, cognitive abilities, and emotional dispositions (Deaux & Lewis, 1984).

Stereotypes and social roles are important to prejudice and discrimination because perceivers notice when these expectations are or will likely be violated by someone's behavior. According to role congruity theory, the violation of gender expectancies that occurs when individuals attempt to occupy roles that are in conflict with gender roles and stereotypes triggers prejudice. It is important to note that gender prejudice is common in society because gender roles often affect perceivers' impressions even when gender is not relevant to judgments (Gutek & Morasch, 1982; Ridgeway, 1997), presumably, in part, because sex is the strongest basis of social categorization (A. P. Fiske, Haslam, & Fiske, 1991; Stangor, Lynch, Duan, & Glass, 1992) and stereotypes about men and women are easily and automatically activated (e.g., Banaji & Hardin, 1996; Blair & Banaji, 1996). Therefore, even in settings where other specific roles provide a more relevant and informative basis for reactions to role occupants, gender roles continue to have some influence.

Two Types of Prejudice

According to role congruity theory, there are two different types of prejudice—prejudice toward potential role occupants and prejudice toward current role occupants. These two types of prejudice generally follow the two types of norms—descriptive and injunctive (Eagly, 2004; Eagly & Diekman, 2005). Prejudice toward potential role occupants (e.g., hiring decisions) is based mainly on descriptive stereotypes—group members are assumed to possess the stereotypic characteristics of their group, which can prevent them from being considered well suited for a given role. Prejudice toward current role occupants, on the other hand, is based mainly on

prescriptive stereotypes—to the extent that a person has violated prescriptive stereotypes by fulfilling an incongruent role, role occupants receive negative reactions for their violation at the same time that the adequate fulfillment of the role leads to positive reactions, often leading to ambivalence (e.g., Heilman, Block, & Martell, 1995).

Research on gender prejudice provides examples of both types of prejudice. The research on women in masculine sex-typed positions is some of the strongest evidence that prejudice emerges from a contextual positioning of group members in social roles. Women are selected less often into masculine sex-typed positions (presumably because of a violation of descriptive gender norms), and once women are in these masculine sex-typed positions they may be evaluated less favorably than their male counterparts (presumably because of a violation of prescriptive gender norms). Evidence for these same processes for men in feminine sex-typed positions is less abundant, but the same types of effects have emerged.

Gender Prejudice: Selection Decisions

People often give a less favorable evaluation of women's than men's potential for masculine jobs, such as leadership positions, because of a belief that women would not be able to fulfill such roles successfully (Eagly & Karau, 2002). According to role congruity theory, prejudice toward female leaders results from the conflict between the communal qualities associated with the female gender role and the predominantly agentic qualities that people expect from leaders. Because managers and leaders are supposed to be agentic (competitive, self-confident, aggressive; Powell, Butterfield, & Parent, 2002; Schein, 2001), women's stereotypic communal attributes do not match these leadership characteristics, whereas men's stereotypic agentic attributes are similar to leadership characteristics. Therefore, perceivers usually see

women as inferior leaders compared to men and, therefore, may hire and promote them less often than men.

Studies on selection decisions show support for role congruity theory. For example, a study of employee selection processes in the Netherlands using real interviews at a university showed a role congruity effect: Job applicants were assumed to possess the traits associated with their gender, and, thus, there was a lower probability of a woman being hired for a job when members of selection boards believed that ideal applicants should have more masculine than feminine traits (van Vianen & Willemsen, 1992). Other field studies show similar results. Firth (1982) sent mock letters from male and female applicants in response to advertisements for accounting positions in the United Kingdom and found that women were given fewer opportunities to send in an application or interview for an accounting job than men. Levinson (1982) found that both men and women with identical qualifications calling to inquire about a job were discriminated against (e.g., were given outright refusals, were lied to about the position already being filled, and received discouraging reactions) when the job was of the other sex-type.

Experiments that vary the sex of a job applicant and job type provide even more useful tests of role congruity theory. In general, prejudice toward women as potential role occupants is manifested along the dimension of competency (Burgess & Borgida, 1999). Men are seen as more qualified, more likely to succeed, and more likely to be hired for masculine sex-typed jobs compared to women, and women are seen as more qualified for feminine sex-typed jobs than men (Cash, Gillen, & Burns, 1977; Cohen & Bunker, 1975; Glick, 1991; Glick, Zion, & Nelson, 1988; Pratto, Stallworth, Sidanius, & Siers, 1997). For example, Rudman and Glick (1999, 2001) found that women who were portrayed as communal were rated as less hirable for a

masculinized computer lab manager position than communal men, who may be assumed to be at least partially agentic given their sex, whereas agentic women and men were considered equally hirable for a masculine position. These findings are all consistent with the assumption that a mismatch between the target and the sex-role of the position created prejudice.

These, and other, studies that have manipulated the sex of the target while keeping other information about targets identical or comparable, in the tradition of the Goldberg (1968) paradigm, are especially informative.[1] A meta-analysis of experimental literature relating to the selection of men and women in these types of studies showed that men were preferred over women masculine sex-typed jobs (r = .17) and women over men for feminine sex-typed jobs (r = -.13; Davison & Burke, 2000). Even when personal attributes are equalized by a résumé, women were hired more often for feminine sex-typed positions and men for masculine sex-typed positions, suggesting that sex discrimination is not solely mediated by stereotypes about men and women but that role characteristics also play a part (Glick et al., 1988).

Leadership emergence shows a similar role congruity pattern. Eagly and Karau's (1991) meta-analysis found that men were more likely to emerge as leaders of a group than women (d = 0.32), especially when the group centered on a masculine task. Dominant women also tend to defer to less dominant men in taking the leadership position in a group. For example, a dominant woman was less likely to emerge as the leader when completing a masculine or gender-neutral task than a feminine task, even if her male partner was submissive. That is, dominant females tended to emerge as leaders only for the stereotypically congruent feminine task, even though their dominant personality was generally congruent with leadership roles (Ritter & Yoder, 2004).

Other research that manipulates aspects of targets to make gender and gender roles salient

also supports role congruity theory. For example, because attractive females are seen as more feminine and gender stereotypical (e.g., Lippa, 1998), attractive women were evaluated less favorably than their unattractive counterparts for managerial positions but more favorably for nonmanagerial positions (Heilman & Saruwatari, 1979). Feminine clothing also decreased hiring recommendations for a managerial position (Forsythe, 1990; Forsythe, Drake, & Cox, 1985).

In summary, research suggests that both women and men are discriminated against when they apply for positions that are incongruent with their gender roles. This effect is presumably due primarily to the descriptive stereotypes people hold about men and women that suggest individual men and women would not be competent to perform certain roles that are incongruent with these stereotypes.

Gender Prejudice: Performance Evaluations

Gender prejudice does not stop once women and men are hired—if individuals adequately fulfill their new (incongruent) role, they may also violate prescriptive gender norms, leading to negative reactions. The violation of prescriptive gender norms appears to be particularly studied in female leaders: Women who are effective as leaders often exhibit agentic behaviors in the context of this role and, therefore, may be seen as too agentic and not sufficiently communal. In other words, these women may violate both their gender-intensified prescriptions (socially desirable traits for women) by not displaying communal characteristics and their gender-intensified proscriptions (socially undesirable traits for women) by having negative agentic characteristics (see Prentice & Carranza, 2002). Thus, these women can violate the standards that others have for them because of their gender, and this violation lowers evaluations of them (and women in general) in leadership positions (Eagly & Karau, 2002).

One specific case of prescriptive gender norms creating prejudice is the case of Ann Hopkins, who was denied partnership in a prominent accounting firm because of gender stereotyping (see S. T. Fiske, Bersoff, Borgida, Deaux, & Heilman, 1991). Hopkins lacked a traditionally feminine style and personality, and although her clients praised her and she had more billable hours than any other person proposed for partner that year, she was not promoted apparently because she did not act in a traditionally feminine manner. Colleagues even advised her that she would have a better chance at becoming partner if she would walk, talk, and dress more femininely; wear make-up and jewelry; and style her hair. In essence, her category membership as female and her occupation did not match. Executives at Price Waterhouse were therefore using gender expectancies in evaluating their employees and denied this woman her rightful promotion (and Hopkins won her case).

This narrative case of prejudice is substantiated by systematic research investigating the effects of masculine behaviors for women in managerial positions. Prejudice toward women as role occupants is manifested along the interpersonal dimension and is based in negative evaluations (Burgess & Borgida, 1999). In general, women who behave confidently and assertively are not as well received as men who act similarly. Female managers are seen as more bitter, quarrelsome, selfish, and less understanding (i.e., disliked) than male managers, especially when in a masculine sex-typed position (Heilman et al. 1995; Heilman, Wallen, Fuchs, & Tamkins, 2004). Competent, assertive female leaders elicited more negative and less positive evaluations; lower ratings of ability, skill, and intelligence; and higher ratings of bossiness, dominance, and emotionality than an equally assertive male (Butler & Geis, 1990). In addition, women who are more assertive (a managerial characteristic) are rated as less likeable than men

who are equally assertive (Kern, Cavell, & Beck, 1985), although having more knowledge of an individual's personality reduces the negative effects of assertive behavior for women on their likeability (Lowe & Storm, 1986).

However, *successful* female managers are just as competent, agentic, and rational, as male managers (Heilman et al. 1995; Heilman, Wallen, Fuchs, & Tamkins, 2004). Thus, successful managers of any gender are equivalently competent, but female managers are still considered more hostile and unfriendly because they violate prescriptive stereotypes. This idea is further confirmed by Rudman and colleagues' findings that women who are self-promoting (violating the prescriptive feminine stereotype of modesty) are seen as capable but receive social rejection for their actions (Rudman, 1998; Rudman & Glick, 1999, 2001). However, if women present themselves as both communal and agentic, they can often avoid this backlash effect of social repercussions for violating prescriptive gender stereotypes (Rudman & Glick, 2001).

Studies in the Goldberg paradigm also provide evidence for prescriptive gender prejudice and allow for comparisons between different types of roles. In general, these studies showed that participants evaluated women more negatively than men when the stimuli were in a masculine (e.g., leadership or managerial settings) or neutral domain but not in a feminine domain. For example, Swim, Borgida, Maruyama, and Myers' (1989) meta-analysis of studies in which participants were given either behavioral information about a target or an essay written by the target showed that the difference in evaluations between male and female targets was negligible ($d = 0.08$), but women were evaluated less favorably in a masculine ($d = 0.25$) or sex neutral ($d = 0.32$) field compared to a feminine ($d = 0.08$) field. Eagly, Makhijani, and Klonsky (1992) showed a similar effect in a meta-analysis on more specific leadership or managerial behaviors

that were equated except for the sex of the target. Their results showed that women were slightly but nonsignificantly more negatively evaluated than men ($d = 0.05$), but that this effect was more pronounced if the target used an autocratic (masculine) style of leadership ($d = 0.30$), for roles occupied mainly by men ($d = 0.09$), and for an athletic context ($d = 1.03$). In addition, in a meta-analysis of leaders' effectiveness, neither men nor women were more effective leaders overall ($d = 0.02$), but men were more effective leaders than women to the extent that outside observers perceived the role as more interesting for men than women, to the extent that men perceived themselves as more competent in the role and more interested in occupying the role than women, and to the extent that the role required low levels of interpersonal ability and high levels of task ability (Eagly, Karau, & Makhijani, 1995). In other words, men are seen as more effective leaders in masculine roles and women as more effective leaders in feminine roles.

Prescriptive stereotypes may also play a role in women's own decisions to move or leave jobs. In a nationally representative sample, controlling for a variety of worker characteristics such as job tenure, education, and family status, male-dominated occupations were associated with an increased odds of promotion for men but an increased probability of job exit for women (Maume, 1999). In addition, among the women who returned to work after leaving the labor force, most of those initially in female-dominated occupations remained in such positions, whereas half of those in male-dominated positions switched to female-dominated positions. Women's job exit and career changes are hypothesized to be the result of the increased stress and anxiety of women in masculine occupations (Evans & Steptoe, 2002) caused by the dynamics of the work environment for women (e.g., sexual harassment, less training, social isolation; Kanter, 1977). These stressful environments could be the product of these women's violation of

prescriptive gender norms.

In summary, violations of prescriptive stereotypes can also lead to an incongruity between the gender role of the individual and the actions performed as part of the role. The negative impressions perceivers form of individuals who violate prescriptive norms can subsequently lead to further prejudice and discrimination considering that this dislike can lead to lower overall evaluations, fewer promotions, and fewer or lower salary increases (see Heilman et al., 2004).

Similarity to Other Models

Role congruity theory is similar in many respects to Heilman's (1983) lack-of-fit model. Heilman theorized that discrimination occurs when gender stereotypes conflict with perceived job requirements, creating a lack of fit and decreasing performance expectations. In 2001, Heilman (2001) elaborated the theory to account for the influence of prescriptive stereotypes on evaluations of female managers, suggesting that women are penalized for their proven competence when they fulfill agentic roles, creating the deficit of women at higher levels of management. This model, however, is only elaborated with respect to gender prejudice (and specifically with women in managerial positions), unlike role congruity theory, which is applicable across a variety of social groups and incorporates broader theoretical ideas.

Kalin and Hodgins (1984) proposed a model similar to Heilman's lack-of-fit model which asserts categorization is used as a means to stereotype individuals. Their model proposes that people possess stereotypes or prototypes about occupations and that the degree of congruence between the gender of an applicant for a position and the sex-type of the position determines discrimination (Martinko & Gardner, 1983; Kalin & Hodgins, 1984). Kalin and

Hodgins' model is more limited than role congruity theory because it refers only to prejudice toward potential occupants of roles and, like Heilman's theory, focuses exclusively on sex discrimination.

Role congruity theory is also consonant with the general idea of person-job fit. Various studies have shown that personnel hiring decisions for a variety of jobs are predicted by the match between the job and personality characteristics of the applicants (e.g., D. Jackson, Peacock, & Smith, 1980; Paunonen, Jackson, & Oberman, 1987; Rothstein & Jackson, 1980). During job interviews or in applications, applicants supply information about themselves and their personalities. Perceivers seem to consider this personality information when selecting individuals for jobs. For example, attractive individuals are assumed to possess greater social competence, which makes them better candidates than unattractive people for positions requiring social competence. However, attractiveness is not related to honesty, so there are no differences in evaluations of attractive and unattractive individuals for positions requiring honesty (Polinko, 1999). If the idea of person-job fit is expanded to recognize that social category memberships carry a wide range of assumed personality traits in the form of stereotypes, these stereotypes could also influence person-job fit.

The role-fulfillment model (Higgins & Rholes, 1976) is also related to the idea of role congruity. This model proposes that impressions are formed from an interaction between an evaluation of the role and the extent that the trait implies a fulfillment of the role. For example, given a trait-role description such as "immoral priest," perceivers judge the degree to which the role "priest" has positive or negative social value and the degree to which the role is fulfilled (i.e., "immoral" designates the priest as a "bad" priest). Thus, an impression depends on the

evaluation given to the role and the degree to which the role is or is not successfully fulfilled. The role-fulfillment model, like role congruity theory, assumes that a desirable trait can create an unfavorable impression if it is paired with an inappropriate role and an undesirable trait can create a favorable impression if it is paired with an appropriate role. If group memberships are allowed to modify roles, such as the "male nurse" or "female manager," stereotypes of men and women could be used to judge the fulfillment of the role, as in perceptions of current role occupants in role congruity theory.

Ambivalent sexism theory (Glick & Fiske, 1996) also supports role congruity theory's notions of prescriptive gender norms. According to this theory, women occupying traditional, congruent roles receive positive, benevolent responses, whereas those occupying nontraditional, incongruent roles receive negative, hostile reactions. These reactions do not map onto the two types of prejudice, however, because they both deal with prescriptive norms.

Summary and Hypotheses

According to role congruity theory, context is paramount—people can be prejudiced toward members of any social group when the group's stereotypes do not match the characteristics needed for the roles the group member is trying to occupy. Thus, prejudice is context and comparison dependent. Also, importantly, prejudice is not necessarily manifested in negative evaluations, but may also consist of less positive evaluations compared to other individuals or other contexts. In addition, according to role congruity theory, the degree of role congruity should predict the amount of prejudice a group member receives in a certain context and should do so better than overall evaluations of the group, which do not take context into account. Study 1 tests these ideas by assessing prejudice toward men, women, and people with

mental illness in the context of occupational roles.

The discrepancy between group stereotypes and role characteristics can also be manipulated rather than simply measured. Stereotypes and occupational roles have many facets, and the accessibility of these different facets can change the degree to which stereotypes and role characteristics conflict. Depending on what role requirements are accessible, prejudice should intensify or weaken for a given group. In addition, the accessibility of stereotype content should, through changes in role congruity, influence prejudice. These hypotheses were tested in Studies 2 and 3.

In all three studies, prejudice was measured by ratings of suitability for the role as well as evaluations of the target as an occupant of the role. In addition, a ranking measure was used in Study 1 and other common rule measures were used in Studies 2 and 3. These measures were necessary to rule out shifting standards effects in the data (see Biernat, 2003). That is, on rating scales of suitability or positivity, participants may rate the target in comparison to others of the same sex, rather than compared to people in general, masking the effects of stereotypes. For example, given gender stereotypes, female targets may be judged relative to the lower standards of agency for women and male targets may be judged relative to the higher standards of agency for men. The ranking and common rule measures will help to rule out the influence of shifting standards.

The current research also aims to test the validity of role congruity theory beyond gender prejudice. Evidence for role congruity theory for groups aside from gender is not as abundant. To examine whether role congruity theory applies to prejudice toward other groups, prejudice toward people with mental illness was measured in Study 1. This group is an especially

interesting category to study, given that prejudice toward people with mental illness appears decidedly non-contextual. That is, people with mental illness are targets of prejudice and discrimination in almost all occupational roles. In addition, the added dispositional information about individuals that may come from knowing their mental illness (specifically its sex-type) may influence the use of gender stereotypes and prejudice toward that individual. However, role congruity theory should still apply to people with mental illness—it just may be the case that, for these individuals, few roles are congruent with stereotypes of their group. Including targets with a mental illness therefore creates a strong test of the theory because differences in prejudice rely on (perhaps small) variations in role congruity.

In addition, there is some evidence that being in an incongruent occupation causes stress for role occupants (Evans & Steptoe, 2002; Kanter, 1977) and that prejudice itself causes stress (e.g., Allison, 1998; Clark et al., 1999; Landrine et al., 1995; Swim et al., 2001). Targets of prejudice should become more stressed as roles become more incongruent. Therefore, individuals who are at the forefront of social change and are entering occupations dominated by other groups will receive the most prejudice and therefore experience greater stress. The amount of stress a target of prejudice might experience was estimated in the current studies by asking participants to rate how stressful the given occupational role would be for a target. It was expected that targets' perceived stress levels will vary with the perceived degree of role congruity such that a large incongruity is seen as more stressful for the role occupant.

It is also important to note that prejudice must be operationalized through a comparative process. Methodologically, role congruity theory of prejudice involves a "lowering of the evaluation of members of the stereotyped group as occupants of the role, compared with the

evaluation of *members of groups for whom the role is congruent*" (Eagly, 2004, p. 51, emphasis added). It is also useful to compare the evaluations of group members in an incongruent role to the evaluations of these *same group members in other roles*. This analysis controls for the positivity or negativity of the traits associated with a certain group and shows directly that prejudice comes from the contextual positioning of the group. Therefore, prejudice toward a group in a given occupational role should be measured not only in relation to other role occupants in the same role (termed here *within-role* prejudice) but also in relation to ratings of the same group in other roles (*within-group* prejudice). The more incongruous that groups are within a given role and the more incongruous that roles are for a given group, the greater prejudice should be. When possible in the results detailed below, prejudice is discussed in terms of both within-role and within-group relationships, which requires the contrasts of an interaction between roles and targets to be computed both comparing targets within roles and comparing roles within targets.

Study 1

This first study deals with the relationship between role congruity (i.e., the congruency between stereotypes and role characteristics) and prejudice. One test of role congruity theory is to examine whether that the magnitude of role congruity relates to variation in prejudice and whether it predicts prejudice better than overall evaluations of the group. To test these predictions, I assessed the stereotypes of men, women, and people with mental illness; the characteristics people assume are required for success in a variety of occupational roles; and level of prejudice toward potential targets in those roles. In the study, participants played the role of a vocational counselor and gave advice to target individuals about possible career paths.

Participants indicated the suitability and positivity of each target in a variety of roles, including roles requiring agentic traits, communal traits, or traits (relatively) more congruent with stereotypes of people with mental illness. Prejudice should be greater for men, women, and people with a mental illness when their group stereotypes do not match role requirements. For example, a male target is hypothesized to be seen as less suitable for and less positive in occupations requiring communal traits than occupations requiring agentic traits (within-role prejudice) and compared to a female target (within-group prejudice). Conversely, a female target is hypothesized to be less suitable for and less positive in occupations requiring agentic traits than occupations requiring communal traits and compared to a male target. This effect should occur in analyses that categorize the occupational roles as either agentic or communal (analyses of variance) and in analyses that use the perceived requirements of each role separately (correlational analyses). In addition, regression analyses test whether role congruity or overall evaluations are a better predictor of prejudice.

Prejudice Toward People with a Mental Illness

The targets were men and women as well as people with mental illnesses in order to expand role congruity theory beyond gender prejudice. The inclusion of people with mental illness as targets in this study will also help to reveal why people with mental illness are often discriminated against. Most mental illnesses are not accompanied by visual cues, but would require an outward label or behavioral cues from an extended interaction before mental illness stereotypes become relevant. In the current study, the mental illness of the target will be explicitly labeled, and role congruity theory should work much as it does with gender. Any stereotypes of people with mental illness should affect the amount of role congruity that exists

with a given occupational role and, therefore, prejudice.

Stereotypes of People with Mental Illness

People with mental illness are stereotyped as dangerous, unpredictable, irresponsible, unintelligent, incompetent, withdrawn, emotional, tense, irritable, irrational, undependable, perplexed, childlike, difficult to communicate with, and unable to care for themselves (Brockington, Hall, Levings, & Murphy, 1993; Crisp, Gelder, Rix, Meltzer, & Rowlands, 2000; Jones & Cochrane, 1981; Nunnally, 1961; Ottati, Bodenhausen, & Newman, 2005). Different mental illnesses also have different stereotypes. For example, people with depression are stereotyped as unhappy, lethargic, and unsuccessful (Esses & Beaufoy, 1994), neurotic people as moody, unhappy, insecure, and tense (O'Mahony, 1979), and alcoholics and drug users as violent (Link, Phelan, Bresnahan, Stueve, & Pescosolido, 1999).

Role congruity theory highlights the reasons for such pervasive prejudice toward people with mental illness—these attributes are not part of the characteristics facilitating performance in most occupational roles, and indeed may even be detrimental for most roles. Thus, in the current study, targets with a mental illness should be the recipients of greater prejudice than targets without a mental illness. However, variations in stereotypes of people with mental illness and role characteristics should create variations in prejudice toward people with a mental illness that follow role congruity principles. For example, prejudice toward targets with mental illness should be lessened in occupational roles that are relatively more congruent with these stereotypes compared to roles that are incongruent with these stereotypes.

Sex-Typed Mental Illnesses

One way in which variability in reactions toward people with a mental illness may appear

is based on the sex-type of the mental illness. Impressions of people with a mental illness may be influenced by the representation of that illness as involving unmitigated agency or unmitigated communion. Unmitigated agency involves a focus on the self to the exclusion of others, whereas unmitigated communion involves a focus on others to the exclusion of the self. Bakan (1966) was the first to argue that unmitigated agency could lead to negative outcomes such as suicide and physical illness, and research has shown that if and when agentic and communal orientations are taken to extreme ends, without tempering by the other, mental illness may result. For example, unmitigated communion and a lack of agency, have been linked to depression, anxiety or distress, internalizing problems, and lower well-being generally (Bruch, 2002; Fritz & Helgeson, 1998; Gore, Aseltine, & Colten, 1993; Holahan & Spence, 1980; Nezu & Nezu, 1987; Nezu, Nezu, & Peterson, 1986; Roos & Cohen, 1987; Rosenfield, Vertefuille, & McAlpine, 2000; Saragovi, Koestner, Di Dio, & Aubé, 1997; Stewart & Malley, 1987; for a review of links to depression see Helgeson, 1994; Helgeson & Fritz, 1998; Whitley, 1984). On the other hand, unmitigated agency and a lack of communion have been linked to mental disorders such as alcoholism, drug use, and antisocial or aggressive behavior (Helgeson, 1994; Helgeson & Fritz, 1998; Snell, Belk, & Hawkins, 1987; Spence, Helmreich, & Holahan, 1979; Zeldow, Clark, & Daugherty, 1985; Zeldow, Clark, Daugherty, & Eckenfels, 1985; Zeldow, Daugherty, & Clark, 1987). Thus, it seems that having an extreme masculine or feminine orientation negatively impacts mental health, presumably through such mechanisms as the need for or attempts to exert control, the amount of social support given and received, and psychological and physical health behaviors (see Helgeson, 1994, 2003; Helgeson & Fritz, 2000). In essence, it seems that mental illnesses more common in women represent the exaggeration of (often negative) feminine

qualities, such as dependence, nurturance, and emotionality, whereas mental illnesses more common in men represent the exaggeration of (often negative) masculine qualities, such as aggression, self-absorption, and social incompetence.

Mental illnesses are sex-typed not only because they imply communal and agentic characteristics through their relation to extreme gender orientations, but also because of sex differences in the rates of different mental illnesses. For example, antisocial, compulsive, paranoid, narcissistic, and sadistic individuals are seen as most likely male (Landrine, 1989; Rienzi & Scrams, 1991; Rienzi, Forquera, & Hitchcock, 1995; Sprock, Blashfield, & Smith, 1990) and the symptoms for antisocial, sadistic, and narcissistic personality disorders are seen as more abnormal for females than for males (Sprock, 1996). In addition, the symptoms and illnesses of alcohol abuse, drug abuse, obnoxious behavior, aggressiveness, threatening harm, and dangerousness are seen as more typically masculine behaviors (Page, 1985). On the other hand, histrionic and dependent targets were viewed as most likely female (Landrine, 1989; Rienzi & Scrams, 1991; Rienzi et al., 1995; Sprock et al., 1990); self-criticism and feelings of helplessness—aspects of neuroticism and depression—are seen as consistent with a female gender role (Rosenfield, 1980); and the symptoms and illnesses of depression, anxiety, inappropriate affect, and over-talkativeness are seen as more typically feminine behaviors (Page, 1985). In fact, it is true that women generally have higher rates of depression and anxiety disorders than men (Kessler et al., 1994; Nolen-Hoeksema, 1998; Rapee, 1991), whereas men have a higher lifetime prevalence of substance use disorder than women (Kessler et al., 1994), even though the lifetime prevalence of psychiatric disorders in general is similar for men and women (Kessler et al., 1994).

Because mental illnesses are sex-typed, and therefore convey information about agentic and communal traits, an incongruity could occur between the sex-type of the mental illness and the requirements of agentic or communal occupational roles. In order to test for these effects, the mental illnesses used in this research consisted of both masculine and feminine sex-typed illnesses. A person with a masculine illness is hypothesized to be less suitable for and less positive in occupations requiring communal traits than occupations requiring agentic traits (within-role prejudice) and compared to a person with a feminine illness (within-group prejudice). Conversely, a person with a feminine illness is hypothesized to be less suitable for and less positive in occupations requiring agentic traits than occupations requiring communal traits and compared to a person with a masculine illness.

The Interaction of Target Sex and Mental Illness Sex-Type

Including people with mental illness as targets in Study 1 also addresses the issue of prejudice toward targets with multiple category memberships. Both target sex and mental illness sex-type carry stereotypes for that individual and could influence prejudice: (a) the sex of the target could mismatch the sex-type of the role and/or (b) the sex-type of the mental illness could mismatch the sex-type of the role. Alternatively, either sex or mental illness sex-type might overwhelm the impact of the other: Research has shown that individualized information about a target can outweigh or diminish the effects of target sex (e.g., Locksley, Borgida, Brekke, & Hepburn, 1980; Swim et al., 1989; Tosi & Einbender, 1985). However, this effect does not occur when the information is not directly relevant to qualifications of the job (Glick et al., 1988; Heilman, 1984). In this study, mental illness sex-type is not directly relevant to performance on the job; thus, it should not overwhelm the effects of target sex in the data.

Target sex and mental illness sex-type may also interact in creating prejudicial responses, and this interaction could take many forms. Because mental illnesses can be conceptualized as stemming from unmitigated communion and agency, a person with a feminine sex-typed illness may be assumed to possess very communal traits (i.e., unmitigated communion) whereas a person with a masculine sex-typed illness maybe be assumed to possess very agentic traits (i.e., unmitigated agency). Thus, a male with a masculine sex-typed illness may be "hypermasculine" and a female with a sex-typed illness may be "hyperfeminine." This analysis is similar to that of Judd and Oswald (1997) and Glick et al. (1988), who provided both target sex and sex-typed personality information to participants and found that targets who were doubly congruent for a masculine or feminine occupation were generally given the highest ratings on employment desirability measures.

Conversely, men with a feminine sex-typed illness and women with a masculine sex-typed illness may be tempered in their disposition because the stereotypic implications of their sex and their illness conflict. However, this effect did not occur in Judd and Oswald (1997) or Glick et al. (1988) when both sex and sex-typed personality information were present. Rather, evidence suggests that people with a mental illness that does not match their gender are seen as deviant and more disturbed. These individuals are hospitalized for longer periods of time than people of the other sex who display these same behaviors (Baskin, Sommers, Tessler, & Steadman, 1989; Feinblatt & Gold, 1976; Page, 1987; Rosenfield, 1982; Waisberg & Page, 1988; but see Sprock, Crosby, & Nielsen, 2001). According to this logic, men with a feminine sex-typed illness and women with a masculine sex-typed illness may be seen negatively because of their gender role deviance.

Alternatively, many recent studies have found a null effect of gender role deviance and have instead found that men are treated more harshly for mental illness than women, regardless of the specific type of illness (e.g., Cormack & Furnham, 1998; Page, 1987; Phillips, 1964; Rushing, 1979; Schnittker, 2003; Tudor, Tudor, & Gove, 1977; Windle & Lee, 1983). For example, Tudor et al. (1977) showed that men were admitted earlier for psychosis and stayed in hospitals longer and were readmitted more often for both psychosis and neurosis than women, even though there were higher overall rates of psychosis and neurosis in women. More recently, Schnittker (2003) analyzed data from the 1996 General Social Survey, for which people responded to vignettes of mental illness behaviors, and found that people reported more willingness to interact with a mentally ill woman (i.e., a woman with schizophrenia, alcohol dependence, a drug problem, or depression) than a mentally ill man displaying the same behaviors. Thus, men were treated more harshly than women. However, this sex difference may appear only when the deviance is not extreme (Rushing, 1979)—in cases of extreme mental illness, it becomes obvious that both men and women need to be treated. In crossing mental illness with target sex, this study allows for a test of these different hypotheses.

Pretesting of Materials

In order to select the targets, mental illnesses, and occupational roles used in this study, independent samples of participants rated mental illnesses, paragraphs disclosing a mental illness or another negative event, occupations, and pictures of men and women. Ratings were on 1 to 7 scales for all data unless otherwise indicated. Participants were either recruited on public settings on campus or received course credit for their participation. Over all of the pretest samples in all studies, the mean age was 20.46 years; 61.7% of the participants were White/Caucasian, 22.8%

were Asian American, 5.5% were Black/African American, and 10.0% identified themselves as other or did not report their race. In addition, 7.0% identified as Hispanic/Latino and 92.5% were U.S. citizens.

Selection of Mental Illnesses

A set of 54 participants (21 men, 33 women) rated the sex-type of various mental illnesses in several different ways. The illnesses included alcohol dependence, anorexia nervosa, antisocial personality disorder, anxiety disorder, attention-deficit hyperactivity disorder (ADHD), bipolar disorder, depression, drug dependence, obsessive-compulsive disorder (OCD), post-traumatic stress disorder (PTSD), and schizophrenia.

In one set of ratings, participants indicated what percent of each of 11 mental illnesses they think typically occurs in women or men on a scale from 1 to 100%. Participants also indicated whether they were familiar with the illness. One-sample *t*-tests comparing the percentage estimates to 50% indicated that anorexia nervosa, anxiety disorder, depression, and OCD were considered to occur more often in females than males, whereas alcohol dependence, antisocial personality disorder, ADHD, drug dependence, and schizophrenia were considered to occur more often in males than in females (see Table 1). There were no significant differences in the sex-type rating between participants who were familiar or unfamiliar with each illness.

As a second measure of the sex-type of these illnesses, participants read a short description of an individual described as suffering with the symptoms (as described in the DSM-IV) of each of these mental illnesses and indicated whether the individual was more likely to be a male or female on a 1 to 5 scale from “definitely male” to “definitely female.” For example, “The person experiences periods of intense enthusiasm followed by times of being deeply

depressed. Moments of high energy and optimism are experienced between periods of markedly lower energy" depicts an individual with depression. One-sample *t*-tests comparing the mean to 3 (the midpoint) indicated that the descriptions of anorexia nervosa, bipolar disorder, anxiety disorder, and depression were more likely to be females whereas the descriptions of alcohol dependence, antisocial personality disorder, ADHD, drug dependence, PTSD, and schizophrenia were more likely to be males (see Table 1).

There were only a few sex of participant differences on either of these measures. Female participants believed that there are more female alcoholics, $p = .004$, and were more likely to see the individual described as dependent on alcohol as female, $p = .03$, than did male participants. In addition, female participants saw the description of an individual with anxiety disorder as significantly more likely to be female than male participants did, $p = .02$.

Given the results of these two sex-type measures and the familiarity of the illnesses, as well as the illnesses participants saw as (relatively) congruent with some occupational roles (see *Selection of Roles* below), depression and anxiety disorder were chosen to be the feminine sex-typed illnesses and alcoholism and ADHD were chosen to be the masculine sex-typed illnesses.[2]

Selection of Disclosure Paragraphs to Manipulate Mental Illness

In the main study, each target revealed a history of mental illness or a negative past experience in their vocational counselor file. Pretesting with 146 participants (75 men, 70 women) helped to select these paragraphs. Participants read one of nine paragraphs written to disclose a negative event that had happened in an individual's life. Four of these events were mental illness-related and five were possible control disclosure paragraphs. The mental illness paragraphs described the symptoms of each illness, labeled the illness, and indicated that the

individual had received treatment for the illness (see Appendix A). In the pretest, each paragraph was paired with either a male or female picture (see *Selection of Male and Female Pictures* below). Participants rated this individual on a series of traits and indicated their impression of the individual and their evaluation of the event as well as the extent the paragraph was disclosing of personal information and would affect the individual's life and make it hard for him or her to find a job. Analyses showed that the paragraphs disclosing that the target was adopted or has diabetes were similar to the mental illness disclosure paragraphs in negativity, self-disclosure, and life impact (see Table 2).

Selection of Roles

Occupational roles requiring agentic traits, communal traits, and traits associated with people with alcohol dependence, ADHD, anxiety disorder, or depression were selected based on the congruity between stereotypes of the role and each of the targets. Participants rated the traits required for a variety of occupations (e.g., child care workers, airplane pilots, nurses, dental assistants, librarians, writers/authors, and pharmacists) as well as the traits associated with each of the targets (e.g., men, women, people with alcohol dependence, people with depression).

A total of 176 participants completed questionnaires used to discover the sex-type of 30 occupations. Some participants rated only 10 occupations (along with the mental illnesses described above in *Selection of Mental Illnesses*) and other participants (52 men, 70 women) rated 10 occupations and three of the six groups. There were three sets of occupations, which were traded between two sets of target groups for the latter participants.

Participants indicated how society views common groups in American society on a series of traits. Each group and occupation was rated on 30 traits picked to represent the characteristics

of communion (nurturing, kind, warm), agency (dominant, competitive, aggressive), competence (competent, intelligent, skillful), feminine cognition (verbally skilled, intuitive, expressive), masculine cognition (analytic, mathematical, good at problem solving), and mental illness stereotypes (irresponsible, unpredictable, dangerous, violent, dishonest, impulsive, tense, moody, withdrawn, pessimistic, unfocused, lethargic, energetic, organized, and systematic).[3] The mean ratings of the traits were used to calculate intraclass correlation coefficients (ICCs) between the stereotype of each target group and each occupation, which provide information about how well the ratings of the targets and occupations matched. A 2-way mixed model ICC with fixed column effects was computed on the averaged data (see McGraw & Wong, 1996; cf. Schein, 1973).

Two measures of status were also compiled by standardizing and averaging: (a) measures of the status, prestige, and the respect accorded each occupation and (b) items assessing the average level of education of each occupation on a 6-point scale (of high school degree, technical/associates degree, some college, college degree, master's degree, or doctoral/medical degree) and the average salary of the occupation on a 10-point scale (in $19,999 intervals from $10,000 to over $190,000).

The ICCs and status measures for each occupation are given in Table 3. To select the occupational roles for the main study, I assessed the difference between the men-occupation ICC and the women-occupation ICC to determine which occupations were seen as requiring agentic or communal traits. The ICCs calculated without the mental illness stereotypic traits were almost always stronger in the sex-typed direction than the ICCs using all traits; thus, the occupations can fairly be termed agentic and communal roles. Although I was hoping to use both high and low status occupational roles, there were no agentic roles that were low in status, so I attempted to

select agentic and communal occupations that were approximately equivalent on status and education/salary. To select the mental illness congruent roles, I looked at each occupation's ICC with targets with a mental illness and selected two occupations that were relatively congruent with the mental illness groups.

The 10 selected occupations were speech therapists, psychiatrists, pediatricians, physical therapists (communal), economists, police officers, politicians, stockbrokers (agentic), poets, and athletes (relatively mental illness congruent). For the main study these 10 occupations were split into two sets: (a) psychiatrist, physical therapist, economist, police officer, and poet (Set 1); (b) pediatrician, speech therapist, politician, stockbroker, and athlete (Set 2). Each participant was given a sheet describing each of these occupations (based on information given in the Occupational Outlook Handbook) for their reference in case any were unfamiliar.

Selection of Male and Female Pictures

To find pictures of men and women which were similar in attractiveness and likeability, four male and four female pictures were taken from the internet and changed into black and white photos with a white background. Each individual was also assigned a name. Then 160 participants (80 men, 80 women) rated two pictures (all possible pairings and counterbalancing of order were used) on bipolar scales, including unlikeable-likeable, sad-happy, unintelligent-intelligent, unapproachable-approachable, unfriendly-friendly, incompetent-competent, unattractive-attractive, cold-warm, masculine-feminine, and mentally ill-mentally healthy. Based on the results of a factor analysis, the likeable, approachable, friendly, and warm items were combined into a friendly factor and the competent and intelligent items were combined into a competent factor. Participants also estimated the age of the individual, volunteered the likely

race of the target, indicated if it was possible that the target had a mental illness in the past, and indicated if the photograph looked like it could have been taken for a student file when a student came to a university office.

Two male and two female pictures were chosen that were the most similar on these scales, were likely to be in a student file (above 60% agreed), and possibly had a previous mental illness (above 60% agreed; see Table 4). Two sets of male and female pictures (Karen-Dan and Michelle-Brian; see Appendix D for the pictures) were paired together to minimize differences and create an internal replication of the target sex variable in the main study.[4]

Method

Participants

During the group testing session, 215 participants (57 men, 94 women) completed at least some portion of the materials. Of these participants, 141 (65.6%) participated in the main study.[5] The main study also had an additional 19 participants recruited in a second quarter who did not complete the group testing materials.

Including both quarters of data from the main study, participants (72 men, 88 women), who participated for credit in their introductory psychology course, had a mean age of 18.96 years (range from 17 to 23) and were 68.8% White/Caucasian, 20.6% Asian American, 5.6% Black/African American, and 12.5% identified themselves as other.[6] In addition, 8.8% identified as Hispanic/Latino and 92.5% were U.S. citizens.

Design

Each participant received three targets and rated each target in five occupational roles. The three targets included a healthy male and healthy female target as well as one target with

mental illness (the two picture pairs were rotated, creating 8 sets, shown in Table 5).

This design can be broken down into two separate ANOVA designs, one assessing the impact of target sex on prejudice using only the first two targets and another assessing the impact of target sex and mental illness on prejudice using only the third target. The first design is a 2 (target sex: male, female) × 2 (role: agentic, communal) × 2 (role set: set 1, set 2) × 2 (target disclosure: male adopted/female diabetes, male diabetes/female adopted) × 2 (target order: male first, female first) × 2 (picture pair: Karen/Dan, Michelle/Brian) × 2 (participant sex: male, female) mixed design, with target sex and role as within subjects variables.[7] The second design is a 2 (target sex: male, female) × 2 (mental illness sex-type: masculine, feminine) × 3 (role: agentic, communal, mental illness congruent) × 2 (role set: set 1, set 2) × 2 (picture pair: Karen/Dan, Michelle/Brian) × 2 (participant sex: male, female) mixed design, with role as within subjects.[8] Other analyses use a correlational approach to role congruity and thus take into account each target's match with each role.

Procedure

During the group testing session, participants rated the characteristics required for each occupational role and the group stereotypes of the each target group. Each participant in group testing rated five target groups (everyone rated men and women and either men with ADHD, women with anxiety disorder, women with alcohol dependence, and men with depression or women with depression, men with alcohol dependence, men with anxiety disorder, with ADHD) and one of the two role sets (see *Selection of Roles* above) on a variety of characteristics. For each of the mental illness target groups, a short description of that illness was included. The sets were switched such that each target set appeared with each role set half of the time.

In a second experimental session, participants completed the measures assessing prejudice toward the targets. Participants were told that the researchers were interested in how the amount of information about students given to counselors impacts their career counseling decisions (see Appendix B for full instructions).

Participants were given a folder containing three Personal Response Sheets (for an example, see Appendix C) ostensibly written by each student when they attended a vocational counselor's office. Participants looked at a certain Personal Response Sheet and imagined that this person has come into their office to ask for advice on career paths. The sex of the applicant was manipulated by the name and picture of the applicant and the mental illness of the target was manipulated with an answer to a question about an event that influenced them as a person (see Appendix A). Participants rated the target's suitability for each occupational role, evaluated the target as an occupant of each role, and indicated the amount of stress likely to occur for the target in each role. Participants completed items for all roles for each target before moving to the next target, with the five roles in a random order for each target.

Participants were then told that the researchers were also interested in how direct comparisons of individuals affected vocational counselors' suggestions for students. Thus, participants ranked the targets in order of who they thought would be the most successful in each occupation. They were presented with the names of the targets in random order on the left side of the computer screen and dragged the names to the right side of the screen from least successful to most successful for each occupation separately.

Participants also indicated what they thought the experiment was about to check for suspicion and reported their demographic information. Finally, all participants were debriefed

and thanked for their time.

Measures

Role congruity. Role congruity was assessed by the ICC between the stereotypes of occupational roles and stereotypes of each group, both taken during the group testing session. For each occupation or target group, participants were asked "how typical are the following attributes of women with depression [successful speech therapists]?" The attributes were chosen to represent communal, agentic, feminine cognitive, masculine cognitive, and competent characteristics as well as traits assumed to be associated with alcoholics, people with antisocial disorder, people with anxiety disorder, and people with depression (for the full list of traits see *Selection of Roles* above).

Each of the 100 role-group pairings (e.g., men and police officers; depressed men and speech therapists) had a role congruity ICC at the group-level and the individual-level. Data from all participants in the group testing session were used in the group-level analyses, but for the individual-level analyses only the data from 141 main study participants who completed the entire group testing materials were used. The group-level ICCs are given in Table 6.[9]

Ratings of prejudice. Participants answered 17 questions about the target in each occupational role. Principal axis factor analysis with promax rotation across all targets and roles, followed by inspection of the scree plot and eigenvalues, yielded a four-factor solution accounting for 79.8% of the variance. The selection of items loading .4 or higher on each factor yielded scales measuring suitability, positive evaluation, assertiveness, and perceived stress. This solution is the most common across studies, and is therefore also used in Studies 2 and 3.

Suitability ($\alpha = .95$) was measured by five items: how likely it is for the target to get the

appropriate credentials for the job, how successful the target would be in the job, how well-suited the target is for the job, how happy the target would be in the job, and how likely it is that the participant would tell the target to look into the job. Positive evaluation (α = .92) was measured by five bipolar items asking "If [the target] were a [speech therapist], I would think of [him/her] as": unlikable – likeable, negative – positive, unkind – kind, unpleasant – pleasant, and bad – good. Assertiveness (α = .90) was measured by five other bipolar items: unassertive – assertive, incompetent – competent, weak – strong, unambitious – ambitious, incapable – capable.[10] Perceived stress (α = .88) was measured by two items asking how stressful and how demanding the occupation would be for the target.

Average rank. To compute a measure of average rank, the rank of each target in each occupational role were averaged across the agentic, communal, and mental illness congruent occupations separately, with 1 being the highest rank and 3 being the lowest rank.

Results

Healthy Targets

Mixed model 2 (target sex: male, female) × 2 (role: agentic, communal) × 2 (target disclosure: male adopted/female diabetes, male diabetes/female adopted) × 2 (picture pair: Karen/Dan, Michelle/Brian) × 2 (order: male first, female first) × 2 (role set: set 1, set 2) × 2 (participant sex: male, female) ANOVAs were computed on suitability, positive evaluation, and stress, with target sex and role as within subject variables. In addition, a 3 (role: agentic, communal, mental illness congruent) × 2 (target disclosure: male adopted/female diabetes, male diabetes/female adopted) × 2 (picture pair: Karen/Dan, Michelle/Brian) × 2 (order: male first, female first) × 2 (role set: set 1, set 2) × 2 (participant sex: male, female) mixed model ANOVA

on average rank was performed for male and female targets separately, which can only be used to compare each target across all three types of occupations.[11] To compute the contrasts in these, and all analyses, I used an error term that pools the sources of variance for that contrast, as suggested by Winer, Brown, and Michels (1991).[12]

First, I will present the main effects and effects corresponding to role congruity predictions for each dependent variable. Then, higher order interactions that are replicated across the dependent variables are discussed. For each measure, I do not interpret any higher order interactions that do not involve a role congruity component (a Target Sex × Role interaction) as they are not germane to the hypotheses.

Suitability. On suitability, there was a target sex main effect, $F(1, 127) = 7.89$, $p = .006$, a role main effect, $F(1, 127) = 272.31$, $p < .001$, and a participant sex main effect, $F(1, 127) = 5.11$, $p = .03$, indicating that male targets and communal occupations were more suitable and female participants gave higher ratings. The predicted Target Sex × Role interaction was significant, $F(1, 127) = 49.04$, $p < .001$. Contrasts comparing targets within roles indicated that male targets ($M = 3.77$, $SD = 1.04$) were more suitable for agentic occupations than female targets ($M = 3.15$, $SD = 0.95$), $F(1, 127) = 52.16$, $p < .001$, whereas female targets ($M = 4.75$, $SD = 0.89$) were more suitable for communal occupations than male targets ($M = 4.53$, $SD = 1.04$), $F(1, 127) = 6.44$, $p = .01$. Within-group contrasts across roles indicated that both female targets, $p < .001$, and male targets, $p < .001$, were more suited for communal than agentic roles.[13]

Positive evaluation. Positivity showed a role main effect, $F(1, 127) = 204.94$, $p < .001$, and participant sex main effect, $F(1, 127) = 5.00$, $p = .03$, indicating that communal occupations were more positive than agentic occupations and female participants gave more positive ratings

than male participants. The predicted Target Sex × Role interaction was also significant, $F(1, 127) = 12.61$, $p = .001$. Contrasts comparing targets within roles indicated that although male targets ($M = 4.68$, $SD = 0.91$) were not more positive in agentic occupations than female targets ($M = 4.63$, $SD = 0.86$), $F(1, 127) = 0.57$, $p = 0.45$, female targets ($M = 5.59$, $SD = 0.83$) were more positive in communal occupations than male targets ($M = 5.37$, $SD = 0.84$), $F(1, 127) = 11.82$, $p < .001$. Within-group contrasts across roles indicated that both female targets, $p < .001$, and male targets, $p < .001$, were more positive in communal compared to agentic roles.

In addition, there was a Target Sex × Role × Participant Sex interaction, $F(1, 127) = 5.61$, $p = .02$, in which the Target Sex × Role interaction was significant for male participants, $F(1, 127) = 17.11$, $p < .001$, but not for female participants, $F(1, 127) = 1.43$, $p = .23$. However, the patterns were similar for both male and female participants, with female targets more positive in communal occupations than male targets for male participants, $p < .001$, and marginally for female participants, $p = .09$, but no difference between the male and female targets in agentic occupations for either male, $p = .16$, or female, $p = .99$, participants. The significant Target Sex × Role × Picture Pair × Participant Sex interaction, $F(1, 127) = 4.59$, $p = .03$, indicated that female participants rating Michelle and Brian did not show a role congruity effect, but the pattern of means suggests a role congruity perspective in the other conditions. Within-group contrasts across role in both of these interactions involving participant sex indicated that both female targets, ps $< .001$, and male targets, ps $< .001$, were more positive in communal compared to agentic roles in all conditions.[14]

Perceived stress. Stress did not show the predicted Target Sex × Role interaction, $F(1, 127) = 1.44$, $p = .23$, although there was a target sex main effect, $F(1, 127) = 5.10$, $p = .03$, a role

main effect, $F(1, 127) = 233.65$, $p < .001$, and a role set main effect, $F(1, 127) = 6.26$, $p = .01$, indicating that more stress was ascribed to female than male targets, agentic occupations than communal occupations, and the occupations in Set 2 than Set 1. The significant Role × Role Set interaction, $F(1, 127) = 5.43$, $p = .02$, indicated that the difference between communal and agentic occupations was greater for Set 2, $F(1, 127) = 79.73$, $p < .001$, than Set 1, $F(1, 127) = 44.58$, $p < .001$.[15]

Average rank. For the male targets, the expected role main effect occurred on average rank, $F(2, 252) = 23.86$, $p < .001$, with male targets ranked higher in agentic occupations ($M = 2.43$, $SD = 0.55$) than communal occupations ($M = 1.98$, $SD = 0.58$), $F(1, 252) = 37.71$, $p < .001$, and than mental illness occupations ($M = 1.96$, $SD = 0.86$), $F(1, 252) = 41.26$, $p < .001$. Male targets were not ranked differently in communal occupations and mental illness occupations, $F(1, 252) = 0.05$, $p = .83$.[16]

The rank effects for the female targets were in the opposite pattern, as predicted. The role main effect, $F(2, 252) = 21.62$, $p < .001$, showed that female targets were ranked higher in communal occupations ($M = 2.32$, $SD = 0.54$) than agentic occupations ($M = 1.97$, $SD = 0.53$), $F(1, 252) = 27.31$, $p < .001$, and than mental illness occupations ($M = 1.95$, $SD = 0.76$), $F(1, 252) = 30.86$, $p < .001$. Female targets were not ranked differently in agentic and mental illness occupations, $F(1, 252) = 0.11$, $p = .74$.[17]

Effects of order. The role congruity pattern was qualified by order on suitability, positive evaluation, and average rank.[18] The interactions are best decomposed by comparing the means within target sex and across order. Participants contrasted the male target with the female target. The male target was more suitable, $p = .02$, and ranked higher, $p = .03$ (especially female

participants ranking Dan, $p = .01$), in agentic occupations when the male target was second compared to first (although in Set 1, the male target was always more positive when first compared to second, $p < .001$). On the other hand, the male target was ranked higher in communal occupations, $p = .03$, when the male target was first compared to second. There were no differences in rank for male targets in the mental illness congruent occupations, ps > .08. However the interaction with order on average rank for female targets did not show that the female target was contrasted with the male target. Rather, female targets rated first were ranked *higher* in communal occupations, $p = .007$, lower in mental illness congruent occupations, $p = .002$, and similarly in agentic occupations, $p = .37$, than those rated after a male target.

Effects of target disclosure and role set. Whether the male or female target had revealed they were adopted or had diabetes affected the average rank results, which also interacted with role set.[19] Disclosures affected the rank of male targets in agentic roles in Set 2, $p = .04$, (especially female participant ranking Dan, $p = .04$), but not Set 1, $p = .99$; and in communal roles in Set 2, $p = .049$, but not Set 1, $p = .48$ (see Figure 1). The largest effects occurred for the mental illness occupations in both role sets, Set 1: $p = .03$, Set 2: $p = < .001$. Male targets described as adopted were ranked higher in mental illness occupations (both athlete and poet) compared to male targets described as having diabetes (especially for Dan for female participants, $p < .001$, and Brian for male participants, $p < .001$).

Disclosures also affected the rank of female targets (see Figure 2 for a representation of the effects parallel to Figure 1). Disclosure did not affect the rank of female targets in communal roles, ps > .13, or in agentic roles, ps > .15 (except in Set 2 where female participants who rated the male target first ranked the female target who was adopted higher than the female target with

diabetes, $p = .01$). Female targets described as adopted were ranked higher in mental illness occupations compared to the females described as having diabetes overall, $p < .001$, although a 5-way interaction showed that this difference was only significant in Set 1 for male participants who rated the male target first and female participants who rated the female target first and in Set 2 for male participants who rated the female target first and female participants who rated the male target first, ps $< .03$.

Target disclosure and role set also qualified the role congruity interactions for both suitability and positive evaluation (see Figures 3 and 4), although the pattern of the interactions differed.[20] In no case were the within-role role congruity predictions significantly reversed for either suitability or positivity. Comparing the targets within roles on suitability, the male targets were more suitable than the female targets for agentic occupations in all disclosure and role set conditions, ps $< .06$. On the other hand, female targets were more suitable than male targets for communal occupations only in Set 2 when the female target was described as having diabetes and the male target was adopted, $p < .001$ (all other ps $> .66$). On the positive evaluation measure, there was no difference in positivity between male and female targets in agentic occupations across the conditions, $p = .45$. On the other hand, female targets were more suitable than male targets for communal occupations when the female target was adopted and the male target had diabetes in Set 1, $p = .02$, and when the female target had diabetes and the male target was adopted in Set 2, $p < .001$ (all other ps $> .79$). Within-group contrasts across roles indicated that both female targets, ps $< .001$, and male targets, ps $< .001$, were more suitable and more positive in communal compared to agentic roles in all conditions except on suitability for the male target who was adopted in Set 2, $p = .39$.

Targets with a Mental Illness

Mixed model 2 (target sex: male, female) × 2 (mental illness sex-type: masculine, feminine) × 2 (role: agentic, communal) × 2 (picture pair: Karen/Dan, Michelle/Brian) × 2 (role set: set 1, set 2) × 2 (participant sex: male, female) ANOVAs were computed on suitability, positive evaluation, and stress, with role as a within subject variable. In addition, a 2 (target sex: male, female) × 2 (mental illness sex-type: masculine, feminine) × 3 (role: agentic, communal, mental illness congruent) × 2 (picture pair: Karen/Dan, Michelle/Brian) × 2 (role set: set 1, set 2) × 2 (participant sex: male, female) mixed model ANOVA on average rank was performed for targets with a mental illness. Again, I will present the main effects and role congruity predictions for each dependent variable, and then the higher order interactions, omitting the interpretation of any higher order interactions that do not involve a role congruity component (a Target Sex × Role interaction or Mental Illness Sex-type × Role interaction).

Suitability. A main effect of role, $F(1, 128) = 83.70$, $p < .001$, showed that targets were more suitable for communal than agentic occupations. There was also a Target Sex × Role interaction, $F(1, 128) = 9.82$, $p = .002$. Contrasts comparing targets within roles indicated that male targets ($M = 3.18$, $SD = 1.14$) were more suitable for agentic occupations than female targets ($M = 2.71$, $SD = 1.04$), $F(1, 128) = 7.44$, $p = .007$, although female targets ($M = 4.05$, $SD = 1.06$) and male targets ($M = 3.88$, $SD = 1.12$) were equally suitable for communal occupations, $F(1, 128) = 0.95$, $p = .33$. Within-group contrasts across roles indicated that both female targets, $p < .001$, and male targets, $p < .001$, were more suitable for communal than agentic roles.

In addition, there was a Mental Illness Sex-type × Role interaction, $F(1, 128) = 9.52$, $p = .002$. Contrasts comparing targets within roles indicated that targets with a masculine sex-typed

mental illness (M = 3.13, SD = 1.16) were more suitable for agentic occupations than targets with a feminine sex-typed mental illness (M = 2.78, SD = 1.04), $F(1, 128) = 4.10$, $p = 0.04$, regardless of the sex of the target. In addition, targets with a feminine sex-typed mental illness (M = 4.14, SD = 1.09) were more suitable for communal occupations than targets with a masculine sex-typed mental illness (M = 3.79, SD = 1.08), $F(1, 128) = 3.92$, $p = .049$. Within-group contrasts across role indicated that targets with a feminine sex-typed mental illness, $p < .001$, and targets with a masculine sex-typed mental illness, $p < .001$, were both more suitable for communal compared to agentic roles.[21]

Positive evaluation. Again, there was a role main effect, $F(1, 128) = 74.06$, $p < .001$, indicating that targets were more positive in communal than agentic occupations. There was also a participant sex main effect, $F(1, 128) = 5.64$, $p = .02$, indicating that women gave more positive ratings than men.

There was no interaction between target sex and role, $F(1, 128) = 0.91$, $p = .34$, but there was a marginal Mental Illness Sex-type × Role interaction, $F(1, 128) = 3.84$, $p = .06$. Contrasts comparing targets across roles indicated that targets with a masculine sex-typed mental illness (M = 4.42, SD = 1.19) were nonsignificantly more positive in agentic occupations than targets with a feminine sex-typed mental illness (M = 4.26, SD = 0.85), $F(1, 128) = 0.96$, $p = 0.33$, and targets with a feminine sex-typed mental illness (M = 5.14, SD = 0.94) were nonsignificantly more positive in communal occupations than targets with a masculine sex-typed illness (M = 4.97, SD = 1.02), $F(1, 128) = 1.14$, $p = .29$. Within-group contrasts across role indicated that targets with a feminine sex-typed mental illness, $p < .001$, and targets with a masculine sex-typed mental illness, $p < .001$, were both more positive in communal compared to agentic roles.[22]

Perceived stress. There was a role main effect, $F(1, 128) = 130.63$, $p < .001$, and role set main effect, $F(1, 128) = 5.24$, $p = .02$, indicating that more stress was ascribed to agentic occupations than communal occupations and the occupations in Set 2 than Set 1. There was also a Mental Illness Sex-type × Role interaction, $F(1, 128) = 4.26$, $p = .04$. Targets with a feminine sex-typed mental illness ($M = 5.27$, $SD = 0.98$) were more stressed in agentic occupations than those with a masculine sex-typed mental illness ($M = 4.92$, $SD = 1.07$), $F(1, 128) = 5.45$, $p = 0.02$. Targets with a feminine ($M = 4.15$, $SD = 0.91$) and masculine ($M = 4.13$, $SD = 1.05$) sex-typed mental illness were equally stressed in communal occupations, $F(1, 128) = 0.02$, $p = .90$. Within-group contrasts across role indicated that targets with a feminine mental illness, $p < .001$, and targets with a masculine mental illness, $p < .001$, were both less stressed in communal compared to agentic roles.[23]

Average rank. The expected role main effect occurred on average rank, $F(2, 252) = 23.89$, $p < .001$. Targets with a mental illness were ranked higher in the mental illness congruent occupations ($M = 2.09$, $SD = 0.83$) than in either agentic occupations ($M = 1.60$, $SD = 0.58$), $F(1, 252) = 43.58$, $p < .001$, or communal occupations ($M = 1.69$, $SD = 0.57$), $F(1, 252) = 27.26$, $p < .001$. Targets with a mental illness were not ranked differently in agentic and communal occupations, $F(1, 252) = 1.73$, $p = .19$.

Although the target sex main effect indicated that male targets were ranked higher than female targets overall, $F(1, 126) = 4.43$, $p = .04$, this effect was qualified, as expected, by role, $F(2, 252) = 6.04$, $p = .003$. Contrasts comparing targets within roles indicated that male targets ($M = 1.74$, $SD = 0.64$) were ranked higher than female targets ($M = 1.46$, $SD = 0.48$) in agentic occupations, $F(1, 378) = 7.80$, $p = .006$, but female targets ($M = 1.79$, $SD = 0.59$) were ranked

higher than male targets (M = 1.59, SD = 0.53) in communal occupations, $F(1, 378) = 3.95$, p = .048. Male targets (M = 2.23, SD = 0.84) were also ranked higher than female targets (M = 1.95, SD = 0.80) in mental illness congruent occupations, $F(1, 378) = 7.46$, p = .007. Within-group contrasts across role indicated that female targets were ranked equally in mental illness congruent occupations and communal occupations, p = .18, and lowest in agentic occupations, ps < .001. Conversely, male targets were ranked equally in agentic and mental illness congruent occupations, p = .17, and lowest in communal occupations, ps < .001.

The effects of mental illness sex-type were more complicated, with a significant Role × Mental Illness Sex-type × Role Set interaction, $F(2, 252) = 8.31$, $p < .001$ (see Figure 5). Contrasts comparing targets within roles indicated, as predicted, that the target with a masculine sex-typed illness was ranked higher than the target with a feminine sex-typed illness in agentic occupations, but only Set 1, p = .04, and not Set 2, p = .47. The target with the feminine sex-typed illness was ranked higher than the target with the masculine sex-typed illness in communal occupations in Set 2, p = .02, but not Set 1, p = .25. Finally, the target with a feminine sex-typed illness was ranked higher than the target with a masculine sex-typed illness as a poet (Set 1), p < .001, and the target with a masculine illness was ranked higher than the target with a feminine illness as an athlete (Set 2), p = .07. Within-group contrasts across roles indicated that the target with a feminine sex-typed mental illness was ranked higher as a poet (Set 1) than both communal and agentic occupations, ps < .001, and the target with a masculine sex-typed mental illness was ranked higher as an athlete (Set 2) than both communal and agentic occupations, ps < .001. Targets with a feminine sex-typed illness were also ranked higher as an athlete than other agentic, p = .03, but not communal occupations, p = .55.[24]

Effects of picture pair and participant sex. Picture pair and participant sex qualified the role congruity interaction involving target sex on positive evaluation and involving mental illness sex-type on perceived stress, sometimes reversing the role congruity effect.[25] On positive evaluation, contrasts comparing targets within roles indicated that the role congruity interaction occurred when male participants rated Michelle and Brian, $p = .048$: Michelle and Brian were similar in agentic occupations, $p = .26$, but male participants rated Michelle as marginally more positively than Brian in communal occupations, $p = .09$. A marginally significant opposite pattern occurred when female participants rated Michelle and Brian, $p = .096$: Michelle and Brian were similarly positive in agentic occupations, $p = .38$, but female participants rated Michelle more *negatively* than Brian in communal occupations, $p = .001$. Ratings of Karen and Dan did not show any interactions with target sex, role, or participant sex, $ps > .17$. Within-group contrasts across roles indicated that both Karen and Michelle, $ps < .04$, and Dan and Brian , $ps < .03$, were more positive in communal compared to agentic roles, except for male participants rating Karen, $p = .08$, and female participants rating Dan, $p = .11$.

On perceived stress, following role congruity principles, both male, $p = .005$, and female, $p = .01$, participants who rated Karen and Dan perceived targets with a feminine sex-typed illness as more stressed than targets with a masculine sex-typed illness in agentic occupations. However, female participants rated targets with a feminine sex-typed illness as marginally *more* stressed than targets with a masculine illness sex-typed in communal occupations when they were rating Karen and Dan, $p = .053$, which does not follow role congruity principles. In addition, male participants rating Michelle and Brian perceived targets with a masculine sex-typed illness as marginally *more* stressed than targets with a feminine sex-typed illness in agentic

occupations, $p = .08$, which also does not follow role congruity principles. No other within-role differences were significant, $p > .22$. Within-group contrasts across roles indicated that targets with a feminine sex-typed mental illness, ps $< .04$, and targets with a masculine sex-typed mental illness, ps $< .03$, were both less stressed in communal compared to agentic roles.

Interaction of target sex and mental illness sex-type. Although none of the measures indicated that target sex and mental illness sex-type interacted with role in creating responses to the targets with mental illness, the Target Sex × Mental Illness Sex-type interaction was significant on average rank, $F(1, 126) = 8.89$, $p = .003$. This interaction indicated that male targets with a feminine sex-typed illness were ranked marginally higher than male targets with a masculine sex-typed illness, $p = .07$. Female targets with feminine and masculine sex-typed illnesses were not ranked significantly differently, $p = .50$. Overall, the pattern indicated that targets with a deviant illness (male targets with a feminine sex-typed illness and female targets with a masculine sex-typed illness) were ranked higher.

Correlational Analyses

Correlational analyses on the data are in some senses a more sensitive test of role congruity theory than the mean-level ratings. These correlations take into account the exact congruity between a target and a role, and, therefore, can assess differences in congruity between different occupational roles. Slight variations in the degree of role congruity should relate to slight variations in the amount of prejudice, providing a stringent test for role congruity theory.

Within-role prejudice can be assessed with correlations between role congruity (assessed in first session) and prejudice in each role separately (based on the 10 mean-level ratings for each role with every target; these correlations cannot be computed at the individual-level as there are

only 3 data points for each occupation). There should be a positive correlation between role congruity and suitability, positive evaluation, and rank for each role separately and a negative correlation between role congruity and stress. These correlations are given in Table 7. Generally, the correlations are in the predicted direction, but not strong.

Within-group prejudice can be assessed with correlations between role congruity and prejudice for each target group. These correlations were computed with (a) group-level data based on the mean role congruity and mean-levels of prejudice toward members of each group in each role, and (b) individual-level data based on each participant's role congruity and ratings of each target in each role. These individual-level correlations were computed for each participant and then averaged across the participants. Thus, they are reported as mean *r*s, but were transformed to equally weighted Fisher's *Z*-scores, averaged, and tested against the standard normal distribution under the null hypothesis that the correlation is zero (D. A. Kashy, personal communication, January 20, 2006).

Correlations between role congruity and prejudice were computed across (a) all targets (100 mean-level ratings—10 roles, 10 targets; and 15 individual-level ratings—5 roles, 3 targets), (b) male and female healthy targets (20 mean-level ratings—10 roles, 2 targets; and 10 individual-level ratings—5 roles, 2 targets), (c) all targets with a mental illness (80 mean-level ratings—10 roles, 8 targets; and 5 individual-level ratings—5 roles, 1 target), (d) targets with a specific mental illness (20 mean-level ratings—10 roles, 2 targets; and 5 individual-level ratings—5 roles, 1 target), and (e) each target group individually (e.g., healthy men, women with depression; 10 mean-level ratings—10 roles, and 5 individual-level ratings—5 roles).

Because of the main effects whereby communal occupations received higher ratings than

agentic occupations on suitability and positivity and lower ratings on stress, the correlations between role congruity and these variables are not presented. The main effect of role artificially increases the correlation between role congruity and the dependent variables for female targets and decreases the correlation for male targets. Controlling for communal and agentic roles is not a viable solution because these different types of roles are, by definition, part of role congruity. If the main effect is caused by perceptions that the communal occupations are, on average, easier than the agentic occupations, controlling for perceived difficulty is theoretically reasonable. However, no measures of difficulty were available. Perceived stress may approximate difficulty; but controlling for perceived stress is also not a feasible option because the measure of stress is in relation to certain targets, not for the occupational role as a whole.

Given these problems, only the correlations between role congruity and rank are presented. Rank is arguably the most sensitive measure of prejudice because it involves comparing the targets with one another and does not allow participants to rate the targets equivalently. In addition, the rank measure parallels the final decision stage of a selection process, where higher confirmatory standards for the stereotyped group are used (Biernat & Kobrynowicz, 1997) and gender biases are more likely to occur (Levin, Rouwenhorst, & Trisko, 2005). There should be a positive relation between role congruity and rank. These correlations are given in Table 8. Generally, the correlations are positive and significant, although stronger for (a) the male and female targets than the targets with a mental illness and (b) the mean-level data than the individual-level data.

Regression Analyses

Regression analysis can be used to test if role incongruity is a better predictor of

prejudice than the evaluation of group stereotypes. By placing both role congruity and stereotype evaluation in a regression equation to predict prejudice toward women, men, and people with mental illness, the strength of each factor controlling for the other can be determined.

To determine the valence of the stereotypes for each group, 36 participants (17 men, 19 women) rated the valence of each trait used in the stereotype ratings (see *Role congruity* above) from -3 to +3. The mean valence of each trait was then multiplied by the mean typicality of each trait for each target group (assessed in the group testing session), recoded to a -3 to +3 scale (see Eagly & Chaiken, 1993). This number represents the evaluation of the stereotype of that group in the mean-level data. In general, these data replicated the women-are-wonderful effect, showing that evaluations of women (M = 1.75, SD = 1.59) were more positive than evaluations of men (M = 0.60, SD = 1.13), $t(30) = 3.20$, $p = .003$. This difference was also significant within every pair of men and women with specific mental illnesses, ps < .002, except for men and women with ADHD, who were evaluated similarly, $p = .53$.

Regression analyses predicting suitability, positive evaluation, and stress from both role congruity and stereotype evaluation indicated that for suitability, positivity, and stress neither predictor was significant (ps < .14). In predicting rank, both role congruity (B = 0.77, β = 0.83, p < .001) and stereotype evaluation (B = -0.12, β = -0.39, p = .006) were significant predictors, with role congruity predicting higher rank with greater congruity and evaluation predicting lower rank from greater positive evaluation.

Discussion

Within-Role Prejudice

Overall, the strongest effects were as predicted by role congruity theory. The effects

regarding target sex and mental illness sex-type were strong for within-role prejudice, showing that (a) male targets were more suited for and ranked higher in agentic occupations than female targets, (b) female targets were more suitable for, more positively evaluated in, and ranked higher in communal occupations than male targets, (c) targets with a masculine sex-typed mental illness were more suitable for, less stressed in, and ranked higher in agentic occupations (including athlete) than targets with a feminine sex-typed mental illness, and (d) targets with a feminine sex-typed mental illness were more suitable for and ranked higher in communal occupations (including poet) than targets with a masculine sex-typed mental illness.

Interestingly, the different dependent measures showed different patterns of within-role prejudice. Suitability showed role congruity effects to a greater extent in agentic occupations than communal ones, whereas positivity indicated no differences in agentic occupations but role congruity effects in communal occupations. Perhaps the fact that communal occupational roles were seen as less stressful for all targets than agentic roles worked to eliminate the difference between the male and female target in communal roles on suitability (which includes a component of success). The women-are-wonderful effect may also have obscured the difference in positive evaluation between male and female targets, especially in the agentic occupations in which female targets were expected to be less positive than men. In these occupations, the overall positivity of women may have raised evaluations of female targets to be equal to that of male targets, even though they were in an incongruent role.

In another test of within-role prejudice, correlations were computed between role congruity and prejudice for each occupational role in the mean-level data. If a larger incongruity exists between police officer and the stereotype of women than between police officer and the

stereotype of men, prejudice should be higher in the first case than in the second. The predicted positive correlations between suitability, positive evaluation, rank, and role congruity and negative correlations between stress and role congruity did occur, on the whole, although the correlations were generally weak and nonsignificant (perhaps because the correlations are based on only 10 observations). However, a meta-analysis over the 10 occupational roles for each dependent variables indicated that suitability, $r = .37$, positive evaluation, $r = .31$, and rank, $r = .53$, showed a significant relationship with role congruity. Stress, $r = -.06$, did not significantly correlate with role congruity over all roles. Thus, over all targets used in the study, role congruity predicted which target would receive more or less prejudice.

Within-Group Prejudice

Although the within-group contrasts did not support role congruity theory, in that both male and female targets and targets with both a feminine and masculine sex-typed mental illness were more suitable and more positive in communal compared to agentic occupations, the average rank measure provided a better test of these predictions because it allowed for direction comparisons between targets. All targets were ranked highest in the occupations selected to be most congruent: (a) healthy male targets in agentic occupations, (b) healthy female targets in communal occupations, (c) targets with a mental illness in mental illness congruent occupations—especially targets with a feminine sex-typed illness as a poet and targets with a masculine sex-typed illness as an athlete, (d) male targets with a mental illness in agentic and mental illness congruent occupations, and (e) female targets with a mental illness in communal and mental illness congruent occupations.

There are a couple of possible reasons why the main effects of role in the rating measures

dominated within-group prejudice effects. For one, the communal occupations may have been seen as easier occupations than the agentic ones. This idea is upheld by the fact that targets in communal roles were rated as less stressed than targets in agentic roles. In addition, I would suggest that the communal occupations are more common than the agentic occupations. One may be less likely to personally know a stockbroker, politician, or economist than a pediatrician, psychiatrist, or speech therapist. In fact, averaging the number of employees for each of the four communal and agentic occupations using data from the O*NET Online, showed that the agentic occupations had a lower number of employees in 2004 (250,750 on average) than the communal occupations (346,250 on average). Thus, both male and female targets could have been more suited (given the higher base rates of the communal roles) and more likely to succeed (given the agentic roles were more difficult and stressful) in communal than agentic occupations.

In another test of within-group prejudice, correlations were computed between role congruity and prejudice for each target in the mean-level and individual-level data. If a larger incongruity exists between the stereotype of women and stockbroker than between the stereotype of women and police officer, prejudice should be higher in the first case than in the second. Correlations between role congruity and the average rank measure showed the predicted positive correlations for all targets as well as the male and female targets. The correlations were smaller for targets with a mental illness. A few explanations could be offered for these weaker effects. Perhaps the low variability in ICCs for targets with mental illness contributes to these effects. It could also be that participants' affective reactions to targets who disclosed they previously had a mental illness disrupted role congruity effects. Participants were also comparing the target with mental illness to the healthy targets, making impressions of the target more negative in general

and may have allowed role congruity to impact rank only slightly. In general, however, over all the roles used in the study, role congruity predicted the roles in which a given target would receive more or less prejudice.

Interactions between Target Sex and Mental Illness Sex-Type

In terms of prejudice toward targets with multiple category memberships (i.e., men and women who disclose they have previously been diagnosed with a mental illness), information about the target's sex and mental illness did not interact but influenced rating independently. That is, both target sex and mental illness sex-type showed role congruity patterns in separate interactions, but there was no interaction between target sex and mental illness sex-type in predicting responses to men and women in agentic and communal roles. Having an incongruent sex-typed mental illness (e.g., a male with depression) did not mitigate the effect of target sex and having a congruent sex-typed mental illness (e.g., a male with ADHD) did not exacerbate the effect of target sex in general or in specific contexts. The only interaction between target sex and mental illness sex-type indicated that targets with an incongruent mental illness (especially men) were ranked higher than those with a congruent mental illness, although the effects were not significant. In addition, male targets were not suitable or more negative across all occupations and/or all mental illnesses than women. Thus, neither the gender role deviance hypothesis nor the harsher treatment of males with mental illness was supported. Rather, both pieces of information (target sex and sex-type of illness) were used separately by participants and did not interact with each other in creating perceptions of the target in a role.

Complications in the ANOVA Results

Although the data presents some clear evidence for a role congruity perspective, the

ANOVA also showed interactions with nuisance variables. Perhaps not surprisingly, target disclosure information had a large influence on rankings of male and female (healthy) targets in the mental illness congruent occupations: Targets who were adopted, regardless of their sex, were more likely to be rated as successful as both poets (Set 1) and athletes (Set 2), although perhaps for different reasons. Having an emotional trauma (discovery of having been adopted) may be a useful experience for a poet, whereas having a physical illness (diabetes) may be a bad condition for an athlete to have. Thus, being adopted is the better experience in either mental illness congruent occupation.

Other effects were not so interpretable. I had hoped that the role set and target disclosure information would not matter, but this was not the case. For example, although healthy male targets were more suitable than female targets in agentic occupations, female targets were significantly more suitable than male targets only in the occupations of pediatrician and speech therapist (Set 2) when the female was described as have diabetes and the male was described as being adopted. In addition, targets with a masculine sex-typed mental illness were ranked higher in agentic occupations only in Set 1 and targets with a feminine sex-typed mental illness were ranked higher in communal occupations only in Set 2.

There were also effects of the order of the targets, with male targets more suitable and ranked higher in agentic occupations when the contrast to the female target was apparent (i.e., when the male target was rated second) and ranked higher in communal occupations when the contrast to the female target was not yet apparent (i.e., when the male target was rated first). The fact that order effects also occurred on the average rank measure, even though the rank was assessed after participants saw and rated all three targets, indicated that the order of the male and

female targets must have impacted participants' overall impressions of these targets (and therefore affected their rank) even when information about all targets was known and could be directly compared. Although, overall, these differences make sense, the female target was ranked *lower* in communal occupations and higher in mental illness congruent occupations when she was rated *after* a male target, which are not contrast effects. In addition, one may also expect that other contrasts should also have occurred (e.g., the female target less suitable for agentic occupations when she was rated after the male target). The main effect of occupation on suitability and positivity, as well as the women-are-wonderful effect, may have covered up some of these effects for female targets by creating higher ratings of female targets than would be expected given a role congruity account.

The effects of picture pair are harder to interpret. For example, the fact that female participants did not show a role congruity effect when rating the positivity of Michelle and Brian may be explained by the fact that pretesting participants thought that Michelle was less feminine than Karen. This difference might help to explain why female participants did not see Michelle as more positive than Brian in communal occupations, although Michelle was still more feminine than Brian in the pretest. Other effects, such as female participants ranking Brian higher in communal occupations and Dan lower in agentic occupations when the male target was rated first, or female participants rating Michelle as less positive but male participants rating Michelle as more positive than Brian in communal occupations, are seemingly inexplicable based on the small differences between the pictures in the pretesting data. The impact of picture pair on the results is not consistent across measures or even within given analyses. Without knowing what kinds of information participants in the main study gleaned from the pictures of each target, it is

hard to explain why these effects occurred.

Ingroup bias was also apparent in the data, as male participants did not rate male targets more positive, nor did female participants rate female targets more positively. In fact, there was little difference between male and female participants in general. Male participants showed a stronger role congruity effect on positivity, but both sexes showed a similar pattern.

Regression Analyses

Regressions predicting prejudice from role congruity and stereotype evaluation indicated that role congruity was a stronger predictor of rank than evaluation. Although evaluation significantly predicted rank, the direction was the opposite of predictions, which greater positive evaluations leading to greater prejudice. Although not significant, evaluation was a stronger predictor than role congruity of positive evaluation, which again may indicate that the women-are-wonderful effect played a role in the data. Overall, although not strong, the regression analyses lend credence to the proposition that overall evaluation of groups is not what leads to prejudice because it does not have clear implications for behaviors unless paired with a context.

Limitations

Overall, these results support role congruity theory by showing that a mismatch between group stereotypes and role characteristics results in the potential for prejudice toward men, women, and men and women with a mental illness. Thus, the study extends past research by incorporating mental illness stereotypes and by directly assessing role congruity. There are, however, several limitations to the study. First of all, the manipulation that provided information about the target's mental illness is not a disclosure that one would expect to occur in the real world. That is, people with a history of mental illness do not disclose this information readily in

a job interview, although these individuals often have a hard time finding and keeping jobs (Thornicroft, 2006) even though working helps with recovery (Leff & Warner, 2006). Thus, the extent to which the prejudice shown here would extend to the real world is unknown. However, I believe this is a first good step in assessing prejudice toward people with a mental illness, an understudied group in social psychology. The point of this study was more theoretical than practical—including targets with mental illnesses provided a strong test of role congruity theory rather than an examination of real world processes.

In addition, the study was designed to assess individuals' group stereotypes and occupational role characteristics, taking advantage of naturally occurring congruities. Thus, role congruity was not manipulated, but measured. Studies 2 and 3 manipulate role congruity in order to show a causal relation between congruity and prejudice.

Manipulating Role Congruity

Studies 2 and 3 manipulate role incongruity by making certain characteristics of occupational roles (Study 2) or aspects of the group stereotype (Study 3) accessible. In essence, both stereotypes and occupational roles have a wide range of content, which allows role incongruity to be manipulated in two ways. First, occupational roles can require a variety of different abilities, skills, and traits, and, therefore, by describing the role with one or another of these required traits, role incongruity can be manipulated. For example, the role of physician requires both technical and scientific competence as well as the communal qualities of sympathy, sensitivity, and nurturance (see Fennema, Meyer, & Owen, 1990; More & Greer, 2000). Depending on how the role of physician is described, the agentic or communal characteristics required for the job can be highlighted, thus manipulating role congruity for male and female job

applicants. Second, the accessibility of a specific aspect of the content of a stereotype should influence prejudice, given that part of a group stereotype may be congruent with a role at the same time that another part is incongruent. In both of these studies only gender prejudice is assessed because the stereotypes of men and women are to some extent opposing and because both communal and agentic characteristics are required for many occupational roles.

To manipulate role descriptions, I chose occupational roles that were seen as androgynous (i.e., requiring both agentic and communal characteristics). These roles can be described as requiring either agentic or communal traits while still appearing to be appropriate and accurate descriptions of the occupation. These same roles can be used when manipulating stereotype content, because agency and communion are congruent, but low agency and low communion are incongruent, with roles that require both agentic and communal characteristics.

Pretesting for Androgynous Roles for Studies 2 and 3

Participants (21 men, 21 women) indicated the typicality of a series of traits for six occupations: (a) physician, journalist, architect, high school administrator, judge, editor or (b) lawyer, college professor, veterinarian, middle-level manager, novelist, news anchor. Each group was rated on 18 traits selected to represent the characteristics of communion (kind, nurturing, supportive, sympathetic, warm), agency (aggressive, competitive, daring, dominant, courageous), feminine cognition (expressive, intuitive, verbally skilled), masculine cognition (analytic, mathematical, good at problem solving), and competence (competent, intelligent). Participants also rated the status, prestige, and the respect accorded each occupation, the average level of education, and the average salary of the occupation, as in pretesting of roles for Study 1 (see *Selection of Roles* above).

The occupations which were the most androgynous included novelist (*d* comparing communal and agentic traits = 0.00), college professor (*d* = -0.01), middle-level manager (*d* = 0.41), and physician (*d* = -0.70). Physicians were relatively high in agency, communion, and competence, whereas middle-level managers were low in agency, communion, and competence. College professors and novelists were average in communion and agency and average (novelists) to high (college professors) on competence. Thus, although all occupations had relatively equivalent requirements for agency and communion, the amount of these requirements differed between occupations.

Using these results as a guide, for the nationally representative sample in Study 2, I chose the more specific occupations of general practitioner physicians, college professor in history, and middle-level manager in retailing as the three occupational roles because they varied in the amount of agency and communion they required. However, the student participants saw middle-level managers as low in status and requiring only some college, and thus for the student sample in Study 3 middle-level managers was replaced with novelist.

Study 2

Manipulating role characteristics has some precedent in psychological research. For example, Rudman and Glick (1999, 2001) manipulated the skills needed for a computer lab manager position by stating the job required technical skills, ambition, and independence (masculine characteristics) or, in addition to these characteristics, helpfulness, sensitivity to others, and listening skills (the addition of feminine characteristics). They also manipulated the personality of the men and women applying for the position to be agentic (a direct, self-confident manner with a hierarchical orientation) or communal (modest manner with an interdependent

orientation). The results showed that communal women were discriminated against for the masculine position (presumably because they were seen as unqualified) whereas agentic women were discriminated against for the feminized position (presumably because they violated their gender prescriptions). This study suggests that the description of the role does matter to incongruity. By manipulating the personality of the target and by comparing a masculine to androgynous position, however, their results do not directly show how simply being male or female may influence perceived incongruity with a position regardless of personality or if a male could be the recipient of prejudice in a feminized position. The current study attempts to show prejudice against both men and women when they are considered with respect to the same role that is seen as requiring either agentic or communal characteristics.

Method

Participants

Participants were recruited through Knowledge Networks in a Time-sharing Experiments for the Social Sciences (TESS) sample. Knowledge Networks has recruited an online research panel that is representative of the entire U.S. population. Panel members are randomly recruited by telephone (through random digit dialing, or RDD) and households are provided with access to the Internet and hardware if needed (in the sample described below, 64.5% already had internet access in the home). Respondents who have a home computer and internet access use their own equipment and connection but can redeem points for cash for completing their surveys. Knowledge Networks surveys are based on a sampling frame which includes both listed and unlisted numbers, and is not limited to current web users or computer owners.

The current sample was drawn at random from active panel members, under the condition

that no more than one survey is assigned per week to each member. Members who were selected received an email notification about the survey containing a link to start the survey (no login name or password is required). Email reminders and follow-up phone calls are used if the respondent does not complete the survey in a timely manner. Using these techniques, 675 respondents completed the current study. Ten cases were excluded by Knowledge Networks for skipping half or more of survey questions and 7 participants were excluded because they expressed concern over the inappropriateness of the age of the target. In addition, 331 participants were excluded from the data analysis who rated either Michelle or Brian. This pair of pictures was used to internally replicate the survey design (as in Study 1); however, there were no significant interactions between target sex and role description, in any form, for the Michelle/Brian pair, so I do not report these results and focus only on those participants who rated either Karen or Dan.

The remaining 327 participants (162 men and 165 women) had a mean age of 47.40 (range from 18 to 89). Most (74.0%) were White (non-Hispanic), 10.7% were Black (non-Hispanic), 9.5% were Hispanic, and 5.8% were other or multi-racial. The majority (57.5%) had graduated from high school and/or taken some college classes, whereas 6.7% had an associate's degree, 14.4% had a bachelor's degree, 6.7% had a master's degree, 1.8% had a professional or doctoral degree, and 12.8% did not have a high school diploma. Only 4.3% were unemployed, with 59.6% working as a paid employee or owning their own business, 17.4% retired, and 10.1% homemakers. In terms of household income, 20.8% had an income under $20,000, 30.8% had an income between $20,000 and $39,999, 18.6% between $40,000 and $59,999, 20.2% between $60,000 and $99,999, and 9.4% over $100,000. The most common household size was 2

(33.9%), with 43.4% living in a household with 3 or more persons. Over half (55.0%) were married, 25.1% were single, and 19.9% were either divorced, widowed, or separated. Most (83.2%) lived in a metro area but were split between living in the south (38.2%), west (26.0%), midwest (20.5%), and northeast (15.3%) areas of the U.S., with 47 of 50 states represented.[26]

Design

The experiment has a 2 (target sex: male, female) × 2 (role description: agentic, communal) × 3 (role: college professor, physician, middle-level manager) × 2 (participant sex: male, female) between subjects factorial design. Each participant rated one target as a potential occupant of one role.

Procedure

Participants were told the study involves forming impressions based on little information as a personnel director might do in first meeting a job candidate, simulating a real life situation in which personnel selection employees may simply glance at a résumé for quick assessment of someone's potential for a job. Participants were given a job description of an occupational role that highlights the role's communal or agentic requirements. Then participants viewed information about either a male or female target, such as their age (22), GPA (3.87), and hometown (Philadelphia, PA; see Appendix D for an example). Sex of the target was manipulated by a photograph of the applicant, but all other information was held constant. Participants then completed measures assessing prejudice and potential role stress. Participants also reported any thoughts they had about the experiment.

Materials

Role description. Each role was accompanied by a short job description focused on either

agentic or communal characteristics needed to perform the tasks of the job. To be a successful college professor in history, for example, participants read that "people should be competitive, dominant, and confident as well as analytic and good at problem solving in order to lead classes, perform research, and receive tenure" or that "people should be kind, nurturing, and supportive as well as expressive and verbally skilled in order to mentor students and teach classes." To be a successful physician (general practitioner), people should be either "competitive, dominant, and confident to be in a position of authority as well as analytic and good at problem solving in order to diagnose their patients" or "warm, nurturing, and sympathetic in order to deal with their patients as well as expressive and verbally skilled to talk to their patients and other doctors." To be a successful middle-level manager in retailing, people should be either "competitive, dominant, and confident as well as analytic and good at problem solving in order to lead and manage their subordinates" or "warm, kind, and supportive as well as expressive and verbally skilled in order to lead and manage their subordinates."

Measures

Ratings of prejudice. Participants answered 10 items about the target in that role, a shortened version of the measures from Study 1. Suitability ($\alpha = .87$) was measured by 2 items: how successful the target would be in the job and how well-suited the target is for the job. Positive evaluation ($\alpha = .85$) was measured by 2 bipolar items: unlikable – likeable and unkind – kind. Competence ($\alpha = .95$) was measured by 5 bipolar items: weak – strong, bad – good, incompetent – competent, awful – wonderful, and incapable - capable.[27] Perceived stress was measured by one item asking how stressful the occupation would be for the target.

Common rule measures. Two new common rule items were added to the dependent

measures. These items were included to force participants to evaluate men and women using a common standard, rather than shifting the standards used to judge women and men (Biernat, 2003). One item was the likely starting salary for the target in the occupation, on a 10-point scale from $10,000 to over $190,000 in $19,999 increments. The other common rule item differed depending on the role. For college professors, participants were asked what percent (0-100%) of the target's students they though would recommend the target's courses to other students. For physicians, participants were asked what percent (0-100%) of the people who would visit the target's practice they thought would recommend the target to others. For middle-level managers, participants were asked what percent (0-100%) of the target's subordinates they thought would evaluate the target favorably.

Results

A 2 (target sex: male, female) × 2 (role description: agentic, communal) × 3 (role: college professor, physician, middle-level manager) × 2 (participant sex: male, female) between subjects ANOVA was computed on the dependent variables. First, I will present the main effects and interactions that are not replicated in other measures for each dependent variable. Then, higher order interactions that are replicated across dependent measures are discussed. The predicted role congruity interaction, the Target Sex × Role Description interaction, appears only in these higher order interactions involving role and participant sex.

Suitability

The ANOVA on suitability revealed a role main effect, $F(2, 301) = 4.85$, $p = .008$, indicating that targets were more suitable for the middle-level manager role than the physician or college professor role, ps > .04, and a Role × Participant Sex interaction, $F(2, 301) = 7.69$, $p =$

.007, indicating that female participants gave lower suitability ratings than male participants for college professor, $p < .001$, but not for physician or middle-level manager, ps > .26.

Positive Evaluation

Positive evaluation showed a role description main effect, $F(1, 294) = 7.38$, $p = .007$, with targets in occupations described in a communal manner more positive than targets in occupations described in an agentic manner, and a target sex main effect, $F(1, 294) = 9.55$, $p = .002$, with the female target more positive than the male target. There was also a Role × Target Sex interaction, $F(1, 294) = 3.161$, $p = .04$, with the female target more positive than the male target as a physician, $p < .001$, marginally as a college professor, $p = .12$, but not as a middle-level manager, $p = .89$.

Competence

Competence showed a role description main effect, $F(1, 285) = 4.46$, $p = .04$, with individuals in occupations described in a communal manner more competent than individuals in occupations described in an agentic manner. There was also a Role × Participant Sex interaction, $F(1, 285) = 4.71$, $p = .01$, with female participants giving higher ratings of competence for physicians, $p = .02$, and male participants giving marginally higher ratings for college professors, $p = .057$, but no sex difference for ratings of middle-level managers, $p = .34$.

Perceived Stress

The ANOVA on stress revealed a target sex main effect, $F(1, 302) = 13.31$, $p < .001$, with the female target more stressed than the male target, and a Target Sex × Participant Sex interaction, $F(1, 302) = 5.65$, $p = .02$, indicating that female participants, but not male participants, $p = .32$, rated the female target as more stressed than the male target, $p < .001$.

Common Rule Measures

Salary estimates showed a role description main effect, $F(1, 302) = 4.31$, $p = .04$, with occupations described in a communal manner receiving higher salary estimates than occupations described in an agentic manner, and a role main effect, $F(1, 302) = 59.87$, $p < .001$, with physicians receiving the highest salary estimates, followed by college professors, and then middle-level managers, all ps $< .001$. The common rule recommendation measure revealed only a role main effect, $F(1, 300) = 11.11$, $p < .001$, with middle-level managers receiving the highest recommendation estimates, followed by college professors, and then physicians, all ps $< .02$.

Effects of Role and Participant Sex

On suitability there was a Target Sex × Role Description × Participant Sex interaction, $F(1, 301) = 8.49$, $p = .004$, which was qualified by role, $F(2, 301) = 3.99$, $p = .02$ (see Figure 6). A similar Target Sex × Role Description × Participant Sex × Role interaction was also significant on stress, $F(2, 302) = 5.31$, $p = .005$ (see Figure 7).

The predicted role congruity interaction pattern was significant for middle-level managers on suitability, $F(1, 301) = 2.93$, $p = .09$, with no interaction with participant sex: Contrasts comparing targets within role description indicated that the male target was more suitable than the female target for the middle-level manager role when it was described in an agentic manner, $p = .05$, although the female target was not more suitable for the middle-level manager role than the male target when it was described in a communal manner, $p = .64$. In addition, within-group contrasts comparing targets across role description indicated that the female target was more suitable for the middle-level manager role when it was described in a communal compared to an agentic manner, $p = .007$, although the male target was not more

suitable for middle-level manager role when it was described in an agentic compared to a communal manner, $p = .74$.

The predicted Target Sex × Role Description interaction was also significant for male participants rating the target as a college professor on suitability, $F(1, 301) = 4.80$, $p = .03$, and stress, $F(1, 302) = 3.78$, $p = .053$, and as a physician on suitability, $F(1, 301) = 5.99$, $p = .02$. The female target was more suitable than the male target when the physician role was described in a communal manner, $p = .03$, and the male target was marginally more suitable than the female target when the college professor role was described in an agentic manner, $p = .08$. Male participants also rated the female target as marginally more stressed than the male target when the role of college professors was described in an agentic manner, $p = .09$ (all other target sex effects ps > .18). In addition, within-group contrasts indicated that male participants rated the male target as more suited for the physician role, $p = .03$, and (marginally) for the college professor role, $p = .07$ (but not less stressed, $p = .35$), when it was described in an agentic compared to communal manner. The female target was marginally less stressed in the role of college professor when it was described in a communal compared to an agentic manner, $p = .07$ (but not more suitable in either role, $ps > .21$).

The role congruity interaction was also significant on perceived stress when female participants rated the target as a physician, $F(1, 302) = 6.01$, $p = .01$. Female participants rated the female target as more stressed than the male target when the role of physician was described in an agentic manner, $p < .001$, although there was no difference between the male and female targets when the role was described in a communal manner, $p = .70$. In addition, female participants rated the female target as marginally more stressed in the role of physician when it

was described in an agentic compared to communal manner, $p = .09$, whereas the male target was marginally more stressed in the role of physician when it was described in a communal compared to agentic manner, $p = .08$.

Conversely, female participants showed the opposite Target Sex × Role Description interaction for college professors on suitability, $F(1, 301) = 7.66$, $p = .006$, and stress, $F(1, 302) = 3.40$, $p = .07$. Female participants rated the female target as marginally *more* suited, $p = .055$, than the male target for the college professor role when it was described in an agentic manner and the male target *more* suited, $p = .048$, and *less* stressed, $p = .002$, than the female target for the college professor role when it was described in a communal manner. In addition, the male target was *more* suited for the college professor role when it was described in a communal compared to an agentic manner, $p = .02$, although there are no other within-group differences on suitability or stress, ps $< .11$.

Discussion

This experiment manipulated role congruity by controlling the description of occupations to include either agentic or communal traits, creating a direct test of the causal relationship between role congruity and gender prejudice. In this context, the stereotypes of men and women were more or less congruent with these occupational roles. Role congruity predicts that male targets would receive more prejudice in an occupation described with communal traits than (a) female targets in an occupation described with communal traits (within-role prejudice) and (b) a male target in an occupation described with agentic traits (within-group prejudice), and vice versa for female targets. On measures of suitability, the data were consistent with this pattern for the role of middle level-managers and for male participants rating the target as a college

professor or a physician, although not all of the contrasts were significant. Perceived stress sometimes showed parallel results. Stress and suitability were correlated overall, $r(322) = -.20$, $p < .001$, but only significantly for female participants rating college professors, $r(55) = -.40$, $p = .002$, and marginally for male participants rating college professors, $r(52) = -.24$, $p = .08$—the two conditions in which stress and suitability corresponded.

Effects opposite of the predictions of role congruity theory were found for female participants rating the college professor: Female participants rated (a) Dan as *more* suited and *less* stressed than Karen when the occupation was described with communal traits, (b) Karen as marginally *more* suited than Dan when the occupation was described with agentic traits, and (c) Dan as *more* suited for the occupation when it was described with communal versus agentic traits. Possible reasons why women rating college professors would show this reversal from role congruity principles are unclear. There did not seem to be any differences in demographic information between male and female participants that could account for these effects. However, perhaps female, but not male, participants realized that the jobs required both agentic and communal traits and contrasted their ratings of the target from the role description. In addition, female participants may have been more aware of the role target sex played in their responses and attempted to correct these biases more than male participants. As in Biernat and Fuegen (1991), female participants may also have been more likely to institute lower minimum standards for the negatively stereotyped group than the non-stereotyped group in each role on these measures that approximate the initial screening of applicants, resulting in higher ratings for the mismatched sex.

None of these explanations, however, clarifies why the effect only occurred for the

college professor role. The roles used in the current study are occupations that participants have some knowledge of, and perhaps manipulating the requirements of these roles is difficult. A fictional or less precise role may be easier to redefine in an agentic or communal manner (such as the computer lab manager role from Rudman & Glick, 1999, 2001). Thus, the current study was a strong test of role congruity theory predictions, given that participants' own views of the roles could impact their responses regardless of the manipulation.

However, the college professor role showed effects for both male and female participants and was the only role for which the suitability and stress ratings corresponded. Given that a majority of the participants did not have a higher education degree, participants may have had less knowledge of the college professor role, making it the most open to interpretation. Thus, it is in this role that participants' biases may have more easily appeared. Male participants' responses followed role congruity principles, but female participants may have been more aware of the role that target sex played in their responses and overcorrected their biased reactions (cf. Wegener & Petty, 1995) or used lower minimum standards when rating college professors, resulting in a reversal of role congruity effects.

The effects on positive evaluation showed only that the female target was more positive than the male target as a physician and a college professor, regardless of the description of the occupation. In addition, roles described in a communal manner were more positive than roles described in an agentic manner. This effect replicates and extends the women-are-wonderful effect: Not only was the female target more positive than the male target, but occupations described as requiring communal traits were more positive than occupations described as requiring agentic traits.

Neither common rule measure showed any higher-order interactions, although salary, $r(322) = .17$, $p < .001$, and recommendations, $r(320) = .52$, $p < .001$, were positively correlated with suitability overall, as well as separately for each occupation, for both male and female participants, and for male and female participants rating each occupation (*r*s range from .09 to .42 for salary and .43 to .63 for recommendation) suggesting that shifting standards did not play a role in the results reported above. However, caution is still warranted given the role congruity effects are not replicated on the common rule measures.

Although these results provide some evidence for role congruity theory, they should be viewed cautiously as they pertain to only one male and female target, which could indicate that something about the target himself or herself was driving the effect instead of target sex. In addition, the target was said to be 22 years old, which many participants commented was too young to have the education necessary for the college professor or physician role, which may have depressed participants' ratings of the targets in these roles regardless of the role description or target sex. For example, targets were more suitable overall for the middle-level manager role than the physician or college professor role, most likely because the age of the target indicated he or she most likely did not have the education required for these occupations.

Study 3

In Study 3, the content of gender stereotypes was primed in order to manipulate role congruency. Men are seen not only as agentic, but *not* communal, and women are communal but *not* agentic (S. T. Fiske et al., 2002). If these different stereotypes are made accessible, stereotypes of men and women should become more or less congruent with occupational roles requiring agency and communion. For example, because physicians are seen as both agentic and

communal, men and women should be seen as better physicians when the stereotype of agency for men or communion for women is accessible, compared to when the stereotype of noncommunion for men or nonagency for women is primed.

To my knowledge, no studies have tried to explicitly manipulate stereotype content. The idea that content can be manipulated, however, is supported by self-categorization theory (Turner, 1985; Turner, Oakes, Haslam, & McGarty, 1994). In this conceptualization, categories are not conceptualized as stored cognitive representations, but rather categories and their stereotypes are constructed repeatedly in a reflection of theory and data that are salient and useful at a given moment. Consequently, stereotype content varies with comparative context and with changes in the theories and knowledge that are being used in that context (P. M. Brown & Turner, 2002). Thus, according to self-categorization theory, the content of the stereotypes can vary in different circumstances, lending credence to the idea that such content can be manipulated.

Also supporting the notion that stereotype content can be manipulated is research that attempts to manipulate prejudice by manipulating the context of a prime, and thus inherently activating different aspects of the stereotype. For example, Wittenbrink, Judd, and Park (2001b) explicitly stated that they manipulated what aspects of stereotypes of Blacks were accessible depending on the context (church or street corner) the target was placed in, although stereotypes were conceptualized in valenced (positive or negative) terms and not with regard to specific attributes (god-fearing or violent). Blacks and Whites were rated more positively or negatively depending on the context the target was placed in, presumably because different aspects of the stereotype were activated.

Thus, it should be possible to make certain aspects of a stereotype more accessible than others. Stereotype content accessibility is manipulated in this study by priming the agentic aspect of the male stereotype, the nonagentic aspect of the female stereotype, the communal aspect of the female stereotype, or the noncommunal aspect of the male stereotype.

Method

Participants

Participants (48 men, 53 women), who participated for credit in their introductory psychology course, had a mean age of 18.63 years (range from 17 to 22) and were 70.3% White/Caucasian, 22.8% Asian American, 5.0% Black/African American, and 7.9% identified as other. In addition, 6.9% identified as Hispanic/Latino and 93.1% were U.S. citizens. Because of the nature of the experiment required participants to be influenced by the stereotype prime, 31 respondents were dropped from the analyses because they did not remember the general content and the sex of the actor of the two sentences containing the stereotype prime.

Design

This study is a 2 (target sex: male, female) × 2 (stereotype content prime: communal, agentic) × 3 (role: college professor, physician, novelist) × 2 (picture pair/prime: Karen/Dan agentic, Michelle/Brian agentic) × 2 (participant sex: male, female) mixed model design with target sex and stereotype content prime as within subjects variables. Participants saw four prime-target combinations, two with male targets and two with female targets, and evaluated each target with respect to one occupational role. The order of the prime-target pairs was rotated so that each pair was in each of the four places in the sequence. The male and female pictures were also rotated such that each picture was in each of the four places in the sequence. Additionally,

the Karen/Dan and Michelle/Brian pictures sets were paired with the agentic/nonagentic or the communal/noncommunal primes half of the time.

Procedure

Participants were brought into the laboratory to participate in a study involving a series of two tasks: a sentence memory task and a vocational counselor task.[28] The tasks were alternated, ostensibly to simulate the multiple demands of real life and to make the tasks harder. Participants completed a series of these rounds, memorizing different sentences and rating a different individual each time. During each of the four trials, three sentences were presented on the screen for 15 seconds to prime different stereotypes of men and women. These sentences included two sentences written to make either the agentic aspect of the male stereotype, the nonagentic aspect of the female stereotype, the communal aspect of the female stereotype, or the noncommunal aspect of the male stereotype accessible, as well as one neutral sentence that did not imply traits related to agency or communion.

Then, as part of this "dual task" study, participants immediately role played a vocational counselor (with instructions similar to that of Study 1) and viewed information about either a male or female target that included a picture, the age of the target (22 or 23), GPA (3.65 to 3.71), and hometown (Philadelphia, San Diego, Dallas, or Phoenix; see Appendix D). This information was not counterbalanced, but was selected to be neutral and equivalent. The sex of this target matched the prime the participant had just seen, such that participants rated a male target following a stereotype content prime of men's agency or noncommunion and a female target following a stereotype content prime of women's communion or nonagency. Participants were asked how suitable, positive, competent, and stressed the target would be in the given role. After

each vocational counselor task participants then recalled the sentences they were given to memorize at the beginning of the trial. Participants also indicated what they thought the experiment was about to check for suspicion and reported their demographic information. Finally, all participants were debriefed and thanked for their time.

Materials

Stereotype content primes. Participants (52 men, 51 women, 5 unreported sex) completed questionnaires that helped to select the sentence primes used in this study by giving their impression of separate individuals performing 4 behaviors (out of 36; counterbalanced for order). Each behavior was rated on 18 traits picked to represent communal, agentic, feminine cognitive, masculine cognitive, and competence characteristics (for a full list of the traits see *Pretesting for Androgynous Roles* above). The rating scale allowed for participants to indicate either a lack of or possession of each trait from -3 (indicates a complete lack of this trait) to +3 (indicates a lot of this trait) with 0 representing that the trait was not relevant to the behavior.

From these ratings, 12 sentences were chosen for use in the study. Each prime consisted of three sentences: the first was neutral on both agency and communion and the second two primed a stereotype. The agentic prime consisted of two sentences high on agency and neutral on communion, the nonagentic prime of two sentences low on agency and neutral on communion, the communal prime of two sentences high on communion and neutral on agency, and the noncommunal prime of two sentences low on communion and neutral on agency. For use in the main study, each sentence indicated that either a male or female was performing the behavior (see Appendix E). For example, the sentence “Mark loves to participate in extreme sports like skydiving” primed the agentic aspect of the masculine stereotype. On the other hand, “Eric

forgot to call his mom on her birthday" primed the noncommunal aspect of the masculine stereotype.

Measures

Ratings of prejudice. Participants answered 12 items about the target in that role, a shortened version of the measures from Study 1. The measures were the same as Study 1, although suitability (α = .88) omitted the item about credentials for the job, three of the positive evaluation (α = .87) items were reverse scored, and perceived stress was measured by only one item asking how stressful the occupation would be for the target. In addition, competence (α = .70) was measured by two bipolar items: incompetent – competent and incapable – capable.

Common rule measures. Three common rule items were also used. One was the likely starting salary for the target in the occupation, on a 10-point scale from $10,000 to over $120,000 in $9,999 increments. Two other common rule measures differed depending on the role, and these items were combined into an average common rule measure by standardizing each item within each role and then averaging across the items. For college professors, participants were asked what percent (0-100%) of the target's students they thought would recommend the target's courses to other students and what percentile (0-100th) they thought the history department the target would work at as a college professor would be ranked in national rankings of history departments. For physicians, participants were asked what percent (0-100%) of the people who would visit the target's practice they thought would recommend the target to others and what percent (1-100%) of the people who would visit the target they thought the target would heal or cure. For novelists, participants were asked what percent (0-100%) of readers they thought would recommend the target's first novel to others and what percent (0-

100%) of book reviews for the target's first novel they thought would be positive.

Results

Mixed model 2 (target sex: male, female) × 2 (stereotype content prime: communal, agentic) × 3 (role: college professor, physician, novelist) × 2 (picture pair/prime: Karen/Dan agentic, Michelle/Brian agentic) × 2 (participant sex: male, female) ANOVAs on suitability, positivity, competence, stress, salary, and average common rule measure were computed with target sex and stereotype content prime within subjects. First, I will present the main effects that are replicated across the dependent variables, as well as interactions that are not replicated in other measures. Then, higher order interactions that are replicated across dependent measures are discussed. The predicted role congruity interaction, the Target Sex × Stereotype Content Prime interaction, appears only in the higher order interactions involving role and participant sex.

Suitability, Positive Evaluation, Competence, and Perceived Stress

Suitability, $F(1, 89) = 39.27$, $p < .001$, positivity, $F(1, 89) = 37.17$, $p < .001$, and competence, $F(1, 89) = 18.52$, $p < .001$, showed a target sex main effect, with female targets more suitable, positive, and competent than male targets.

Suitability, $F(2, 89) = 4.80$, $p = .01$, and stress, $F(2, 89) = 11.06$, $p < .001$, showed a role main effect, with targets most suitable and most stressed as physicians, college professors, and then novelists (although the differences between each pair of roles were not significant on suitability, ps $< .12$, and with only the difference between physicians and novelists significant on stress, $p = .03$). However, stress also showed a Role × Participant Sex interaction, $F(2, 89) = 6.78$, $p = .002$: Although there were no significant differences between male and female participants in any role, ps $> .18$, male participants showed the effect described above, whereas

female participants rated novelists ahead of college professors in perceived stress but saw all three occupations to be similar in stress (*p*s > .37).

Common Rule Measures

Salary estimates showed a role main effect, $F(2, 89) = 34.72$, $p < .001$, with physicians received the highest salary estimates, followed by college professors, and novelists (all *p*s < .04). There was also a Target Sex × Stereotype Content Prime × Role interaction, $F(2, 89) = 4.09$, $p = .02$. Salary estimates for college professors did not differ by target sex or prime, *p*s > .52; salary estimates for novelists were higher for female targets than male targets, $p = .01$; and salary estimates for physicians revealed a Target Sex × Stereotype Content Prime interaction, $F(1, 89) = 5.89$, $p = .02$. Male targets received lower salaries in the physician role after an agentic prime than female targets after a nonagentic prime, $p = .06$, and than male targets after a noncommunal prime, $p = .05$. Conversely, although not significant, female targets received lower salaries after a communal prime than male targets after a noncommunal prime, $p = .12$, and than a female target after a nonagentic prime, $p = .16$. The pattern of the interaction was a full crossover, with male and female targets having higher salaries in the physician role following primes of their lack of agency or communion.[29]

The average common rule recommendation measure showed a stereotype content prime main effect, $F(1, 89) = 2.43$, $p = .009$, indicating that targets after the communal prime received higher ratings than those after the agentic prime. In addition, the Target Sex × Participant Sex interaction was significant, $F(1, 89) = 4.22$, $p = .04$. Rather than an ingroup bias, male participants gave higher ratings to female targets and female participants gave higher ratings to male targets, although none of the contrasts were significant, *p*s > .28.

Effects of Picture Pair

The Target Sex × Stereotype Content Prime × Picture Pair/Prime interaction appeared consistently across the dependent variables, suitability: $F(1, 89) = 26.55$, $p < .001$; positivity: $F(1, 89) = 6.00$, $p = .02$; competence: $F(1, 89) = 10.64$, $p = .002$; salary estimates: $F(1, 89) = 43.15$, $p < .001$. Across all measures, there were no significant effects for Karen and Dan, ps > .10, but Michelle was more suitable and competent than Brian, ps < .001 (although only marginally paid more, $p = .09$). The interaction on positivity was qualified by participant sex, $F(1, 89) = 6.69$, $p = .01$: Both male and female participants rating Michelle and Brian showed only a target sex main effect, ps < .06, as did male participants rating Karen and Dan, $p = .07$, whereas female participants rating Karen and Dan showed no effects, ps > .23.

Effects of Role and Participant Sex

Also consistent across dependent measures was the Target Sex × Stereotype Content Prime × Role × Participant Sex interaction, suitability: $F(2, 89) = 4.85$, $p = .01$; positivity: $F(2, 89) = 1.70$, $p = .04$; average common rule measure: $F(1, 89) = 3.14$, $p = .048$ (see Figures 8, 9, and 10). On suitability and positivity, college professors and physicians both showed only a target sex main effect, ps = .001, with female targets more suitable and positive than male targets. On the average common rule measure, college professors and physicians showed no significant effects, ps > .13.

Novelists, however, were impacted by target sex, stereotype content prime, and participant sex on suitability, $F(1, 89) = 9.65$, $p = .003$, positivity, $F(1, 89) = 3.64$, $p = .06$, and the average common rule measure, $F(1, 89) = 3.57$, $p = .06$. The pattern of the interaction was similar on suitability and positivity: Consistent with role congruity theory, female participants

rated female targets as more suitable and positive novelists following a communal prime compared to male targets after a noncommunal prime, *p*s < .02 (across-group prejudice, akin to within-role prejudice), and more suitable novelists (but not more positive ones, $p = .14$) compared to female targets after a nonagentic prime, $p = .003$ (within-group prejudice). However, female participants did not rate male targets as more suitable or positive novelists following an agentic prime compared to either a noncommunal prime, *p*s > .39, or female targets after a nonagentic prime, *p*s > .73.

Male participants, on the other hand, showed a reversal of the role congruity pattern: Although female targets following a communal prime were not more suitable or positive novelists compared to male targets after a noncommunal prime, *p*s > .38, or female targets after a nonagentic prime, *p*s > .43, male targets following an agentic prime were *less* suitable and positive novelists than female targets following a nonagentic prime, *p*s < .02, and than male targets after a noncommunal prime, *p*s < .02.

The interaction took a slightly different pattern on the average common rule measure. Again, consistent with the hypotheses, female participants rated female targets as better novelists following a communal prime compared to a female target after a nonagentic prime, $p = .07$ (within-group prejudice), but not than male targets after a noncommunal prime, $p = .71$ (across-group prejudice, akin to within-role prejudice). Female participants also rated male targets as more suitable novelists following an agentic prime compared to female targets after a nonagentic prime, $p = .09$, but not male targets after a noncommunal prime, $p = .79$. Male participants, on the other hand, did not rate female targets following a communal prime as better novelists compared to male targets after a noncommunal prime, $p = .91$, or female targets after a

nonagentic prime, $p = .24$, Rather, in opposition to role congruity principles, male participants rated male targets following an agentic prime as *worse* novelists than female targets following a nonagentic prime, $p = .12$, and than male targets after a noncommunal prime, $p = .006$.

Discussion

This experiment was an attempt to manipulate role congruity by controlling the accessibility of the content of gender stereotypes. In this context, role congruity predicts that a male target would be receive more prejudice in an occupation requiring both agentic and communal traits when the noncommunal masculine stereotype was accessible compared to (a) a female target when the communal feminine stereotype was accessible (across-group prejudice, akin to within-role prejudice) and (b) a male target when the agentic masculine stereotype was accessible (within-group prejudice), and vice versa for female targets. The roles of college professors and physicians did not show role congruity effects. Rather, the female target was more suitable and more positive than the male target in these occupations. In fact, the female target was more suitable, positive, and competent than the male target overall, showing a women-are-wonderful effect.

However, novelists did vary by target sex and stereotype prime, although the exact pattern of the results differed by participant sex. On suitability and positivity, female participants rated the female target higher after a communal prime—a role congruity prediction. Male participants, on the other hand, rated the male target as *less* suitable and positive after an agentic prime, a finding that does not follow from role congruity theory. A similar pattern occurred on the average common rule measure, in which female participants rated the female target lower and male participants rated the male target lower after an agentic prime. In addition, salary and

the average common rule measure were positively correlated with suitability (*r*s range from .37 to .53 for salary and .41 to .59 for the average common rule measure in the different prime conditions) and positivity (*r*s range from .24 to .29 for salary and .21 to .57 for the average common rule measure) although the results of the common rule measures do not directly parallel those of suitability and positivity. Thus, shifting standards did not appear to play a role in the results reported, although caution is still warranted given the role congruity effects are not fully replicated on the common rule measures.

As in Study 2, we see that the effects of the role congruity may have appeared only in certain occupational roles and certain participants. These effects may appear for novelists but not college professors or physicians because novelist is the more ambiguous role for participants in this sample. Student participants presumably have plenty of experience with college professors and physicians, but not novelists. Therefore, target sex and stereotype prime could influence female participants' ratings of novelists to a greater extent. It may also be unclear which sex would be discriminated against as novelists, making participants less aware that the experiment was about prejudice and allowing their biases to influence their responses.

However, male participants in this study showed reversed role congruity effects, reducing the role congruity effect to two contrasts in which female participants rated female targets as (a) more suitable, more positive, and better novelists following a communal prime compared to male targets after a noncommunal prime and (b) more suitable novelists compared to female targets after a nonagentic prime. Thus, the effects are perhaps too weak and inconsistent to be considered evidence for role congruity theory. In fact, the pattern of the full interaction on suitability and positivity appears to indicate that female participants rated female targets after a

communal prime higher compared to all other combinations, whereas male participants rated male targets after an agentic prime lower compared to all other combinations. Female participants seem positively disposed toward their own sex when the communal stereotype is primed, and male participants seem negatively disposed toward their own sex when the agentic stereotype is primed (and on the recommendation measure, female participants were negatively disposed toward their own sex when the nonagentic stereotype is primed). Thus, women showed ingroup bias when the (positive) communal aspects of the feminine stereotype were primed and men showed ingroup derogation when the agentic aspects of the masculine stereotype were primed. Because stereotypes in these conditions are self-relevant, perhaps their accessibility became stronger, while in other conditions the prime may have been too weak to create effects.

Salary estimates of physicians also showed an interesting effect: Participants estimated lower salaries for male targets after an agentic prime and for female participants after a communal prime. Although one may expect men to be paid more in occupations that require communal traits than women because they are seen as overqualified or at a higher level in the organization than women, why a stereotype prime of noncommunion would create this effect or why women would be paid more when the nonagentic aspect of their stereotype was primed is unclear.

The pictures used to manipulate target sex also had consistent effects on prejudice. Across suitability, positivity, competence, and estimated salary, there were no effects of target sex or stereotype prime for Karen and Dan, although Michelle was rated higher than Brian. Thus, the pictures of Michelle and Brian do not seem well-matched for this sample, in which case Michelle seemed better liked than Dan. Thus, perhaps the male and female pictures were not as

well-matched as the original pretest suggested, creating problems in all three studies with differences and interactions by picture pair.

Overall, the inconsistency of these findings with regard to role congruity theory are most likely due to the nature of the primes. The primes may not have been strong enough to manipulate the content of gender stereotypes, or they may have made specific content accessible that was not relevant to the current roles (e.g., stereotypes of assertiveness instead of agency in general). Alternatively, the primes may have failed at manipulating a lack of certain traits and rather made general gender stereotypes accessible, without regard to men's and women's high or low characterization on communal and agentic traits. This may explain why male participants primed with a male person doing agentic behaviors and female participants primed with a female person doing communal behaviors showed the strongest effects. However, these results are very speculative until more is known about the prime.

General Discussion

According to role congruity theory, prejudice is a relative evaluation in context. Thus, prejudice is not merely based on negative stereotypes about the group. For example, people hold positive stereotypes of women but are still prejudiced toward women in some contexts. Prejudice depends, instead, on the match between stereotypes and the requirements of the social role the group member is attempting to occupy. In this sense, prejudice is contextual—it does not occur for a specific group in every context and it could occur for any given group if an incongruity between stereotypes and role characteristics occurs. Even Allport (1954) suggested that conduct toward group members varies by context when he noted that people are friendly with Blacks in the kitchen, but hostile toward Blacks who come to the front door (p. 310). This is a logical idea

and role congruity theory formally incorporates this idea in its definition of prejudice.

These three studies provide evidence for role congruity theory across a range of situations. Studies 1 and 3 used a vocational counselor paradigm with student participants rating both male and female (Studies 1 and 3) and mentally ill (Study 1) targets in one (Study 3) or multiple (Study 1) occupational roles. Study 2 used a personnel selection paradigm with a nationally representative sample of participants who rated either a male or female target in one occupational role. In addition, the target groups used in these studies varied in the content and evaluation of their stereotype and their group status: the stereotype of women is more positive than the stereotype of men, although men have higher status, and the stereotype of people with a mental illness, a stigmatized low status group, is quite negative. Role congruity theory applied in all of these cases, demonstrating that prejudice occurs toward members of both high and low status groups in the right contexts and that prejudice does not only occur toward groups who have an objectively negative stereotype.

In addition, role congruity theory stresses that prejudice cannot be assessed without a comparison to another individual or another context. In all studies prejudice was operationalized in two ways: evaluation of a group compared to (a) the evaluation of members of another group for whom the role is more congruent (within-role prejudice) and (b) the evaluation of members of this same group member in more congruent roles (within-group prejudice). Often, both types of prejudice were shown in the current data. Within-role prejudice (e.g., a White male being hired for a position over an equally qualified woman or Black) is what is usually discussed as prejudice in the research literature as well as the real world. However, there are also real world implications of within-group prejudice (e.g., a female seen as more suitable in an occupation

requiring feminine traits than one requiring masculine traits). For example, individuals may feel pressure (from parents, peers, or even themselves) to express interest in occupations that have a greater match with their group stereotypes, leading to greater numbers of group members in congruent roles. Thus, both ways of measuring prejudice are important to understanding the reasons for the uneven distribution of groups into occupational roles.

Thus, across different groups, paradigms, samples, and comparisons and in both within and between subject designs, role congruity theory was supported. Study 1 provides the strongest support for the theory and extends role congruity theory beyond gender to targets with a mental illness. Male targets, female targets, targets with a masculine sex-typed mental illness, and targets with a feminine sex-typed mental illness were the recipients of prejudice in roles that were incongruent with their stereotypic agentic and communal traits in both ANOVA and correlational results. Role congruity was also a better predictor of rank than the evaluation of group stereotypes in regression analyses. Studies 2 and 3 provide further support for role congruity theory by manipulating role congruity, although the effects only occurred in some roles for some participants (e.g., for the role of middle-level managers and for male participants rating college professors and physicians in Study 2 and for female participants rating novelists in Study 3). These studies should be replicated with different roles and different targets to provide stronger evidence that role congruity can be manipulated.

Limitations

Critics may point out that the methods of these studies do not parallel real life situations. That is, neither the amount of information given about each target or the mindset of the participants is similar to hiring conditions in the real world. These criticisms are valid to some

extent. These studies all purposefully gave little information about the target being evaluated (although more information was given in Study 1 than Studies 2 or 3) to make sure that target sex was not overwhelmed by other information about the target (see Swim et al., 1989; Tosi & Einbender, 1985). Thus, in these studies, in which the purpose was to assess the impact of role congruity on prejudice, very little information was provided to participants. Future research should assess the influence of the amount of information on role congruity processes.

A second limitation is the constricting nature of role play instructions. Participants may not think like vocational counselors or personnel directors, limiting the external validity of the studies. Although the vocational counselor cover story was used in order to allow participants to select the occupations that certain targets would be good or bad at and to direct participants' attention away from the true nature of the study, the task was not realistic. In real hiring situations, personnel directors also receive more (directly job relevant) information about applicants and look at many more applications. The extent to which these types of differences may change the outcome of role congruity is an empirical question. However, the studies are still informative about prejudicial and discriminatory responses in general. People who hold views that group members are better suited to roles whose requirements match group stereotypes may think and act in ways that perpetuate these views in themselves or others.

It should also be noted that the stress ratings given by participants in these studies are not ideal indicators of the stress that actual targets of prejudice would feel in these situations (cf. Robinson & Clore, 2002). Unless they have been in a similar situation in the past, participants in these studies could only estimate how stressed a target might feel, which helps to explain why the stress effects were often nonsignificant. Thus, these studies were simply a first step in the

direction of measuring the impact of the degree of role incongruity on the targets of prejudice and future research should assess how the targets of prejudice actually feel in situations that vary in their degree of role incongruity (e.g., Evans & Steptoe, 2002).

Future Directions

Different Groups

These studies mainly assess prejudice toward women and men in gendered-contexts. To achieve a more general test of the theory, it is necessary to also test the influence of role congruity with other groups. If role congruity theory is a broad theory of prejudice, prejudice toward other groups, such as racial or ethnic groups, should also be accounted for by the theory. There is some evidence that role congruity theory can be applied to racial categories. For example, participants selected Blacks over Whites in a mock football draft, in line with stereotypes of their athleticism (Shaffer & Collier, 2002), and Blacks in an incongruent supervisory role elicited more prejudice than Blacks in a subordinate role or than Whites in a supervisory role (Dovidio & Gaertner, 1981). In addition, Asians were seen as more successful in occupations traditionally associated with Asians (e.g., computer scientist, engineer, and mathematician; Leong & Hayes, 1990). These studies, however, did not manipulate role congruity, and so they are not a clear test of role congruity theory.

Although Study 1 is one step in the direction of assessing prejudice toward members of groups aside from gender (i.e., people with mental illness), future research should also try to extend the bounds of role congruity theory to other stereotyped groups, such as race, sexual orientation, obesity, or physically disabilities. Role congruity theory should apply to all types of groups, as long as stereotypes conflict with role characteristics, although given differences in the

affective versus cognitive components of these stereotypes, differences in the predictors of prejudice may occur (see *Stereotypes, Affect, and Prejudice* below).

Another fruitful area of further research is the interaction of multiple social categories on prejudicial reactions. Although Study 1 assesses prejudice toward men and women who were also described as having a mental illness, these characteristics did not interact. Race and sex, however, may interact in influencing responses to targets. Black women are a special case of this interaction given their double minority status. Perceivers categorize Black women on the basis of both race and sex combined (Stroessner, 1996) and have unique stereotypes for Black women that are not just race and gender stereotypes combined, presumably because subtypes are more informative than broader social categories (see Stangor et al., 1992). Future research should look at this and other combinations of categories. In terms of role congruity theory predictions, it may be the case that prejudice occurs when the subtype stereotypes and the social role conflict.

Yet another distinction that requires further study is the difference between prejudice toward current and potential role occupants. The present studies deal only with prejudice toward potential role occupants (e.g., selection decisions), not toward current role occupants (e.g., performance evaluations). Prejudice toward potential role occupants is based mainly on descriptive stereotypes, whereas prejudice toward current role occupants is based mainly on prescriptive stereotypes. Thus, investigating the nature of prejudice toward current role occupants is necessary to validate the second type of prejudice in role congruity theory. Research in this area is especially needed with target groups other than women. Some researchers hypothesize that stereotypes of men are less prescriptive than stereotypes of women (see Rudman & Glick, 1999) and that stereotypes about race are less prescriptive than stereotypes

about gender (S. T. Fiske & Stevens, 1993). The weaker prescriptive stereotypes of men and racial groups may indicate that prejudice against these groups as role occupants would be weaker than prejudice toward women, since this type of prejudice relies more on prescriptive stereotypes.

Different Roles

The current set of studies in this research included only relatively high status occupational roles, such as physician, college professor, speech therapist, and stockbroker. These types of roles were selected because the upper middle class student samples used in Studies 1 and 3 would not have expected students like themselves (as part of the vocational counselor paradigm) to aspire to low status occupational roles. If low status roles had been used, student participants may have rated college students as not suitable for low status roles, although highly likely to be successful in these roles given the students may be seen as over-qualified for these roles. Study 2 used a nationally representative sample and did use the lower status role of middle-level manager, which showed role congruity effects. More research should assess possible differences in high and low status roles (e.g., men, as a high status group, may be seen as more congruent with any high status role over a low status role; or the role congruity effect may be dampened in high status roles if the education required for high status roles is seen as an equalizer between men and women).

Another issue that requires further research is the application of an idea inherent in the role-fulfillment model (Higgins & Rholes, 1976) that roles can be either positively or negatively valued. This idea emphasizes the need for another element in role congruity theory. Role congruity theory has mainly been tested with respect to positively valued, or at least non-

negatively valued, roles—roles that have positive implications for successfully fulfilling them. In terms of negatively valued societal roles (e.g., criminal, dead-beat dad, or gang member), a match between role characteristics and a group stereotype may actually lead to more *negative* evaluations toward occupants of that role, given that these individuals are likely to fulfill this less valued role successfully. However, members of groups with congruent stereotypes should still receive better ratings as potential occupants of a less valued role if participants are directly asked how *successful* the individual is in the role. Thus, a slight distinction in the question being asked may lead to differing conclusions: Overall evaluations of individuals in a negatively valued role should be more negative when the stereotype and role characteristics match, but evaluations of the success of individuals in a negatively valued role should be more positive when the stereotype and role characteristics match.

Thus, the role-fulfillment model highlights the importance of differentiating between overall evaluations of role occupants and ratings of success of these same role occupants. The inadequate fulfillment (i.e., a mismatch of a stereotype and role characteristics) of a positive role leads to greater negative evaluations of the individual's success in the role as well as greater negative ratings of the occupant in general. However, inadequate fulfillment of a negative role may lead to more positive evaluations of the role occupant in general (as they are "bad" at a less valued role), but more negative ratings of success in the role (they cannot or do not perform the role well). Thus, when the role is negatively valued, such as the roles of criminal or drug dealer, a match between role characteristics and the group stereotype may actually create more negative general evaluations of potential role or role occupants, a response traditionally considered to be prejudice.

According to role congruity theory, however, ratings of (probable or actual) success in a role are what constitute prejudice, because prejudice occurs when perceivers believe that a group member would not be successful in a given role (and therefore would not "hire" them to perform the role or evaluate them positively in the role). In negatively valued roles that require negative characteristics to perform well, prejudice results when an individual is assumed to not be a good choice for a negative role (e.g., white gang members) and is measured by more negative ratings of success in the role but more positive ratings of individual overall.

This analysis of prejudice highlights the need to assess role congruity prejudice as a lack of potential or actual success in a role, and not simply an evaluation of the individual in the role. The current studies provided ratings of both suitability and positive evaluation, and given that the roles used in these studies are all socially valued roles, the results from these two measures corresponded. However, future research should assess prejudice in negatively valued roles, such as criminals, drug dealers, or gang members, to test the hypothesis that suitability and positivity do not necessarily correspond. If participants were asked to select an individual who would be good at performing such a role, they would select an individual whose group stereotype matches the (negative) characteristics needed to fulfill such a role successfully. This separation of evaluation and success has implications for how prejudice should be measured.

Yet another aspect of social roles that requires further study is non-occupational roles. Familial and friendship roles, for instance, should also follow role congruity principles. One may affiliate with members of certain groups in certain contexts because of the stereotypes about those group members. What are the requirements of a good neighbor? A good friend? A romantic partner? A teammate? In each case, individuals from groups whose stereotypes match

the requirements of the role should be seen as better potential occupants of these roles. However, to the extent that roles in the social domain also incorporate an element of generalized affect toward groups, perhaps role congruity is less predictive in these cases or is predictive under certain circumstances or only with certain groups.

The Process of Role Congruity

Role congruity theory states that prejudice arises because of a mismatch between group stereotypes and the characteristics required for a role. Thus, this mismatch is the mediator of role congruity prejudice, but there are many ways this mismatch may be perceived by individuals. Dual process reactions to stereotyped groups suggest that perceivers' immediate reactions to a group member may be an impulsive, emotional one, which is replaced by a more cognitive, effortful response (see Pryor, Reeder, Yeadon, & Messon-McInnis, 2004). Prejudice in the current studies was most likely of the second, effortful kind, given that participants cognitively assessed their potential for certain occupations. However, that is not to say that role congruity prejudice could not be based on affective reactions of the target in the given role (as indicated by the fact that role congruity prejudice is a negative reaction to stereotypes in context).

Thus, although role congruity seems like a cognitive appraisal which requires effort and deliberation, this may not have to be the case for a number of reasons. For one, both the cognitive and affective components of the stereotype in context may be important (see *Stereotypes, Affect, and Prejudice* below). In addition, role incongruencies are linked to surprise and disapproval, which have been shown to lead to less favorable attitudes toward a product being advertised (Orth & Holancova, 2003/2004). Thus, perhaps incongruity leads to emotions which help to form prejudice. In addition, research suggesting that role congruity may play a role

in implicit attitudes implies that role congruity effects do not require cognitive effort (Barden, Maddux, Petty, & Brewer, 2004, see *Implicit Stereotypes and Prejudice* below). More research would be necessary to assess the processes involved in role congruity effects.

The Relation of Role Congruity Theory to Other Models of Prejudice

Stereotypes, Affect, and Prejudice

The current research indicates that stereotypes are only predictive of prejudice in the context of specific roles. In line with this idea, the endorsement or consensuality of stereotypes alone are only weakly to moderately correlated with prejudice (e.g., Dovidio, Brigham, Johnson, & Gaertner, 1996; Haddock, Zanna, & Esses, 1994; Rudman & Kilianski, 2000), most likely because considering group stereotypes alone does not take into account role requirements and the contextual nature of prejudice. Role congruity theory posits that stereotypes predict prejudice when context is also taken into account in the form of role congruity, as shown in the correlational results of Study 1.

However, there are other reasons why stereotypes alone would not predict prejudice. Affective responses may be more important than the cognitive ones in predicting prejudice in some cases. Affective responses have been shown to be a better predictor of attitudes than cognitive stereotypes for groups such as Blacks, in which case the cognitive component is largely negative and therefore corresponds to the negative affective response (Esses et al., 1993; Stangor et al., 1991). The frustration-aggression and scapegoating hypotheses also assume that prejudice is a response to anger or fear (Dollard, Doob, Miller, Mowrer, & Sears, 1939), rather than a cognitive appraisal of stereotypes.

It would be interesting to test how the overall negative emotional responses to certain

groups, such as Blacks, interact with more fine-grained processes of role congruity. In some situations, the affective response may take precedent, whereas in others a role congruity perspective may more adequately explain people's responses to certain groups. Another option is that the affective reactions interact with cognitive processes to impact reactions to individuals through either additive or biasing processes, for example. It should be noted, however, that role congruity theory does not rule out an affective influence on prejudice. The cognitive and evaluative aspects of stereotypes cannot be fully separated (Wittenbrink, Judd, & Park, 2001a), and role congruity theory states, in essence, that prejudice occurs when stereotypic traits are considered negative within a certain role. Thus, the content of stereotypes matters in defining the congruity of the stereotype with role requirements, but a mismatch between these components would result in a negative evaluation of these traits in that situation and, hence, a negative affective reaction that could add to the prejudicial response.

Implicit Stereotypes and Prejudice

In yet another caveat in predicting prejudice from stereotypes, stereotypes and prejudice may be related only under the certain conditions, such as when they are measured in parallel ways (e.g., Dovidio et al., 1996). Implicit responses are more related to spontaneous behaviors, whereas explicit responses are more related to controlled, deliberate behaviors. In the current studies, stereotypes and prejudice were both measured in a controlled manner. If stereotypes had been measured implicitly, role congruity principles may not have been related to prejudice because of the disconnect between the implicit stereotypes and deliberate prejudice.

The current research deals only with explicit responses, as does most of the past work on role congruity theory. However, role congruity prejudice may operate implicitly as well:

Responses for negative words were facilitated compared to positive words when participants were primed with a picture of a target in an incongruent role (e.g., female doctor, male nurse) although there was no difference between response times for positive and negative words when the prime showed a target in a congruent role (e.g., female waitress, male police officer; Rudman & Kilianski, 2000). Thus, role congruity affected implicit responses.

This conclusion is also upheld in work by Barden et al. (2004), who showed that both controlled and automatic responses toward Blacks and Asians can be affected by the context surrounding the judgment. Using an interactionist perspective, much like role congruity theory, the authors reasoned that race and role cues interact to create evaluations of individuals. For example, Blacks are rated more positively than Asians if they are seen as basketball players, but Asians are rated more positively than Blacks in a classroom setting. In addition, Barden et al. (2004) found that they could reverse the ingroup bias Whites usually show if they presented Black and White faces in a factory context. In this case, Blacks were evaluated more positively than Whites, in both automatic and controlled judgments. In addition, Whites were more positively evaluated than Blacks in a prisoner role, which would normally be seen as an incongruent role for Whites. However, because this role is a negative role, successfully occupying the role (which is more stereotypical of Blacks) would lead to greater negative general evaluations, as Barden et al. (2004) found, but more positive ratings of success in the role. If participants had been rating how successful the individuals were in their roles, Blacks should have been rated as more successful prisoners than Whites. The lack of assessment of the incongruity between the racial stereotypes and role characteristics (roles were picked based on expectations of incongruity) precludes any definitive conclusions about the effects of role

congruity in the study. However, the study did in some instances cleanly show that role incongruity can lead to implicit prejudices for racial targets.[30]

Thus, role congruity theory can also describe prejudice on an implicit level, especially toward current role occupants, as these studies show. It may be the case that prejudice toward potential role occupants (and actions such as hiring decisions) require more of a cognitive, reasoned decision. More work on implicit prejudices for both potential and current role occupants remains to be done. Future research should directly assess implicit prejudice as well as role incongruity to see if the relationships found in the current research hold at an implicit level.

Stereotypes and Prejudice from Group Conflict

Other theories of prejudice contend that negative attitudes arise when conflict between groups is present (e.g., LeVine, & Campbell, 1972; Sherif, 1966; J. W. Jackson, 1993). Conflict in terms of resources or values, whether wholly realistic or partly imagined, can create prejudice toward groups as a whole. Although in some cases intergroup conflict may create accurate (and therefore not prejudicial) appraisals of other groups, the conflict and resulting stereotypes and attitudes are usually exaggerated.

In a general model of group conflict, Esses, Jackson, Dovidio, and Hodson (2005) illustrate how ideologies and motivations can influence some individuals to be more prone to perceiving conflict between groups, including social dominance orientation (Pratto, Sidanius, Stallworth, & Malle, 1994) or mortality salience (Greenberg, Solomon, & Pyszczynski, 1997). Perceiving conflict then leads to a positive ingroup bias and sometimes, but not always, outgroup derogation (see Brewer, 1999) to create a positive collective identity and self-view, as social identity theory maintains (Tajfel & Turner, 1979). In addition, the higher status group may also

try to maintain the current system by using stereotypes to justify the positive outcomes of dominant groups and the negative outcomes of subordinate groups (see Allport, 1954; Jost & Banaji, 1994). In this theory, then, prejudice results from functional and instrumental processes that perceive conflict and attempt to eliminate group competition (see Esses et al., 2005).

In general, role congruity theory and the realistic conflict approach are not competing explanations for prejudice. Role congruity theory explains prejudice toward group members in different roles, but not generalized negativity toward groups because of conflicts. It may be the case, however, that people who are frustrated by conflict (e.g., Spencer, Fein, Wolfe, Fong, & Dunn, 1998) or who have a strong motivation to maintain their own high status (e.g., Sidanius & Pratto, 1999) may be especially wary of members of other groups attempting to move into roles that the group is seen as unqualified for or that are high in status. In this case, individuals who perceive conflict with other groups may be more motivated to exclude these individuals from these roles and may show stronger effects of role congruity.

Summary

There are many theories of prejudice that help to explain prejudicial reactions to members of other groups. All of these theories have merit, including role congruity theory. Each theory may apply in specific cases or for different types of prejudices (e.g., cognitive versus affective). Thus, future discussion on prejudice should attempt to discern when and why each of the above models is useful. Role congruity theory is unique among these theories in that it takes into account the context of the attitude, which is an idea that has not been incorporated into other theories of prejudice. However, the moderators and mediators of role congruity effects have not been thoroughly tested. The variables mentioned here in comparing theories of prejudice could

be moderators of role congruity effects, allowing for an integration of the theories and for more specific predictions about when prejudice is likely to occur.

Conclusion

Role congruity theory highlights that prejudice can occur toward any group if the context of the evaluation is one in which group stereotypes, whatever their content or valence, conflict with the requirements of the role. Role congruity theory clarifies when and why prejudice is likely to occur, which is just a first step toward applying this knowledge to reducing prejudice. Because role congruity theory states that the determinants of prejudice are group stereotypes and role characteristics, prejudice should be reduced to the extent that stereotypes and role characteristics do not conflict or are not salient to perceivers. Prejudice could also be reduced to the extent that stereotypes change over time to be congruent with roles, to the extent that people redefine the qualities required by a role, or to the extent that group members acquire skills and abilities that are consistent with their newly acquired roles. Ultimately, role congruity theory can help social psychologists understand the causes of prejudice and predict when prejudice is most likely to occur, and this knowledge has further implications for reducing prejudice and its negative impact in society.

Footnotes

[1] The Goldberg paradigm is named in honor of Phillip Goldberg's early experiment on biased evaluations of written essays (Goldberg, 1968). The participants each read an essay that was identical in content except for the author's name, which was either male or female. Thus, the ratings of the essay apparently authored by a woman could be compared to those of the essay apparently authored by a man, and any difference between the ratings was due to the sex of the writer of the essay. This method was extended by researchers to the presentation of identical résumés or job applications with male or female names attached to them.

[2] These choices of mental illnesses were upheld in further data in which other participants (see *Selection of Roles*) rated people described with each of these illnesses on a variety of scales, including the likelihood of the individual being male or female. In these ratings, depression (d = 0.98) and anxiety (d = 0.80) were seen as more likely to be a female and alcohol dependence (d = -2.04) and ADHD (d = -0.77) were seen as more likely to be a male.

[3] Ratings of men and women did indeed differ in communion, agency, feminine cognition, and masculine cognition, all ps < .001, but not in competence, p = .34. In addition, targets with a mental illness differed from those without a mental illness on 9 of the 21 mental illness stereotypic traits, ps < .07.

[4] There was a sex difference in Brian's age (male participants thought he looked older), $t(37) = 2.57$, p = .01, and friendliness (female participants thought he looked friendlier), $t(37) = -2.13$, p = .04, and in Michelle's attractiveness (female participants thought she was more attractive), $t(38) = -2.37$, p = .02.

[5] Problems with the length of the group testing questionnaire resulted in incomplete data for many participants. To make sure each participant could be included in the individual-level

analyses, participants were assigned to conditions based on the completion of their group testing materials. For the group-level analyzes, all ratings were used.

[6] The percentages of the different racial groups for this, and other, studies add to more than 100% because participants were asked to check as many groups as apply.

[7] Actually, the role variable could be split into the individual roles used in the study, but because participants received different roles (i.e., there are two role sets) including the individual roles in the overall analysis would involve pairing the roles in the two sets and these pairings would be arbitrary. In addition, these ANOVA results are designed to show the effects of target sex on agentic and communal occupational roles generally (although effects of role set speak somewhat to this issue of differences among roles), whereas the correlational results make use of data on individual roles.

[8] Preliminary analyses indicated that the results did not systematically differ by specific mental illness and thus the illnesses are combined into the masculine and feminine categories.

[9] Again, ratings of men and women differed in communion, agency, feminine cognition, and masculine cognition, all *p*s < .001, but not in competence, $p = .38$. Targets with a mental illness differed from those without a mental illness on 21 of the 22 mental illness stereotypic attributes, *p*s < .001 (there was no difference on dishonest, $p = .21$). In addition, women were more organized, moody, energetic, and emotional than men, *p*s < .003, and men were more unpredictable, dangerous, irresponsible, impulsive, violent, lethargic, dishonest, unfocused, and systematic than women, *p*s < .02. There was no difference between men and women on tense, withdrawn, and pessimistic, *p*s > .16. Given that the gendered as well as mental illness stereotypic attributes showed a sex difference, all traits were used in calculating the ICCs.

[10] For a couple of reasons, the data on assertiveness are not presented here. For one, the

scale included both assertive and competent components. Following the principles of role congruity theory, I would predict an interaction between target sex and role on competence traits, such that men would be seen as more competent than women in agentic occupations but women as more competent than men in communal occupations. However, on assertiveness traits I would predict only a main effect of target sex on assertiveness traits, such that men would be more assertive than women in agentic roles because assertiveness is required in these roles but women would be less assertive than men in communal roles because being good at a communal role requires low assertiveness. The extent to which people perceive women as more assertive in communal roles because they fit these roles better and therefore have a greater license to act assertively in these roles is not clear. Another problem with this measure is that it may be vulnerable to shifting standards, given that participants were rating the target as an occupant of a role, and therefore women in an agentic role may be seen as more competent/assertive than other women (a within-sex comparison) but not when compared to men in that same occupation, consistent with Biernat's (2003) shifting standards model. Given these issues that make the results hard to interpret, the data are not reported in the text.

[11] Analyses could not be performed on the occupations across the targets or with all occupations and all targets because there is no variance in average rank within an occupation: For each occupation one target was ranked first, one second, and one third, making the mean rank always 2.0.

[12] Tests for the violation of the assumption of sphericity were performed on these mixed model ANOVAs when the repeated measures variable had more than two levels. In no case was sphericity violated (cf. Hertzog & Rovine, 1985).

[13] Suitability effects without a role congruity component included a Role × Target

Disclosure interaction, $F(1, 127) = 6.38$, $p = .01$, a Target Sex × Role Set interaction, $F(1, 127) = 5.13$, $p = .03$, and a Target Sex × Target Disclosure × Picture Pair × Role Set interaction, $F(1, 127) = 4.71$, $p = .03$.

[14] Positivity effects without a role congruity component included a Target Sex × Picture Pair × Role Set interaction, $F(1, 127) = 4.39$, $p = .04$, a Target Sex × Picture Pair × Order × Role Set interaction, $F(1, 127) = 5.99$, $p = .02$, a Role × Role Set interaction, $F(1, 127) = 7.54$, $p = .007$, a Role × Target Disclosure interaction, $F(1, 127) = 4.63$, $p = .03$, an Order × Role Set interaction, $F(1, 127) = 4.70$, $p = .03$, and a Target Disclosure × Picture Pair × Role Set interaction, $F(1, 127) = 7.09$, $p = .009$.

[15] Stress effects without a role congruity component included a Target Sex × Order interaction, $F(1, 127) = 4.79$, $p = .03$, a Target Sex × Picture Pair × Role Set interaction, $F(1, 127) = 3.99$, $p = .048$, a Target Sex × Target Disclosure × Picture Pair × Participant Sex interaction, $F(1, 127) = 4.01$, $p = .047$, a Role × Picture Pair × Order × Role Set × Participant Sex interaction, $F(1, 127) = 5.86$, $p = .02$, a Target Disclosure × Participant Sex interaction, $F(1, 127) = 3.93$, $p = .049$, and a Picture Pair × Order × Role Set × Participant Sex interaction, $F(1, 127) = 4.15$, $p = .04$.

[16] Average rank effects for male targets without a role component included a target disclosure main effect, $F(1, 126) = 16.36$, $p < .001$, a role set main effect, $F(1, 126) = 7.88$, $p = .006$, a Picture Set × Participant Sex interaction, $F(1, 126) = 8.46$, $p = .004$, and a Target Disclosure × Picture Pair × Participant Sex interaction, $F(1, 126) = 5.95$, $p = .02$.

[17] Average rank effects for female targets without a role component included a picture pair main effect, $F(1, 126) = 6.37$, $p = .01$, and a Target Disclosure × Sex Order × Role Set × Participant Sex interaction, $F(1, 126) = 5.62$, $p = .02$.

[18] In the main ANOVA analyses, these effects appeared as a Target Sex × Role × Order interaction, $F(1, 127) = 11.20$, $p = .001$, on suitability; a Target Sex × Role × Order interaction, $F(1, 127) = 4.55$, $p = .04$, and a Target Sex × Role × Order × Role Set interaction, $F(1, 127) = 4.51$, $p = .04$, on positivity; a Role × Order interaction, $F(2, 252) = 4.19$, $p = .02$, and a Role × Picture Pair × Order × Participant Sex interaction, $F(2, 252) = 3.30$, $p = .04$, on average rank of male targets; and a Role × Order interaction, $F(2, 252) = 6.71$, $p = .001$, and a Role × Target Disclosure × Order × Role Set × Participant Sex interaction, $F(2, 252) = 4.24$, $p = .02$, on average rank of female targets.

[19] In the main ANOVA analyses, these effects appeared as a Role × Target Disclosure interaction, $F(2, 252) = 10.41$, $p < .001$, a Role × Role Set interaction, $F(2, 252) = 12.27$, $p < .001$, and a Role × Target Disclosure × Role Set interaction, $F(2, 252) = 4.74$, $p = .01$, and a Role × Target Disclosure × Picture Pair × Participant Sex interaction, $F(2, 252) = 3.71$, $p = .03$, on the average rank of male targets; and a Role × Target Disclosure interaction, $F(2, 252) = 11.20$, $p < .001$, and a Role × Role Set interaction, $F(2, 252) = 13.22$, $p < .001$, and a Role × Target Disclosure × Order × Role Set × Participant Sex interaction, $F(2, 252) = 4.24$, $p = .02$, on the average rank of female targets.

[20] These effects appeared as a four-way Target Sex × Role × Target Disclosure × Role Set interaction on both suitability, $F(1, 127) = 14.18$, $p < .001$, and positivity, $F(1, 127) = 7.10$, $p = .009$, in the main ANOVA analyses.

[21] The only other significant effect on suitability was a Mental Illness Sex-type × Picture Pair interaction, $F(1, 128) = 4.61$, $p = .03$. The three-way interaction between Target Sex × Mental Illness Sex-type × Role was not significant, $F(1, 128) = 0.33$, $p = .57$.

[22] Again, there was not a significant Target Sex × Mental Illness Sex-type × Role

interaction, $F(1, 144) = 0.04$, $p = .84$.

[23] Stress effects without a role congruity component included a Mental Illness Sex-type × Picture Pair interaction, $F(1, 128) = 3.99$, $p = .048$, a Picture Pair × Role Set interaction, $F(1, 128) = 6.60$, $p = .01$, a Picture Pair × Participant Sex interaction, $F(1, 128) = 4.41$, $p = .04$, and a Mental Illness Sex-type × Picture Pair × Role Set interaction × Participant Sex, $F(1, 128) = 12.15$, $p = .001$. There was neither a Target Sex × Role interaction, $F(1, 128) = 1.91$, $p = .17$, nor a three-way Target Sex × Mental Illness Sex-type × Role interaction, $F(1, 128) = 0.84$, $p = .36$.

[24] Average rank effects without a role component included a Target Sex × Role Set interaction, $F(1, 126) = 4.41$, $p = .04$, a Target Sex × Picture Pair interaction, $F(1, 126) = 9.30$, $p = .003$, and a Role × Picture Pair × Participant Sex interaction, $F(2, 252) = 3.92$, $p = .02$.

[25] These effects appeared as a Target Sex × Role × Picture Pair × Participant Sex interaction, $F(1, 128) = 7.52$, $p = .007$, on positive evaluation; and a Mental Illness Sex-type × Role × Picture Pair interaction, $F(1, 128) = 5.29$, $p = .02$, and Mental Illness Sex-type × Role × Picture Pair × Participant Sex interaction, $F(1, 128) = 13.29$, $p < .001$, on perceived stress.

[26] As would be expected, female participants were more likely than male participants to indicate they were housewives, but there were no other differences in the demographic information between male and female respondents.

[27] Although the results for assertiveness/competence were not reported in Study 1, the results for the competence measure in Studies 2 and 3 are reported because the hypotheses for these measures are clearer because they do not include an element of assertiveness.

[28] By framing the task as a memory task, rather than an impression formation task, there should be a greater chance that participants will not be aware of the effects of the prime on subsequent judgments and will not attempt to correct for their bias (see Moskowitz & Roman,

1992). In fact, during the suspicion check most participants reported they thought the study was about memory.

[29] Estimated salary effects without a role congruity component included a Target Sex × Picture Pair/Prime interaction, $F(1, 89) = 5.52$, $p = .02$, and a Role × Picture Pair/Prime × Participant Sex interaction, $F(2, 89) = 4.41$, $p = .02$.

[30] The only effect in Barden et al. (2004) that does not follow simply from role congruity theory is that Black lawyers in a jail setting are evaluated more positively than White lawyers, assuming that stereotypes of Whites and lawyers should be more similar than stereotypes of Blacks and lawyers. However, it is possible that in a jail setting Blacks are seen as better able to relate to prisoners or more motivated to help prisoners, and therefore are more congruent with a jail lawyer than Whites.

Table 1

Percent of Participants Familiar with Each Mental Illness, the Mean Percentage Estimates of Women with Each Illness, and the Likelihood of a Person with the Illness Being Male or Female

Mental illness	Percent familiar with illness	Percent of women in illness[1]	Likelihood of sex of description being female[2]
Alcohol dependence	96	36.50***	2.30***
Anorexia nervosa	87	80.65***	4.39***
Antisocial personality disorder	42	46.76**	2.35***
Anxiety disorder	55	55.93***	3.46***
ADHD	91	39.28***	2.19***
Bipolar disorder	64	51.06	3.59***
Depression	94	55.39***	3.20*
Drug dependence	96	40.41***	2.31***
OCD	81	53.50*	3.09
PTSD	42	48.37	2.70**
Schizophrenia	47	47.59*	2.69**

[1] significance refers to differences from 50%. [2] significance refers to differences from 3, where numbers higher than 3 indicate female, numbers lower than 3 indicate male.

* $p < .05$. ** $p < .001$. *** $p < .001$.

Table 2

Mean Ratings of the Disclosure Paragraphs Chosen for Inclusion in Study 1

	Positivity of impression		Positivity of event		Paragraph disclosed information		Event will affect the rest of life		Event will make it hard to find a job	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
ADHD	$4.56_{a,b,c}$	1.21	$3.88_{a,c}$	1.50	4.31_{a}	1.20	4.69_{a}	1.54	3.31_{a}	1.40
Alcoholism	$3.81_{a,b}$	0.83	$2.63*_{b}$	1.20	3.94_{a}	1.44	$4.94_{a,b}$	1.18	$3.06_{a,b}$	1.00
Anxiety	$4.69_{c,d}$	1.54	4.56_{c}	1.59	4.38_{a}	1.15	$4.94_{a,b}$	1.29	$2.88_{a,b}$	1.54
Depression	$3.88_{b,d}$	1.26	$3.31_{a,b}$	1.66	4.50_{a}	1.15	4.81_{a}	0.75	$3.25_{a,b}$	1.53
Adopted	$4.81*_{c}$	1.17	$3.25*_{a,b}$	0.86	4.81_{a}	1.28	$5.25_{a,b}$	1.61	$2.44_{a,b}$	1.59
Diabetes	$4.75*_{c}$	1.18	$3.94_{a,c}$	1.39	4.31_{a}	1.25	5.75_{b}	0.93	2.31_{b}	1.08

Note. * indicates the mean was significantly different from the midpoint of the scale at $p < .05$. Subscripts indicate the contrasts: Means with the same subscript within a column do not differ at $p < .05$.

Table 3

Mean Standardized Ratings for Status and Education/Salary and Intraclass Correlation Coefficients (ICCs) between Ratings of Occupations and Targets in the Pretest of Study 1

	Status[1]	Education/ salary[2]	ICCs					
Occupation			Men	Women	ADHD	Alcohol	Anxiety	Depression
Accountants	-0.23	0.11	.26	.14	-.31	-.67*	.40*	-.35
Airplane pilots	0.20	0.00	.19	.38*	-.25	-.84*	.25	-.58*
Artists	-0.76	-0.79	-.16	.57*	.57*	.06	.24	.14
Athletes	1.52	0.62	.62*	-.01	.38*	.32	-.04	-.28
Biologists	0.52	0.70	.15	.32	-.25	-.80*	.35	-.41*
Child care workers	-0.59	-0.82	-.21	.73*	-.07	-.88*	.01	-.66*
Computer programmers	0.04	-0.02	.18	.11	-.30	-.64*	.38*	-.23
Dental hygienists	-0.33	0.23	.07	.51*	-.27	-.89*	.16	-.61*
Dramatic actors	-0.15	-0.45	.10	.66*	.58*	-.04	.12	-.26
Economists	0.26	0.60	.40*	.17	-.18	-.56*	.42*	-.38*
Elementary teachers	-0.81	-0.33	-.22	.69*	-.03	-.85*	-.03	-.64*
Engineers	0.76	0.39	.30	.14	-.24	-.64*	.36*	-.34
Firefighters	0.38	-0.97	.23	.55*	.03	-.63*	.05	-.72*
Interior designers	-0.47	-0.16	.09	.88*	.22	-.63*	.17	-.62*

Occupation	Status[1]	Education/ salary[2]	ICCs					
			Men	Women	ADHD	Alcohol	Anxiety	Depression
Librarians	-1.27	-0.85	-.34	.56*	-.25	-.81*	.21	-.31
Members of clergy	0.33	-0.24	-.29	.72*	-.10	-.82*	-.03	-.57*
Professional musicians	0.00	-0.42	.15	.51*	.50*	.03	.27	-.06
Nurses	-0.36	-0.42	-.15	.68*	-.12	-.91*	.04	-.65*
Pediatricians	1.11	1.26	-.03	.60*	-.14	-.93*	.05	-.66*
Pharmacists	-0.17	0.40	.05	.39*	-.32	-.84*	.26	-.45*
Physical therapists	-0.43	-0.17	-.11	.72*	-.04	-.85*	-.04	-.69*
Poets	-0.89	-0.67	-.36*	.60*	.38*	-.06	.20	.22
Police officers	0.09	-0.61	.58*	.09	-.05	-.15	.27	-.38*
Politicians	0.51	0.63	.49*	.24	.03	-.28	.12	-.57*
Psychiatrists	0.32	1.03	-.08	.65*	-.25	-.90*	.11	-.58*
Scientists	0.84	0.73	.30	.15	-.22	-.62*	.37*	-.31
Social workers	-0.85	-0.40	-.27	.75*	-.12	-.87*	.02	-.60*
Speech therapists	-0.34	0.24	-.13	.68*	-.10	-.88*	.02	-.63*
Stockbrokers	0.71	0.54	.55*	.15	-.02	-.37*	.38*	-.45*
Writers/authors	0.09	-0.14	-.19	.63*	.18	-.27	.35	.03

[1] z-score of composite of status, prestige, and respect. [2] z-score of composite of education and salary.
* $p < .05$.

Table 4

Mean Ratings of the Pictures Chosen for Inclusion in Study 1

	Target sex	Age		Masculity-femininty		Friendliness composite		Competence composite		Happiness		Attractive-ness		Health	
		M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Karen	Female	22.09_{a}	3.61	5.56_{a}	1.23	5.38_{a}	0.86	5.05_{a}	0.77	4.73_{a}	1.28	5.10_{a}	0.86	5.24_{a}	1.39
Michelle	Female	24.35_{b}	3.91	4.83_{b}	1.43	5.26_{a}	0.81	4.99_{a}	1.03	4.88_{a}	1.34	4.53_{b}	1.20	5.58_{a}	1.32
Dan	Male	$22.21_{a,c}$	2.10	3.48_{c}	1.32	4.89_{b}	0.87	4.69_{a}	0.80	5.00_{a}	1.47	5.48_{a}	0.96	5.30_{a}	1.24
Brian	Male	$23.62_{b,c}$	3.17	3.15_{c}	1.63	$5.17_{a,b}$	0.68	4.77_{a}	0.70	4.82_{a}	1.11	4.23_{b}	1.13	5.49_{a}	1.30

Note. Subscripts indicate the results of contrasts: Means with the same subscript within a column do not differ at $p < .05$.

Table 5

Target Sets in Study 1

	Targets 1 and 2							Target 3		
Picture Set	Sex	Picture	Disclosure		Sex	Picture	Disclosure	Sex	Picture	Mental illness
1 2	female	Karen Michelle	adopted	/	male	Dan Brian	diabetes	male	Brian Dan	ADHD
1 2	female	Karen Michelle	adopted	/	male	Dan Brian	diabetes	female	Michelle Karen	ADHD
1 2	female	Karen Michelle	adopted	/	male	Dan Brian	diabetes	male	Brian Dan	alcoholism
1 2	female	Karen Michelle	adopted	/	male	Dan Brian	diabetes	female	Michelle Karen	alcoholism
1 2	female	Karen Michelle	diabetes	/	male	Dan Brian	adopted	male	Brian Dan	anxiety
1 2	female	Karen Michelle	diabetes	/	male	Dan Brian	adopted	female	Michelle Karen	anxiety
1 2	female	Karen Michelle	diabetes	/	male	Dan Brian	adopted	male	Brian Dan	depression
1 2	female	Karen Michelle	diabetes	/	male	Dan Brian	adopted	female	Michelle Karen	depression

Note. The order of the first two targets was counterbalanced.

Table 6

Mean-Level Intraclass Correlation Coefficients (ICCs) between Stereotypes of Occupations and Targets in Study 1 Group Testing

	ICC with Women					ICC with Men				
Occupations	In general	ADHD	Alcohol-ism	Anxiety	Depress-ion	In general	ADHD	Alcohol-ism	Anxiety	Depress-ion
Athlete (A/MI)	.14	.26	-.04	.16	-.27	.59*	.28	.09	-.02	-.34
Economist (A)	.31	-.26	-.68*	-.08	-.56*	.53*	-.23	-.43*	-.10	-.43*
Pediatrician (C)	.71*	-.23	-.80*	-.14	-.65*	.16	-.24	-.92*	-.34	-.51*
Physical therapist (C)	.76*	-.19	-.81*	-.17	-.68*	.21	-.22	-.88*	-.39*	-.59*
Poet (C/MI)	.65*	.32	-.02	.41*	.19	-.15	.29	-.20	.15	.18
Police officer (A)	.36*	-.14	-.55*	-.10	-.59*	.68*	-.13	-.42*	-.23	-.57*
Politician (A)	.48*	-.16	-.61*	-.08	-.67*	.56*	-.15	-.53*	-.28	-.62*
Psychiatrist (C)	.70*	-.25	-.82*	-.17	-.67*	.25	-.26	-.90*	-.37*	-.55*
Speech therapist (C)	.73*	-.19	-.77*	-.13	-.63*	.14	-.21	-.90*	-.35*	-.51*
Stockbroker (A)	.24	-.06	-.47*	.03	-.51*	.65*	-.02	-.35	-.05	-.46*

Note. A = agentic, C = communal, MI = mental illness congruent.

* $p < .05$.

Table 7

Mean-Level Within-Role Correlations between Role Congruity and the Dependent Variables in Study 1

	Suitability	Positive evaluation	Stress	Average rank
Athlete	.36	.40	.48	.17
Economist	.71*	.28	-.32	.85*
Pediatrician	.64*	.63†	.01	.82*
Physical therapist	.45	.51	-.07	.71*
Poet	-.10	-.15	.05	.07
Police officer	.13	-.04	-.00	.54
Politician	.45	.38	-.29	.58†
Psychiatrist	.13	.20	-.29	.00
Speech therapist	.23	.41	-.42	.43
Stockbroker	.50	.29	.23	.52

Note. $n = 10$ for all correlations.

† $p < .10$. * $p < .05$.

Table 8

Within-Group Correlations between Role Congruity and Rank in Study 1

	Mean-level	*n*	Individual-level	*n*
All targets	.51*	100	.27*	15
Healthy targets	.81*	20	.21*	10
Healthy male targets	.92*	10	.27*	5
Healthy female targets	.82*	10	.33*	5
Targets with a mental illness	.30*	80	.11*	5
Targets with depression	.65*	20	.18*	5
Male targets	.75*	10	.19	5
Female targets	.57†	10	.17	5
Targets with anxiety	.12	20	.10†	5
Male targets	.62†	10	.16	5
Female targets	.02	10	.02	5
Targets with alcoholism	.49*	20	.08	5
Male targets	.65*	10	.09	5
Female targets	.42	10	.06	5
Targets with ADHD	.46*	20	.08	5
Male targets	.69*	10	.16	5
Female targets	.09	10	-.01	5

† $p < .10$. * $p < .05$.

Figure 1. The effects of role and target disclosure for healthy male targets on average rank in Study 1.

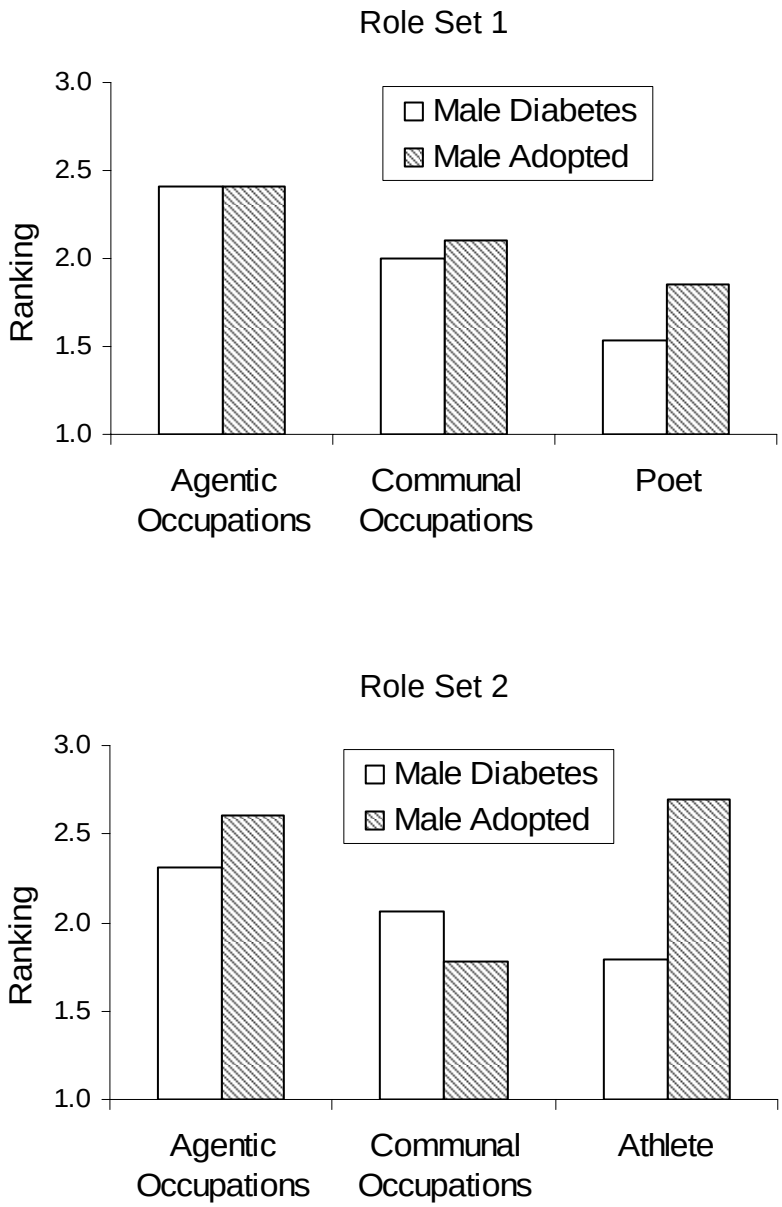


Figure 2. The effects of role and target disclosure for healthy female targets on average rank in Study 1.

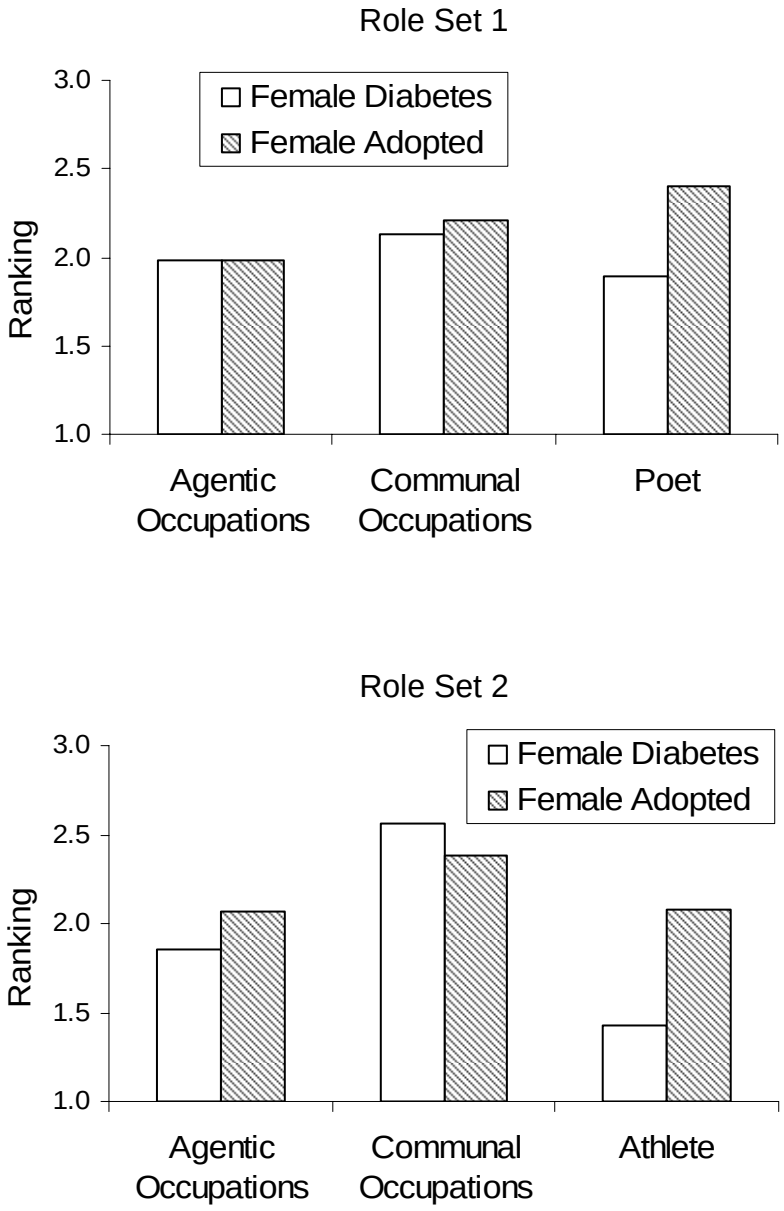


Figure 3. The effects of target sex, role, target disclosure, and role set for healthy targets on suitability in Study 1.

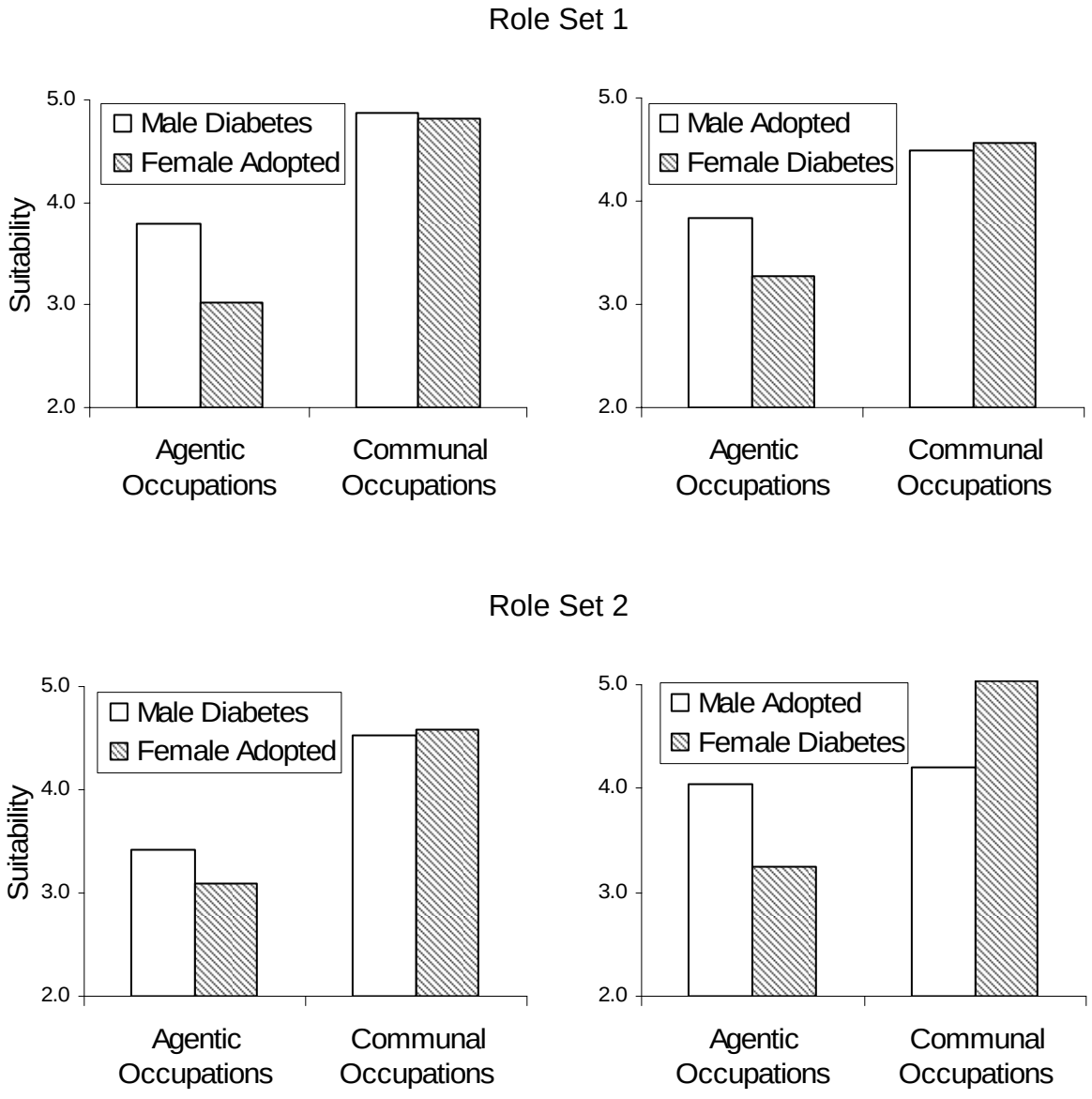


Figure 4. The effects of target sex, role, target disclosure, and role set for healthy targets on positive evaluation in Study 1.

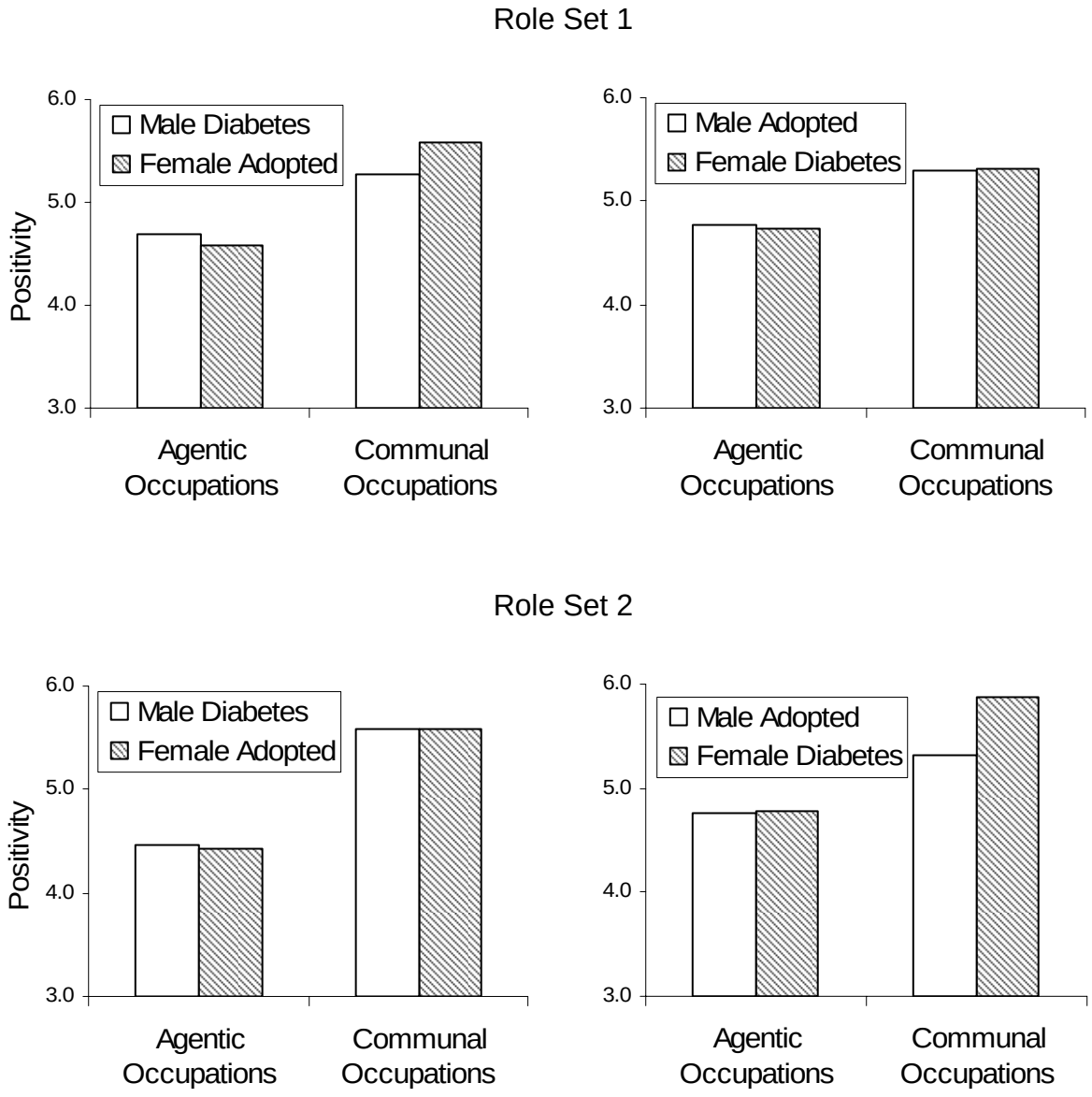


Figure 5. The effects of role and mental illness sex-type for targets with a mental illness on average rank in Study 1.

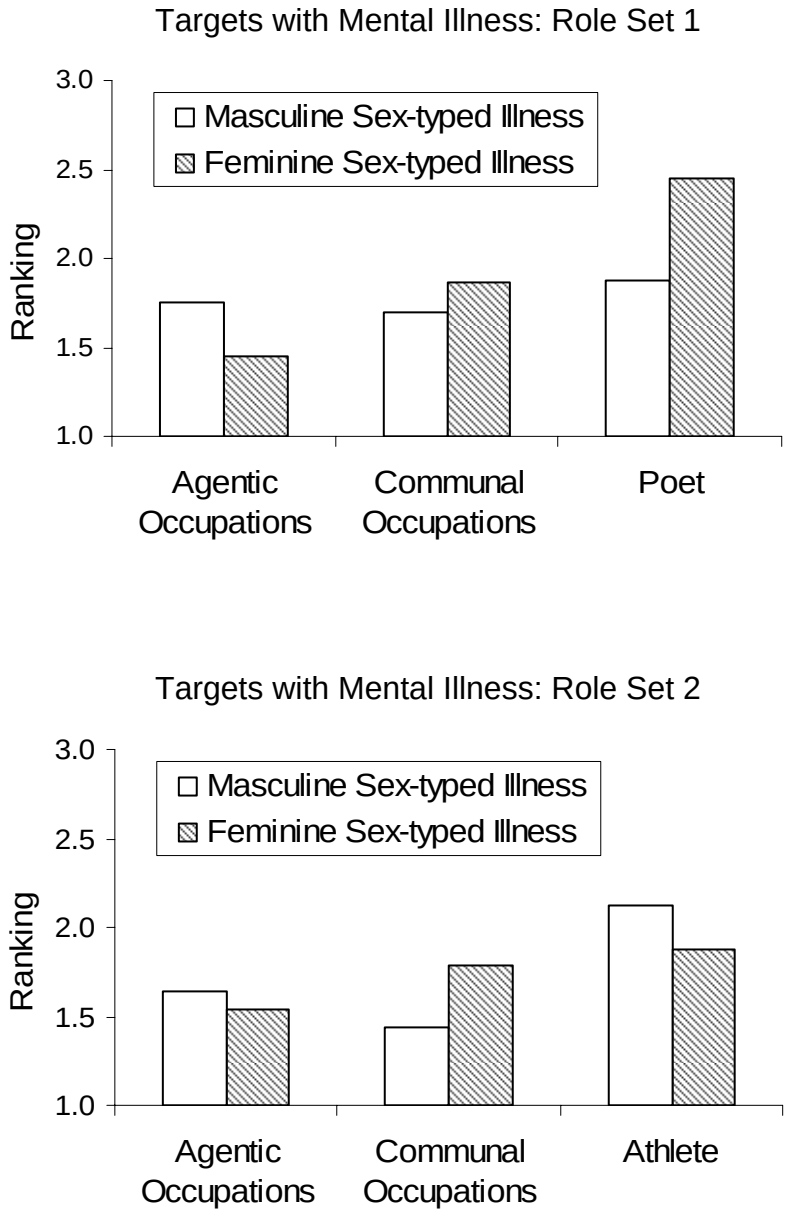


Figure 6. The effects of target sex, role description, and role on suitability in Study 2.

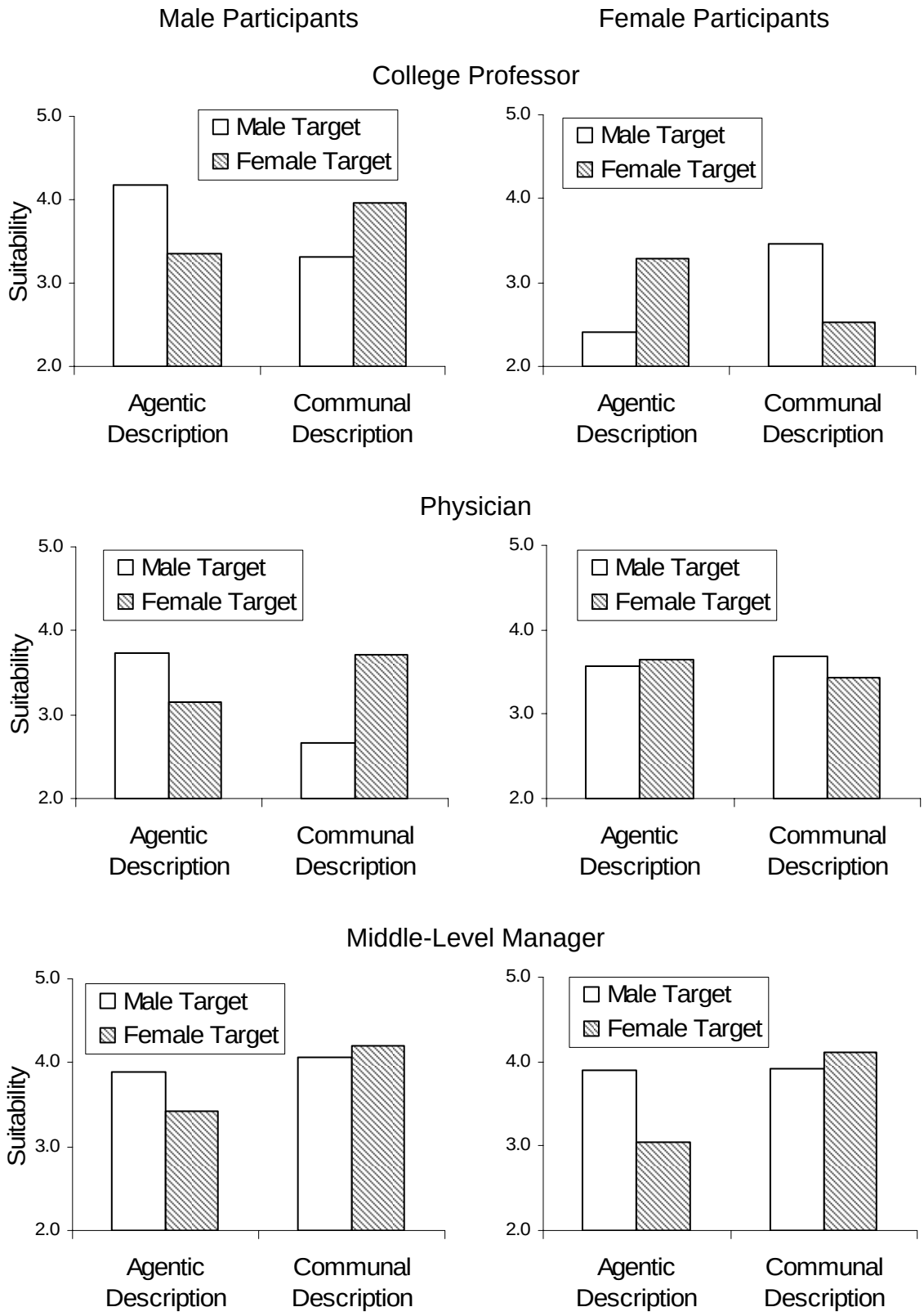


Figure 7. The effects of target sex, role description, and role on perceived stress in Study 2.

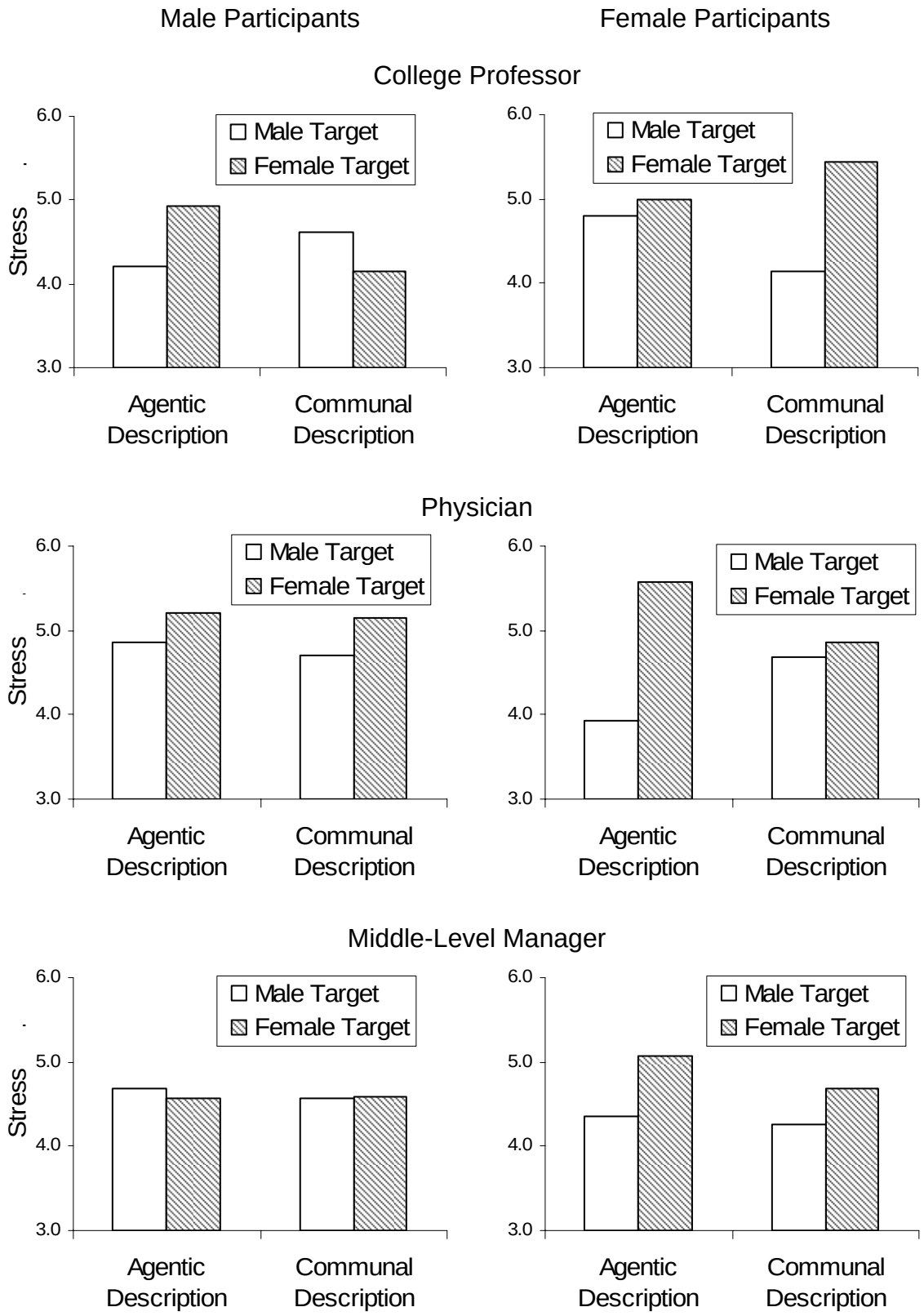


Figure 8. The effects of target sex, stereotype content prime, and role on suitability in Study 3.

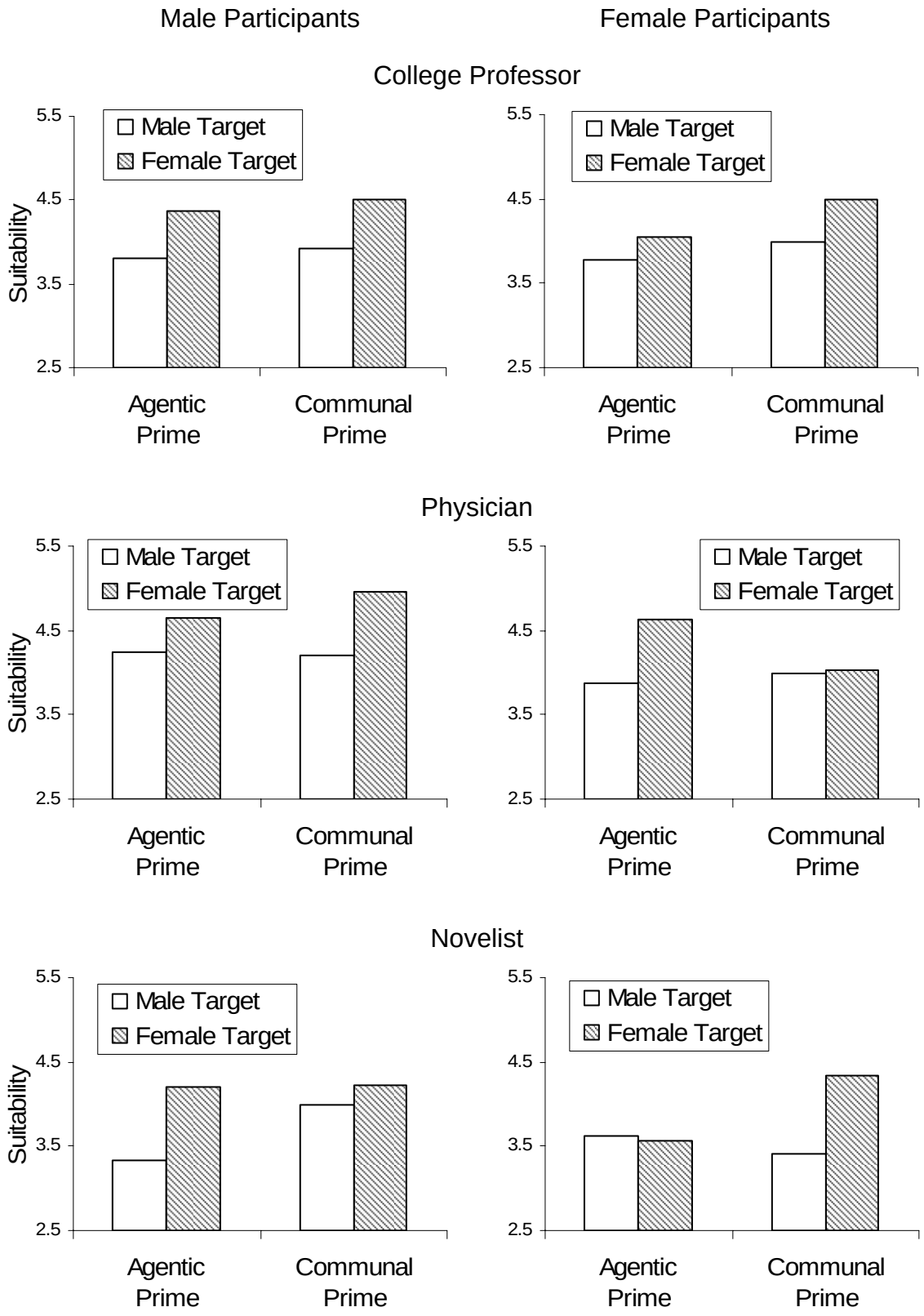


Figure 9. The effects of target sex, stereotype content prime, and role on positivity in Study 3.

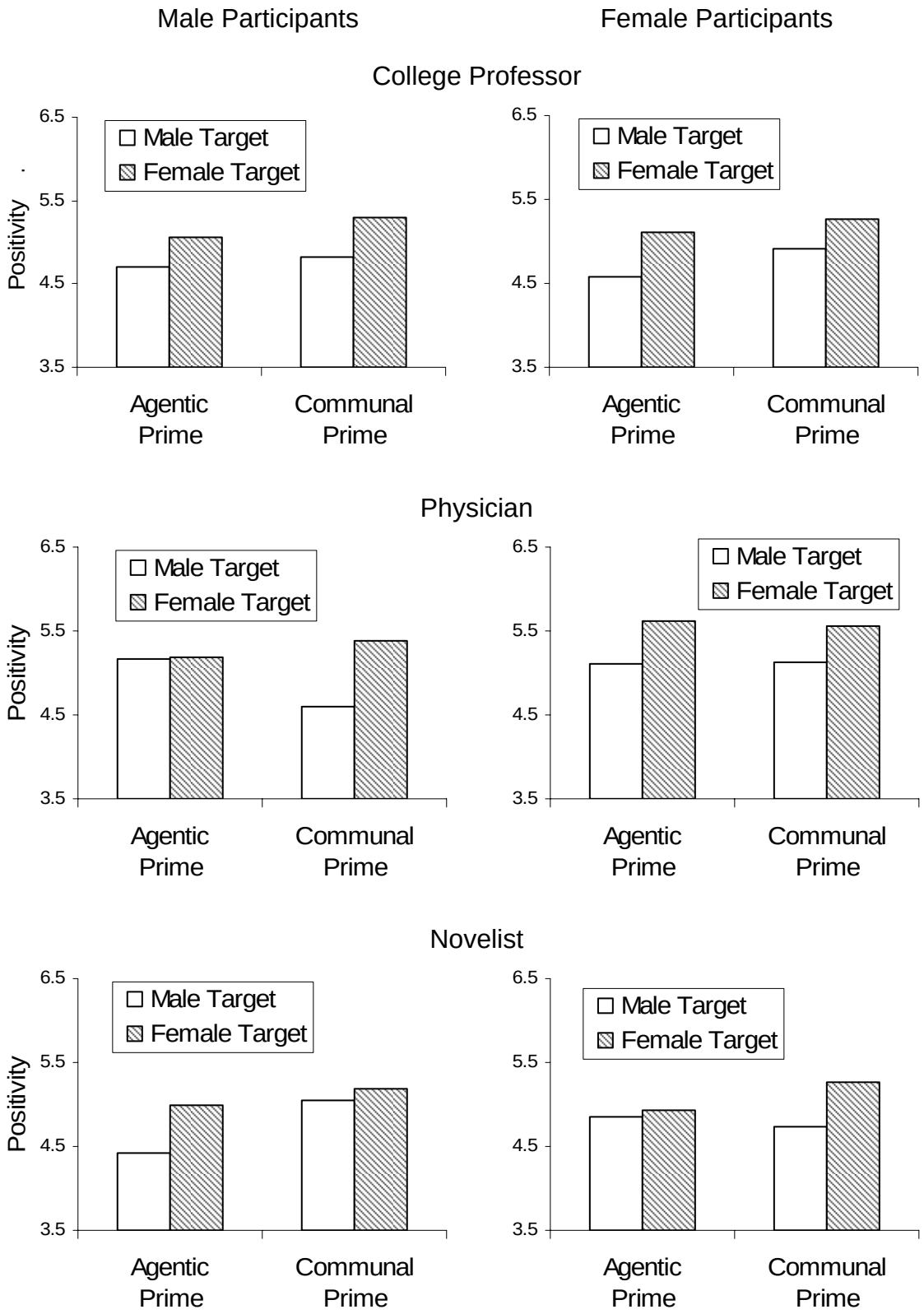
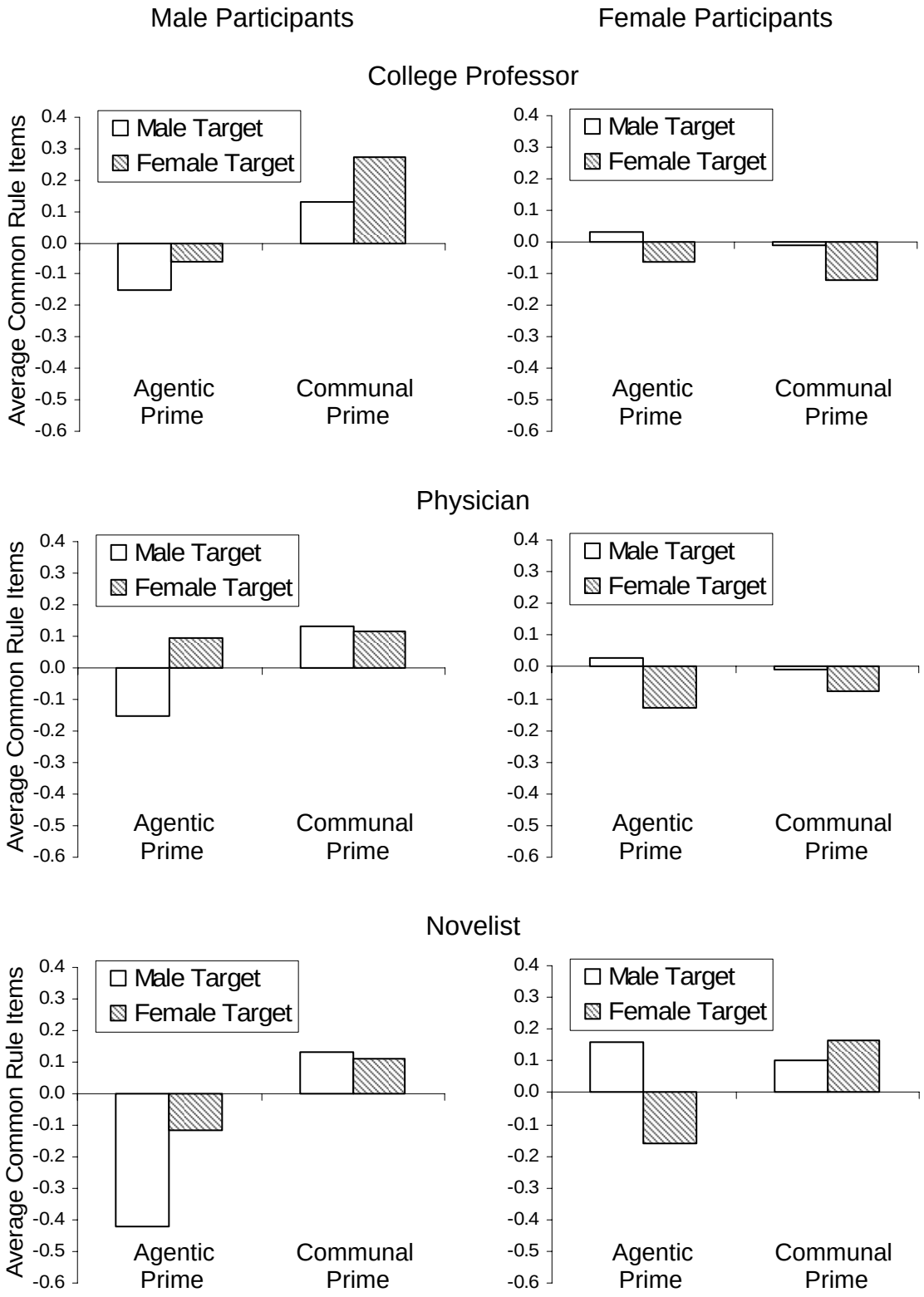


Figure 10. The effects of target sex, stereotype content prime, and role on the average common rule measure in Study 3.



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Appendix A

Disclosure Paragraphs from Study 1

ADHD:
Well, I actually had an experience last year that influenced me quite a bit. That experience was being diagnosed with ADHD (that's attention-deficit hyperactivity disorder). I just felt so unorganized and unfocused all the time, and I was constantly fidgeting and could not sit still. I always needed to be active and doing something new or I would get bored. I had a hard time paying attention for any period of time. Luckily, however, I had a couple of close friends who realized that something was wrong and eventually they convinced me to go see a psychiatrist, who diagnosed me with ADHD. I started therapy and took some drugs to help, and eventually I started to feel better. Through that experience I came to realize a lot of things about myself and how I deal with things that happen to me, and I feel like it will always be with me.

Alcohol Dependence:
Well, I actually had an experience last year that influenced me quite a bit. That experience was realizing I was becoming dependent on alcohol. I just felt so out of control of my life and needed to escape, and this made me very dependent on alcohol to be happy. I was missing out on a lot of things because of my drinking and was forgetting my responsibilities to others. Luckily, however, I had a couple of close friends who realized that I needed help and eventually they convinced me to go see a psychiatrist, who diagnosed me with alcohol dependence. I started therapy which helped, and eventually I started to recover. Through that experience I came to realize a lot of things about myself and how I deal with things that happen to me, and I feel like it will always be with me.

Anxiety Disorder:
Well, I actually had an experience last year that influenced me quite a bit. That experience was being diagnosed with anxiety disorder. I was always so nervous all the time and I was worrying constantly about things, no matter if I could change them or not, and this made me very anxious. I was very restless and always on edge. Luckily, however, I had a couple of close friends who realized that something was wrong and eventually they convinced me to go see a psychiatrist, who diagnosed me with anxiety disorder. I started therapy and took some drugs to help, and eventually I started to feel better. Through that experience I came to realize a lot of things about myself and how I deal with things that happen to me, and I feel like it will always be with me.

Depression:
Well, I actually had an experience last year that influenced me quite a bit. That experience was being diagnosed with depression. I just felt so lonely and "down" all day, and I never felt good enough. It seemed that so many things had gone wrong in my life, and this made me very unhappy. I was sleeping a lot of the time and didn't want to get out of bed or be active in any way. Luckily, however, I had a couple of close friends who realized that something was wrong and eventually they convinced me to go see a psychiatrist, who diagnosed me with depression. I started therapy and took some drugs to help, and eventually I started to feel better. Through that

experience I came to realize a lot of things about myself and how I deal with things that happen to me, and I feel like it will always be with me.

Adoption:
There is one thing that happened fairly recently that impacted my life in a major way…I just found out that I am adopted. My parents told me last summer that they adopted me from an agency, who said that my birth mom was too young to take care of me and so gave me up for adoption. My brother and sister were also adopted. This was a really strange thing to hear, even though I had been wondering about it since neither me or my siblings look like our parents or each other. But still, I didn't really expect it to be true. It really changed the way I think about myself and my parents, although of course I still love them and consider them my real family.

Diabetes:
I found out I had type I diabetes when I was 14. I always felt this made me different from other kids and from other students here, because I have to watch what I eat and check my blood sugar frequently and sometimes give myself insulin shots and all that. I don't get to eat a lot of things others take for granted and I always have to have all my equipment and supplies when I go somewhere. It just makes it hard to live a normal student life, although I'm used to being different by now. My close friends know about my diabetes and I try to educate them about it. Anyway, this influenced me as a person because it has impacted all areas of my life.

Appendix B

Vocational Counselor Instructions for Study 1

In this study you will need to role play a vocational counselor. What is a vocational counselor? Vocational counselors help students find careers and occupations that suit them and would make these students successful and happy. Vocational counselors explore and evaluate the student's education, training, work history, interests, skills, and personality traits, and arrange for aptitude and achievement tests to determine what careers would be most appropriate for the student. They also work with individuals to develop their job search skills, and they assist people in locating and applying for jobs.

Please keep in mind that counselors help students evaluate their personality characteristics, interests, and abilities in order to develop realistic academic and career goals. Of course, most people are better qualified for some occupations than other occupations. Not everyone is well-suited to be a doctor or lawyer, for example, or would happy being a doctor or lawyer. Vocational counselors help students determine what occupations they would be successful and happy in.

In this study, your job is to try and think like a vocational counselor. That is, you need to pick the jobs that individual students would be good at in order to direct them to occupations where they would be successful and happy. This task involves reading some information about each student and then rating how well that student would do in a variety of occupations. We are also testing out some new measures that may help vocational counselors do their job well.

We are also interested in assessing the impact of the amount of information available on career counselors' decisions. We want to know how much information vocational counselors should have about students before they can make accurate decisions. Thus, we may purposefully give you very little, moderate, or large amounts of information about each student, but regardless of the amount of information you are given you should still play the role of a vocational counselor using this information.

The information you will receive about each student consists of sections of their personal response sheet written when they attended a vocational counselor's office at a university in Illinois. The students were photographed for their file and they filled out a computerized form that involved a few questions to help the counselor get to know the student. The responses were written very informally--the students were not given a lot of time but were told to just write a few sentences and to include enough information for other people to get a sense of who they are.

The folder by your computer contains excerpts of these personal response sheets for several students. The response to one question and the students' picture was cut and pasted into these sheets. When prompted, you should read the personal response sheet for each student in order to answer some questions about the student's likely job prospects. This folder also contains a sheet with descriptions of the occupations that will be used in this task. Feel free to read these descriptions if you aren't familiar with an occupation.

Appendix C

Example Personal Response Sheet from Study 1

Personal Response Sheet

Karen

Question excerpt:

Q: “Describe an event that influenced you as a person.”

I found out I had type I diabetes when I was 14. I always felt this made me different from other kids and from other students here, because I have to watch what I eat and check my blood sugar frequently and sometimes give myself insulin shots and all that. I don’t get to eat a lot of things others take for granted and I always have to have all my equipment and supplies when I go somewhere. It just makes it hard to live a normal student life, although I’m used to being different by now. My close friends know about my diabetes and I try to educate them about it. Anyway, this influenced me as a person because it has impacted all areas of my life.

Appendix D

Targets from Study 3

Applicant #: 15298
Name: Karen Davis
Age: 22
GPA: 3.69
Hometown: San Diego, CA

Applicant #: 18431
Name: Michelle Moore
Age: 23
GPA: 3.71
Hometown: Phoenix, AZ

Applicant #: 17955
Name: Dan Wilson
Age: 23
GPA: 3.65
Hometown: Dallas, TX

Applicant #: 13528
Name: Brian Miller
Age: 22
GPA: 3.67
Hometown: Philadelphia, PA

Appendix E

Sentence Primes from Study 3

Agentic Prime
Amy always eats ice cream for dessert after dinner.
Mark loves to participate in extreme sports like skydiving.
Jason cut off another driver when changing lanes on the interstate.

Nonagentic Prime
Paul has an office on the 16th floor of a building.
Allison backed down from her position during a debate in class.
Erica plays basketball just to have fun and doesn't care if she wins.

Communal Prime
Andrew commutes half an hour to get to work.
Sarah hugged and comforted a sad friend.
Megan helped her neighbours by walking their dog while they were away on vacation.

Noncommunal Prime
Leah hates broccoli but loves spinach.
Ryan didn't visit a friend in the hospital because he didn't want to miss work.
Eric forgot to call his mom on her birthday.