

2015

Warmth and Competence Perceptions of Female Job Candidates: Who Gets Hired?

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Recommended Citation

Campbell, Laura E., "Warmth and Competence Perceptions of Female Job Candidates: Who Gets Hired?" (2015). *CMC Senior Theses*. Paper 1186.
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Claremont McKenna College

Warmth and Competence Perceptions of Female Job Candidates: Who Gets Hired?

submitted to

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and

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by

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for

Senior Thesis

Spring 2015

April 27, 2015

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Who Gets Hired?

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Author Note

The author would like to thank Dr. Shana Levin for her constant support and mentorship, and for challenging her to push herself throughout this process. She would also like to thank her family and friends for their unconditional love and support.

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Abstract

This study explores how warmth and competence perceptions affect hireability of a female job candidate. The mixed model of stereotype content identifies warmth and competence as the two basic dimensions of person-perception, and research has shown a compensatory relationship between these two dimensions, especially for women. This study explores this compensatory effect for women in a hiring situation. Two samples, one of college students ($n = 301$) and another of MTurk participants ($n = 256$), read a description of a female job candidate of either high or low competence and either high, low, or no mention of warmth, and then rated her hireability. Candidates had the greatest hireability when high in competence, and competence had a greater effect on hireability than warmth. Warmth and competence perceptions were positively related, reflecting a halo effect, such that higher warmth was inferred from higher competence. Implications for hiring decisions of female professionals are discussed.

In the past 60 years, the number of women in the workforce has increased dramatically, giving rise to discourse surrounding hiring discrimination and wage inequality in the US. Women now make up 47% of the workforce as opposed to only 30% in 1950 (Bureau of Labor Statistics, Current Population Survey), and data suggest that women are still facing both overt and subtle inequality in the workplace. For every dollar men make, women make 78 cents, a gender wage gap of 22% (Institute for Women's Policy Research), even though women are earning post-secondary degrees at a faster rate than men. While some portion of this gap may be the result of women's professional decisions, job preference, and socio-economic factors, a large portion of the wage gap remains unexplained by these factors, indicating that some women still face employment discrimination. A study done by the American Association of University Women, for example found that even when controlling for factors like years of experience, marital status, and GPA, there was still an observable difference in earnings between women and men in the same job.

Furthermore, the unemployment rate is higher for women than men at all education levels, though the gap decreases as women gain higher levels of education. Of the women who are employed, the majority work in traditionally female-oriented positions (e.g. teachers, nurses) as opposed to higher-paying, traditionally male-oriented positions, and the glass ceiling still prevents women from rising in the ranks of an organization. Management, for example, is a field where there is still a significant gender disparity, with women holding only 39% of managerial positions today (U.S. Department of Labor, 2013).

Understanding the factors that may contribute to this disparity is an important step in fostering equality for women in the workplace and society at large. While a significant amount of psychological research has been devoted to the study of attitudes toward women and the prevalence of stereotyping and gender discrimination, there has been limited research on how these factors play out in the workplace, specifically in a hiring situation. This may be due to the highly subjective and ambiguous nature of hiring decisions, the difficulty of assessing the subconscious processes that may underlie discrimination, and the lack of field data on who actually gets hired, who doesn't, and why. Consequently, hiring decisions are one of the least understood aspects of inequality in the workplace (Peterson & Togstad, 2004). The present study aims to address these gaps in the literature by exploring the role that social perceptions, namely the two fundamental dimensions of warmth and competence, play in hiring decisions for female job candidates.

Dimensions of Person-Perception

The two-dimensional model of person-perception was first proposed by Asch (1946) and later formalized by Rosenberg, Nelson, and Vivekananthan (1968). The model proposed that perceptions of others are categorized into two dimensions: intellectual good/bad and social good/bad. Further research on the dimensionality of social perceptions led to the development of the Mixed Model of Stereotype Content by Fiske, Cuddy, Glick, and Xu (2002), which applied Rosenberg et al.'s two dimensions to perceptions of groups, specifically in regards to stereotypes of out-groups. Fiske et al. renamed the two dimensions as competence and warmth, but the underlying concepts were nearly identical to those proposed by Rosenberg and his colleagues. As defined by

Fiske et al., warmth is the degree to which one harms or benefits in-group goals (relationally-oriented) while competence is the degree to which one effectively pursues goals (task-oriented). Structural origins for the two dimensions come from the historical necessity to form quick judgments of others. To survive, individuals had to determine whether others intended to help or hurt them (warmth), and assess others' ability to enact those intentions (competence). Further research has validated the existence of these two dimensions of person perception and ruled out the possibility of others.

Relationship Between Warmth and Competence

While there is little dispute regarding the existence and general concepts of these two dimensions of person perception, research findings on the relationship between the two dimensions has been less concrete. While initial research found a positive relationship between the two dimensions (Rosenberg et al., 1968), most of the current research has supported a negative relationship (Cuddy, Fiske, & Glick, 2004; Fiske et al., 1999, 2002; Glick & Fiske, 2001; Yzerbyt, Provost, & Corneille, 2005). This discrepancy has generally been attributed to differences in the targets of judgment. In general, a positive relationship between warmth and competence has been found when targets are traits or individuals, while a negative relationship has been found when groups or cultures are the targets (Judd, James-Hawkins, Yzerbyt & Kashima, 2005).

Halo Effect. The initial study on person-perception done by Rosenberg et al. (1968) found a significant positive correlation between the dimensions of intellectual good/bad and social good/bad when the target of judgment was an individual. The finding suggested that warmth and competence perceptions were characterized by a “halo

effect”- the belief that individuals who possess more positive qualities on one dimension must also possess more positive qualities on the other dimension.

Compensation Effect. The literature on group perceptions, however, tells a different story. Contrary to Rosenberg et al.’s finding, Fiske, Xu, Cuddy, and Glick (1999) found that warmth and competence had a negative relationship when the target of judgment was a group. They surveyed students about perceptions of various social groups, asking participants to rate the groups on a list of adjectives, once for how society viewed the group, and once for their own perceptions of the group. Both sets of responses showed a strong negative relationship between perceptions of warmth and competence and a tendency to stereotype groups ambivalently (high on one dimension and low on the other). Out of the 17 groups presented, six groups (rich people, feminists, businesswomen, Asians, Jews, and Northerners) were perceived to be cold but competent. Seven groups (retarded people, housewives, disabled people, blind people, house cleaners, migrant workers, and welfare recipients) were perceived to be warm but incompetent. The other four groups (Latinos, Blacks, gay men, and Southerners) were not perceived as significantly high or low on either dimension, falling somewhere in the middle. It was suggested that the effect for these four groups was perhaps not found because the groups were too broad, thus any compensation effect could have been cancelled out by opposing perceptions of each target’s respective subgroups. For example, while the study used subgroups for most of the targets (e.g., businesswomen, feminists, and housewives instead of just “women”) in order to avoid a cancellation effect, it failed to do so for these four groups. Based on these findings, Fiske et al. proposed that the majority of group stereotypes have a mixed valence nature, reflecting

positive values on one dimension but negative on the other. The findings led to the development of the Mixed Model of Stereotype Content (Fiske, Cuddy, Glick, & Xu, 2002), which proposed the existence of two general clusters of groups in society: one perceived as incompetent but warm and the other perceived as competent but cold.

A subsequent study by Judd et al. (2005) attempted to determine what the correlation between warmth and competence perceptions was in a more systematic fashion, using an experimental context rather than a descriptive one. To do so, they manipulated one dimension while leaving the other ambiguous, and used both individual and group targets to assess whether the differences found in the relationship between warmth and competence perceptions could be attributed to differences in the targets of judgment. Interestingly, they found that the negative relationship between warmth and competence existed only under certain circumstances. When two groups or individuals were judged comparatively, there was a compensatory effect such that the one judged more positively on one dimension was judged more negatively on the other. Judd et al. suggested that comparison of two targets of judgment was thus necessary for the compensatory effect to be found because the compensation effect is inherently comparative, involving ambivalent judgments of one target as higher on one dimension and the other as higher on the other dimension. Judd et al. found that, by contrast, when a single social group or individual was being judged, there was a positive relationship between the two dimensions. This evidence supports Rosenberg et al.'s finding of a halo effect, but extends the scope of it to judgments of groups as well as individuals, provided there is not a direct comparison of targets being made. Furthermore, Judd et al. suggested that past literature may have found a compensatory effect for group perceptions because,

as the group-stereotyping literature would suggest, there are often spontaneous standards of comparison that exist for many social groups, and thus the compensatory effect may be activated even when the comparison is not explicit. For example, social groups such as housewives carry implicit comparisons to professional women, just as Republicans carry implicit comparisons to Democrats. These spontaneous comparisons may then trigger the compensatory effect for warmth and competence perceptions, even when single individuals or groups are being judged, so long as the target of judgment belongs to a social group that carries implicit comparisons.

Additionally, the compensatory effect that Judd et al. found in comparisons of groups and individuals was stronger when competence was manipulated and warmth was ambiguous than when warmth was manipulated and competence was ambiguous. They explained this effect as a product of Western culture's tendency to value competence over warmth. In the current study, we examine this compensatory effect in the context of decisions to hire an individual female job candidate, who is not presented in direct comparison to another target. We manipulate both competence and warmth perceptions, offering an ambiguous warmth condition in which no information is given about warmth. In line with Judd et al., we hypothesized that because the target is being judged individually and not in comparison to another candidate, perceived warmth would be inferred from competence in a compensatory manner when no information was given about warmth, and the lower perceived warmth of female job candidates high in competence would undermine their hireability.

More recently, Yzerbyt, Kervyn, and Judd (2008) found evidence that the compensation effect not only exists, but is unique to the two fundamental dimensions of

warmth and competence, and does not apply to other unrelated dimensions, such as healthiness, for example. They concluded that the compensation effect is not just a cognitive strategy that people use when making judgments on any two dimensions, but rather it is unique to the dimensions of warm and competence. Furthermore, Holoien & Fiske (2013) recently found that the compensatory relationship between warmth and competence extends to impression management, such that individuals will downplay their competence when they want to appear warm, and downplay their warmth when they want to appear competent. In their study, participants were instructed to write an e-mail to a book club they recently joined describing their thoughts about a book the group had recently read. The book club was described as either valuing warmth and friendliness highly or valuing intelligence and competence highly. Participants told that the book club valued warmth and friendliness chose words that conveyed higher warmth and lower competence than those in the control condition. Those told that the book club valued intelligence and competence highly chose words conveying higher competence and lower warmth than the control group. The findings suggest that the tradeoff between warmth and competence is not just a strategy used to judge others, but one used to manage self-image as well.

Implications for Women

In addition to proposing a primarily compensatory nature of warmth and competence judgments for social groups, Fiske's Mixed Model of Stereotype Content further argues that each combination of warmth and competence levels elicits a distinct emotion (pity, envy, admiration, contempt). For example, out-groups seen as high in competence but low in warmth elicit envy, while those seen as high in warmth but low in

competence elicit pity. Admiration is reserved for in-groups, seen as high in both competence and warmth, and contempt is reserved for extreme out-groups, viewed as low in both competence and warmth, such as the homeless. Fiske et al.'s finding that the majority of out-groups are placed in the two mixed valence categories of warmth and competence (high warmth/low competence or low warmth/high competence) has been found to be especially true for female out-groups (e.g., female professionals and housewives). A study by Bridges, Etaugh, & Barnes-Farrell (2002), for example, found that women are usually stereotyped ambivalently as falling into one of two categories: traditional women such as homemakers, who are seen as warm but incompetent, or nontraditional women such as female professionals, who are seen as competent but cold.

To examine the implications of these ambivalent stereotypes of women in a practical context, Cuddy et al. (2004) looked at the effect of motherhood on a female consultant's perceived warmth and competence, and the effect this had on subsequent professional outcomes measured by intent to hire, promote, and train. They found that female professionals with children, who would seemingly be high in both warmth and competence, were perceived as higher in warmth but lower in competence than both female professionals without children and male professionals with children, and were subsequently less likely to be hired, promoted, and trained. Furthermore, neither of the professional women (mother or non-mother) were rated as high on both warmth and competence dimensions: the working mother was seen as more warm than competent, and the working non-mother was seen as more competent than warm. These findings suggest that there is a compensatory relationship between warmth and competence perceptions that causes women to be judged ambivalently, as either warm or competent,

but not both. Furthermore, the compensatory nature of the perceptions is so strong that merely gaining warmth causes a loss of competence great enough to impact willingness to hire, promote, and train female professionals. This loss of competence hurts women significantly more than the gain of perceived warmth helps them, suggesting that competence perceptions are a much stronger predictor of favorable professional outcomes for women than are warmth perceptions. Based on these findings, in the current study of hireability at a large consulting firm, we expect to find that both competence and warmth will positively predict the hireability of a female job candidate, but competence will be a more important factor than warmth because the job is one that requires high competence. The effect of competence will thus moderate the effect of warmth on hireability. When competence is high, we expect the effect of warmth to be weaker because the candidate will be seen as hireable regardless of warmth. Once high in competence, information about her warmth will not be strong enough to affect her high level of hireability, and the participant will place less weight on warmth perceptions. Moderate levels of competence, on the other hand, will not be high enough to sufficiently justify hireability, and therefore the participant will rely on warmth perceptions to aid in judgment, reflecting a greater effect of warmth on hireability in this condition. Put simply, when competence is moderate as opposed to high, we expect that the participant will place more weight on the warmth of the candidate in an attempt to look for other factors to make up for her lack of competence.

Ambivalent Sexism

One construct that has been used to explain the prevalence of the compensatory effect in judgments of women in particular is the concept of ambivalent sexism, which

was first proposed by Glick and Fiske in 1996. They argued that prejudice against women has two prongs: hostile attitudes toward nontraditional women and benevolent attitudes toward traditional women. Hostile sexism is characterized by the belief that women are competent and cold, thus threatening men. It is composed of dominative paternalism (belief that women need to support men), competitive gender differentiation (belief that women should not be more successful than men), and heterosexual hostility (belief that women are sexual teases). Benevolent sexism is characterized by the belief that women are warm but incompetent, thus needing protection and resources from men. It is composed of protective paternalism (belief that men should help women in times of need), complementary gender differentiation (belief that women are purer than men), and heterosexual intimacy (belief that people are not happy unless they are romantically involved with someone of other sex). While hostile sexism captures negative attitudes toward non-traditional women, benevolent sexism reflects positive attitudes toward traditional women. The two constructs are positively correlated, explaining why sexist individuals can hold ambivalent attitudes toward women without experiencing internal conflict because they divide women into favored groups (warm but incompetent women who fulfill traditional roles) and disliked out-groups (competent but cold women who challenge traditional male needs/desires). Furthermore, women are judged in a compensatory way in order to maintain the status quo. Women are placed into two categories: the traditional housewife, who is incompetent but warm, or the nontraditional female professional, who is competent but cold. By placing women into these two ambivalently stereotyped out-groups, and responding with paternalistic and envious prejudice, respectively, other groups can defend their position in society. Envious

stereotypes of female professionals and paternalistic stereotypes of housewives thus function to keep women from ever reaching the status of a societal in-group (high on both dimensions) and thus reducing their threat.

Based on these findings, we hypothesized that ambivalent sexism would moderate the effect that warmth and competence perceptions had on hiring decisions for female job candidates. We predict that higher levels of ambivalent sexism will lead to lower hireability in general because the sexist individuals will believe a woman is not fit for an agentic job at a consulting firm, but rather belongs in the home, and therefore will be less likely to hire her than individuals low in sexism. Furthermore, we expect that individuals higher in ambivalent sexism will show a greater compensation effect because, by definition, they will hold ambivalent stereotypes of women, which activate the compensation effect.

Present Research

In two studies, we examine the effect of warmth and competence perceptions on the hireability of a female job candidate. Although previous research has not specifically addressed hireability of candidates whose warmth is ambiguous, work on the compensatory nature of warmth and competence perceptions of females suggests that not mentioning warmth will cause the participant to infer it from competence in a negative manner when the target of judgment belongs to a group carrying implicit comparisons, such as women (Judd et al, 2005). Specifically, we expect there to be an inferred lack of perceived warmth when warmth is not mentioned and competence is high because of the compensatory effect. This perceived warmth may then influence rating of hireability. In other words, when candidate warmth is not mentioned, participants may rely on

competence information to make inferences about warmth, and this perceived warmth might play a role in their subsequent rating of candidate hireability.

Two studies were conducted using two different samples, first a student sample and then a sample from Amazon Mechanical Turk (MTurk). The two different samples were chosen in an attempt to assess differences between the attitudes and perceptions of students, who represent the future of the workforce and hiring decisions, and people currently in the workforce who may have more experience making hiring decisions and represent the current job landscape women face. We also added a measure of ambivalent sexism in the second study and not the first because it was expected that the student sample from the Claremont Colleges would not demonstrate significant amounts of ambivalent sexism, while the MTurk participants' broader range of age and demographics may reveal higher levels of ambivalent sexism.

Experiment 1 and 2 Hypotheses.

Hypothesis 1. It is hypothesized that when information about both the warmth and competence of a female job candidate is explicit, higher competence candidates will be rated as more hireable than moderately competent candidates and higher warmth candidates will be rated as more hireable than moderately warm candidates. Competence will be more important than warmth because the job the candidate is applying for is at a large consulting firm, a context that has been shown in the literature to value competence more than warmth. Furthermore, it is hypothesized that the effect of warmth will be weaker when competence is high than when competence is moderate because the high level of competence will validate hireability and thus negate the already weaker effect of warmth.

Hypothesis 2. It is hypothesized that when warmth information is not explicit, candidate hireability will fall somewhere between that of the moderately warm and highly warm candidates. Furthermore, it is hypothesized that the effect of warmth will depend on competence such that the candidate described as high in both competence and warmth will be rated as most hireable, and the candidate described as moderate in both competence and warmth will be rated as least hireable. It is hypothesized that there will be no difference in hireability of the highly competent/moderately warm candidate and the highly competent/no mention warmth candidate, nor between the moderately competent/highly warm candidate and the moderately competent/no mention warmth candidate, reflecting the proposed compensation effect.

Hypothesis 3. It is hypothesized that the interaction between warmth and competence on hireability will be mediated by perceived warmth. The warmth and competence manipulations will have both main effects and an interaction effect on perceived warmth. As one could expect, highly warm candidates will be perceived as higher in warmth than moderately warm candidates, and no mention warmth candidates will fall in the middle. Additionally, moderately competent candidates will be perceived as higher in warmth than highly competent candidates, reflecting the compensatory nature between warmth and competence perceptions. An interaction between competence and warmth is also hypothesized, such that there will be no effect of competence on perceived warmth when warmth is explicitly described as either moderate or high, but when warmth is not mentioned, the moderately competent candidate will have greater perceived warmth than the highly competent candidate. Consistent with the notion of mediated moderation,

perceived warmth will predict hireability and the interaction effect of warmth and competence on hireability will be mediated by perceived warmth.

Additional Hypotheses for Experiment 2.

Hypothesis 4. It is hypothesized that ambivalent sexism will play a role in ratings of candidate hireability for the MTurk sample. Hireability is expected to be higher when sexism is low as opposed to high. Furthermore, a 3-way interaction between warmth, competence, and ambivalent sexism on hireability is hypothesized such that, when warmth is not mentioned, the effect of competence on hireability will be greater for low sexism than high sexism: those higher in sexism will rate highly competent female job candidates as less hireable, and moderately competent candidates as more hireable, compared to those lower in sexism.

Hypothesis 5. It is hypothesized that ambivalent sexism will also play a role in perceptions of candidate warmth for the MTurk sample. Perceived warmth is expected to be higher when sexism is low as opposed to high. Furthermore, a 3-way interaction between warmth, competence, and ambivalent sexism on perceived warmth is hypothesized such that, when warmth is not mentioned, the effect of competence on perceived warmth will be greater for high sexism than low sexism: those higher in sexism will perceive highly competent female job candidates as lower in warmth and moderately competent candidates as greater in warmth, compared to those lower in sexism.

EXPERIMENT 1

The first study examined the research question in a sample of college students in order to assess the attitudes and beliefs that may play a role in hiring decisions for the next generation of professionals and leaders.

Method

Participants

This study had a total of 308 respondents. Seven responses were excluded from the analysis due to failure to answer all questions, leaving 301 to be used in the analysis. Participants were undergraduate students enrolled in lower-level psychology courses at the Claremont Colleges, and received 0.5 credits toward their research participation grade for completion of the study. Participants were informed that the study involved research on the effects of candidate descriptions on hiring decisions, and that they would read a short description of a candidate and then answer a questionnaire.

This study's sample ($N = 301$) had a mean age of 19.67 years ($SD = 1.33$); men were 40.5% and women were 59.5% of participants. There were 52.2% who reported race as White/Caucasian, 29.2% as Asian/Asian American, 7% as Latino/Hispanic, 6.3% as other, and 5.3% as African American/Black. Participants were 34.7% sophomores, 27% freshmen, 20.7% juniors, and 17.7% seniors. Participants spent an average of 8 minutes on the survey.

Design and Procedure

A 2×3 between-subjects factorial design was used with independent variables of competence (moderate or high) and warmth (no mention, moderate, or high). The dependent variables were perceived warmth and hireability of a female job applicant.

Participants were directed to assume the role of a recruiter at a large consulting firm who was in charge of hiring decisions. Next, participants were randomly assigned to read one of six descriptions of a potential job candidate in the form of a review from a previous employer, which varied on levels of warmth (no mention, moderate, high) and

competence (moderate, high). As a manipulation check (and assessment of a potential mediator in the case of perceived warmth), respondents completed the perceived warmth and competence scales immediately after reading the description. Next, they completed the six-item hireability scale, and answered demographic questions such as gender, age, race, year in school, and college.

Materials

Candidate Descriptions. There were six versions of candidate descriptions in the form of a review by a previous employer (See Appendix A). The descriptions corresponded to the six combinations of the two independent variables, competence and warmth. The six distinct employer reviews were created using descriptions of behaviors shown to indicate different levels of warmth and competence by Judd et al. (2005). All candidates described were women. Job candidate descriptions were coded based on levels of manipulated IVs of warmth and competence, using a 1 for the moderate conditions and a 2 for the high conditions, with 0 representing the no mention condition (applicable only for warmth).

Competence and Warmth. The Fiske et al. (2002) warmth and competence scales were used both as manipulation checks and, in the case of perceived warmth, as potential mediators (See Appendix B). Participants rated the candidate on six competence traits (competent, confident, capable, efficient, intelligent, skillful) and six warmth traits (friendly, well-intentioned, trustworthy, warm, good natured, sincere) using a 7-point scale ranging from 1 (*Not at all*) to 7 (*Extremely*). Item order was randomized using a random number generator, and the same order appeared for all participants. Mean competence ($\alpha = .92$) and warmth ($\alpha = .91$) scores were calculated.

Hireability. Hireability was measured as a combination of applicant favorability and willingness to hire. Applicant favorability was assessed using three items from the Hiring Decision Scale (HDS; Nadler & Kufahl, 2014) on which participants indicated the degree to which they agree that (1) the candidate is a good match for the job, (2) the candidate appears to be very qualified for the job, and (3) overall, they would evaluate this candidate positively (1 = *Strongly disagree*, 7 = *Strongly agree*). Willingness to hire was assessed using three items on which participants indicated the probability that (1) the applicant would be hired for the job, (2) they would interview the applicant for the job, and (3) they would personally hire the applicant for the job (1 = *Not at all likely*, 7 = *Extremely likely*; Rudman & Glick, 2001). The three Applicant Favorability items, in the order above, appeared before the three Willingness to Hire items, in the order above. These items were averaged to form the hireability index ($\alpha = .95$) used as the dependent variable (See Appendix C).

Results

Overview

Preliminary analyses consisted of factor and reliability analyses of all scales used, manipulation checks of warmth and competence conditions, and significance tests for possible demographic covariates. Two 2 x 3 ANOVAs were then conducted to test the first three hypotheses. Means, standard deviations, and reliability indexes for each of the dependent measures are shown in Table 1.

Table 1

Means, Standard Deviations, and Reliability Indexes of Perceived Warmth,

Perceived Competence, and Hireability Scales in Experiment 1

	<i>M</i>	<i>SD</i>	<i>α</i>
Perceived Warmth	4.87	1.15	.91
Perceived Competence	5.05	1.01	.92
Hireability	4.98	1.26	.95

Note. All variables were measured on a 1-7 scale with higher numbers indicating greater levels of the constructs.

Factor Analyses

Principal axis factoring was carried out on all scales used in the analysis to assess dimensionality of the data. Number of factors extracted was decided based on eigenvalues, cumulated variance, and inspection of the scree plot. For the six perceived warmth items, one factor was suggested, accounting for 64% of the variance. For the six perceived competence items, one factor was suggested, accounting for 70% of the variance. A factor analysis of the 12 items together suggested two factors, warmth and competence, which had a correlation of .40 and explained 72.8% of the variance cumulatively. Analysis of the six hireability items suggested only one factor, which accounted for 77% of the variance.

Manipulation Checks

Manipulation checks of warmth and competence conditions presented in the candidate descriptions indicated that the manipulations were effective. A one-way analysis of variance (ANOVA) showed a significant effect of warmth on perceived

warmth, $F(2, 298) = 104.53, p < .001$. Pairwise comparisons indicated that participants in the high warmth condition ($M = 5.80, SD = .64$) perceived the job candidate to be significantly higher in warmth than participants in the no mention condition ($M = 4.77, SD = .96$), $p < .001$, who in turn perceived the job candidate to be significantly higher in warmth than participants in the moderate warmth condition ($M = 4.01, SD = 1.02$), $p < .001$. An independent samples t-test showed a significantly higher level of perceived competence in the high competence condition ($M = 5.76, SD = .79$) than the moderate competence condition ($M = 4.41, SD = .71$), $t(299) = -15.46, p < .001$.

Demographic Factors

Preliminary analyses were carried out to assess whether any demographic factors needed to be included as covariates in the main analyses. There was no significant difference in judgments of hireability by male versus female participants, $t(299) = -.51, p > .05$. Participant age was not a significant predictor of hireability judgment ($p > .05$). Participant ethnicity was not significantly related to judgment of hireability, $F(4, 296) = .40, p > .05$, nor was participants' school, $F(4, 296) = 1.49, p > .05$, nor participant's grade in school, $F(3, 296) = 2.38, p > .05$. Based on these analyses, the demographic variables of gender, age, ethnicity, school, and grade in school were not included as covariates in the main analysis.

Hireability

To test hypothesis 1, a 2 (competence condition: moderate or high) x 3 (warmth condition: no mention, moderate, or high) between-subjects ANOVA was conducted on the outcome variable of hireability. The simple 2 (competence condition: moderate or high) x 2 (warmth condition: moderate or high) interaction was examined. The no

mention warmth condition was excluded in this analysis in order to confirm the baseline effect of competence and warmth conditions on hireability proposed by prior research, which did not examine the relationship when warmth was ambiguous. In support of hypothesis 1, there was a significant main effect of competence on hireability, such that highly competent candidates ($M = 5.80$, $SD = .91$) were rated as significantly more hireable than moderately competent candidates ($M = 4.24$, $SD = 1.06$), $F(1, 295) = 204.00$, $p < .001$. As hypothesized, there was also a significant main effect of warmth on hireability, such that highly warm candidates ($M = 5.31$, $SD = 1.11$) were rated as more hireable than moderately warm candidates ($M = 4.52$, $SD = 1.33$), $F(1, 295) = 32.91$, $p < .001$. Descriptively, the effect size for competence ($\eta^2 = .41$) was larger than the effect size for warmth ($\eta^2 = .10$). Contrary to the hypothesis, the interaction between the effects of competence and warmth on hireability was not significant, $F(1, 295) = .41$, $p > .05$. The effect of warmth was not weaker when competence was high than when competence was moderate.

To test hypothesis 2, the full 2 x 3 interaction was examined, this time including the no mention warmth condition, to examine the hypothesized compensatory nature between warmth and competence. As predicted, there was a significant main effect of competence on hireability such that the highly competent candidate ($M = 5.80$, $SD = .91$) was rated as more hireable than the moderately competent candidate ($M = 4.24$, $SD = 1.06$), $F(1, 295) = 203.99$, $p < .001$. As predicted, there was also a significant main effect of warmth on hireability, $F(2, 295) = 16.68$, $p < .001$. Pairwise comparisons showed that the highly warm candidate was rated as significantly more hireable ($M = 5.31$, $SD = 1.11$) than the moderately warm candidate ($M = 4.52$, $SD = 1.33$), $p < .001$, but, contrary to the

hypothesis, not significantly more hireable than the candidate whose warmth was not mentioned ($M = 5.08, SD = 1.23$), $p > .05$. As expected, the candidate whose warmth was not mentioned was rated as significantly more hireable than the moderately warm candidate, $p < .05$. Contrary to hypothesis 2, there was not a significant interaction between the effects of competence and warmth on hireability, $F(2, 295) = .48, p > .05$. Results from simple pairwise comparisons are shown in Figure 1. The candidate who was described as high in competence with no mention of warmth was rated as significantly more hireable ($M = 5.91, SD = .87$) than the candidate who was described as high in competence and moderately warm ($M = 5.39, SD = 1.00; p = .01$), but not significantly different in level of hireability from the candidate who was high in competence and high in warmth ($M = 6.08, SD = .71; p > .05$). In support of hypothesis 2, the candidate described as high in competence and moderately warm was rated as significantly less hireable than the candidate described as high in both competence and warmth, $p = .001$. Contrary to hypothesis 2, the candidate described as moderately competent with no mention of warmth was rated as significantly less hireable ($M = 4.23, SD = .92$) than the candidate described as moderately competent and high in warmth ($M = 4.66, SD = .96$), $p = .02$. As hypothesized, the candidate described as moderate in both competence and warmth was rated as significantly less hireable ($M = 3.81, SD = 1.12$) than both the candidate described as moderately competent with no mention warmth ($p = .02$) and the candidate described as moderately competent and high in warmth ($p < .001$).

An exploratory 2 (competence condition: moderate or high) x 2 (gender: male or female) x 3 (warmth condition: no mention, moderate, or high) ANOVA was conducted with hireability as the outcome variable to examine whether the interaction between

competence and warmth varied for men and women. The three-way interaction between .05.

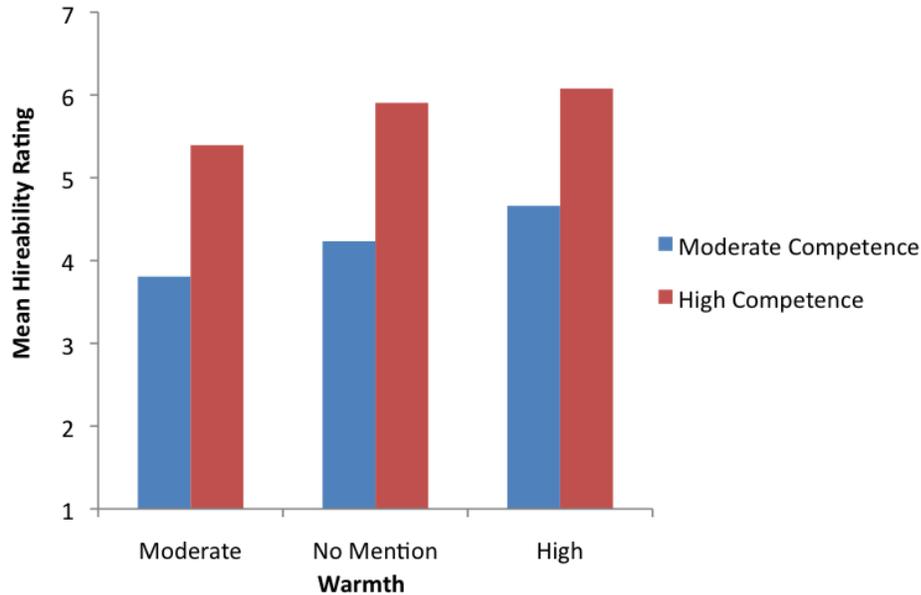


Figure 1. Mean hireability rating as a function of job candidate's manipulated warmth (moderate vs. no mention vs. high) and competence (moderate vs. high) descriptions in Experiment 1.

Perceived Warmth

To test hypothesis 3, a 2 (competence condition: moderate or high) x 3 (warmth condition: no mention, moderate, or high) between-subjects ANOVA was conducted with perceived warmth as the outcome variable. As reported in the manipulation check analyses above, there was a significant main effect of warmth on perceived warmth, $F(2, 295) = 116.87, p < .001$. As expected, the highly warm candidate ($M = 5.80, SD = .64$) was perceived as significantly higher in warmth than both the moderately warm candidate ($M = 4.01, SD = 1.02$), $p < .001$, and the no mention warmth candidate ($M = 4.77, SD = .96$), $p < .001$. Consistent with hypothesis 3, the no mention warmth candidate was

perceived as significantly higher in warmth than the moderately warm candidate, $p < .001$. As predicted, there was a significant main effect of competence on perceived warmth, but not in the direction hypothesized, such that the highly competent candidate ($M = 5.21, SD = 1.07$) was perceived to be higher in warmth than the moderately competent candidate ($M = 4.57, SD = 1.13$), $F(1, 295) = 44.44, p < .001$. Contrary to the hypothesis, there was not a statistically significant interaction between the effects of competence and warmth on perceived warmth, $F(2, 295) = 2.68, p > .05$. Means for the simple pairwise comparisons are shown in Figure 2. Contrary to the hypothesis, there actually was an effect of competence when warmth was moderate as well as when it was high. The candidate described as moderately warm and highly competent was perceived to be higher in warmth ($M = 4.43$) than the candidate described as moderate in both warmth and competence ($M = 3.66$), $p < .001$. The candidate described as high in both warmth and competence was also perceived to be higher in warmth ($M = 5.98$) than the candidate described as highly warm and moderately competent ($M = 5.66$), $p = .048$. Furthermore, when warmth was not mentioned, there was a significant effect of competence, but not in the direction hypothesized. The candidate described as highly competent with no mention warmth was actually perceived to be higher in warmth ($M = 5.17$) than the candidate described as moderately competent with no mention warmth ($M = 4.37$), $p < .001$. Since the interactions between competence and warmth on both hireability and perceived warmth were not significant, there could be no mediated moderation through perceived warmth, so it was not tested.

An exploratory 2 (competence condition: moderate or high) x 2 (gender: male or female) x 3 (warmth condition: no mention, moderate, or high) ANOVA was conducted

with perceived warmth as the outcome variable to examine whether the interaction between competence and warmth varied for men and women. The three-way interaction between warmth, competence, and gender on perceived warmth was not significant, $F(2, 289) = 1.03, p > .05$.

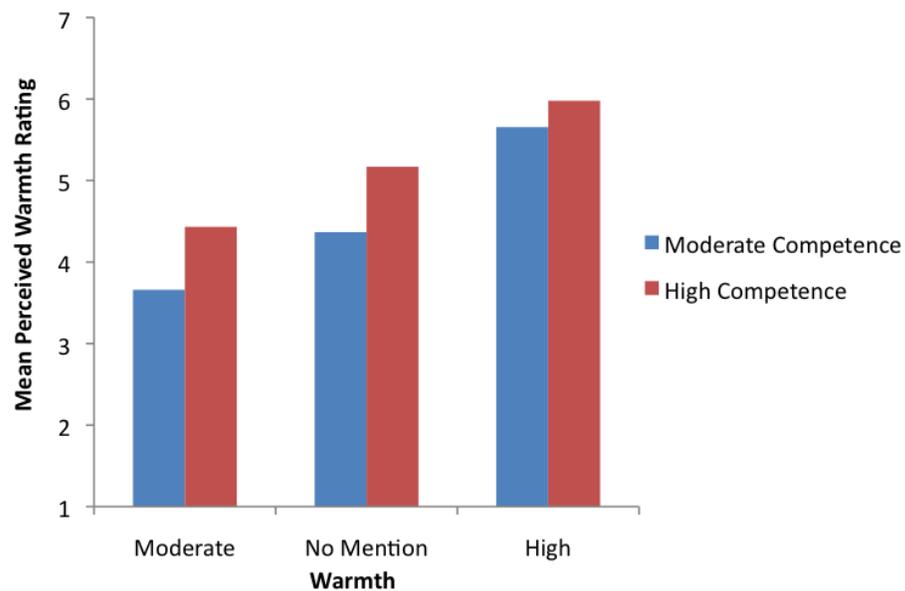


Figure 2. Mean perceived warmth rating as a function of job candidate's manipulated warmth (moderate vs. no mention vs. high) and competence (moderate vs. high) descriptions in Experiment 1.

Discussion

Consistent with the first hypothesis, higher warmth led to greater hireability, as did higher competence, and the effect of competence was greater than the effect of warmth. However, inconsistent with our expectations, the effect of warmth on hireability was not weaker when competence was high as opposed to moderate.

We expected that, regardless of competence, hireability of the no mention warmth candidate would be greater than that of the moderate warmth candidate, but less than that of the high warmth candidate. Instead, we found that while the no mention warmth candidate was more hireable than the moderately warm candidate, she was not significantly lower in hireability than the highly warm candidate. She was significantly lower in perceived warmth than the highly warm candidate, however, suggesting that the nonsignificant difference in hireability was not due to an inferred level of warmth as high as the high warmth condition. This would suggest that for the no mention and high warmth conditions, warmth information did not fully explain level of hireability, because although perceived warmth was significantly different between the two conditions, hireability was not. One explanation for this could be that warmth information only had an effect on a hiring decision when it was moderate. Perhaps because the no mention and high warmth conditions did not raise any red flags in regards to hireability, they were not used to determine it. The results seem to suggest that once a threshold of warmth has been met (that demonstrated by the no mention condition, which fell in the middle of moderate and high on perceived warmth), a candidate is seen as equally hireable no matter how much higher in warmth they are. At this point, hireability is only affected by competence information, which is reflected in our finding that for both the moderate and high competence candidates, hireability in the no mention warmth condition was the same as the high warmth condition. Thus, as long as warmth was not moderate, hireability was only affected by competence, not warmth. This suggests that high warmth does not help a candidate as much as low warmth can hurt a candidate. Furthermore, warmth is not as important for a consulting job, and thus doesn't weigh heavily on the

decision unless it is significantly low and thus a cause for concern. This may explain why, despite different levels of perceived warmth between no mention and high warmth conditions, hireability was the same.

Also contrary to hypothesis 2 and 3, there were no significant interactions between warmth and competence on hireability or perceived warmth. When the candidate was highly competent, we expected that not mentioning her warmth would lead to the same perceived warmth and thus the same hireability as describing her as moderate in warmth, and would lead to lower perceived warmth and thus lower hireability than describing her as high in warmth. This was due to the expectation of a compensation effect between warmth and competence. We found instead that not mentioning warmth led to greater hireability and greater perceived warmth than describing her as moderate in warmth. Furthermore, for the high competence condition, not mentioning warmth did not lead to significantly lower hireability (despite significantly lower perceived warmth) than describing the candidate as high in warmth. Thus, the equivalent levels of hireability between the two conditions cannot be explained by equivalent levels of perceived warmth, suggesting that once a candidate was high in competence, the perceived warmth did not matter as much, making the no mention and high warmth candidates equally hireable. This could also be due to the fact that, despite being lower in perceived warmth than the explicit high warmth condition, the no mention condition was still seen as relatively high in perceived warmth. This was perhaps because participants gave the candidate the benefit of the doubt when warmth was not mentioned, or because they just went with a middle of the road response because they didn't have enough information to make a judgment. Another possibility is that warmth was assumed to be relatively high

when not mentioned because women are generally assumed to be warm. As described previously, once warmth was above a certain threshold, it didn't seem to matter for the hiring decision, but what we found here was that it was especially the case when the candidate was also high in competence. Our finding that the perceived warmth of the highly competent candidate was higher for no mention than for moderate suggests that there was not a compensatory effect, but rather a halo effect. Instead of inferring moderate warmth for the highly competent candidate in the no mention condition as we expected they would, participants inferred higher warmth (though still lower than high warmth). This is consistent with Rosenberg et al.'s initial 1968 study and replicates Judd et al.'s finding that when a single individual or behavior is the target of judgment, there is a positive relationship between the two dimensions. For example, Judd et al. found that participants judged behaviors diagnostically high on one dimension as also high on the other dimension. Thus, our target's behavior as described in the candidate description may have caused the participant to focus on judging the behavior and not the individual, thus activating the halo effect found by Judd and her colleagues. Another possibility is that the individual may not have carried the implicit comparisons we expected she would. Instead, she may have been judged as an individual without comparison to another target, thus eliciting a halo effect instead of a compensatory effect. Either way, Judd et al.'s findings that the compensation effect is highly sensitive to context may suggest that something about our specific context, such as the use of behavior statements to characterize the candidate or the fact that she was not being judged in comparison to another candidate, was the reason we did not find the compensatory effect we expected.

When candidate competence was moderate, on the other hand, we expected that not mentioning her warmth would cause perceived warmth and hireability to mirror that of the high warmth candidate because the compensatory effect would cause the participant to imply higher warmth from moderate competence, and thus hireability would respond accordingly. Contrary to what we expected, not mentioning candidate warmth when competence was moderate actually led to significantly lower hireability and lower perceived warmth ratings than describing her as highly warm, though still significantly higher ratings than when she was described as moderately warm. This would suggest a reverse halo effect, such that participants inferred that lower competence also meant lower warmth. This effect was not as strong as the positive halo effect seen in the high competence candidates, however, suggesting that when competence was moderate, participants did not infer that the candidate whose warmth was not mentioned was high in warmth, but also did not infer that she was as low in warmth as the moderately warm candidate, causing her hireability to fall somewhere in the middle. Another explanation for this could be the nature of the manipulations, such that the “moderate” conditions were not as low as the high conditions were high. This is discussed in further detail in the limitations section below.

As mentioned above, these effects can be further explained by our findings regarding perceived warmth. When manipulated warmth was either moderate or high, we predicted that there would be no effect of competence on perceived warmth, because the warmth information was explicit and therefore not open to interpretation. Contrary to what we expected, there actually was an effect of competence for both the moderate and high warmth conditions, and the effect of competence for the no mention condition was

in the opposite direction to what we expected. In all three warmth conditions, the highly competent candidate was perceived as significantly higher in warmth than the moderately competent candidate. The results suggest, once again, that there was a halo effect guiding participants' warmth perceptions. Higher levels of competence in a candidate led her to be perceived positively overall, in turn boosting her perceived warmth. Interestingly, the halo effect found in the no mention warmth condition was not different than that found in the moderate or high warmth conditions, suggesting that it does not matter whether explicit info about warmth is given or not—the boost the candidate receives from high competence is the same.

Ultimately, our results suggest that perceived warmth was inferred directly from manipulated warmth, with no mention warmth falling between moderate and high regardless of competence, and high competence gave perceived warmth an extra boost. Our finding of a halo effect for warmth and competence perceptions may be due to participants' tendency to judge the candidate as an individual, and not implicitly compare her to other individuals or groups. This is discussed further in the general discussion.

EXPERIMENT 2

Due to the largely nonsignificant findings in the student sample, a second study was conducted, this time using a sample of adults from the general population rather than college students. This broader sample was expected to reflect a more realistic portrait of the types of individuals who would be making hiring decisions in the real job market.

Method

Participants

This study had a total of 264 participants. Eight respondents were excluded from the analysis due to insufficient time (under 3 minutes) spent answering the questions, leaving 256 to be used in the analysis. Participants were recruited from Mechanical Turk (MTurk), an online contracted work site through Amazon.com in which individuals can anonymously sign up to work online in exchange for compensation, in this case, \$0.50. Each participant was informed that the study involved research on the effects of candidate descriptions on hiring decisions, and that they would read a short description of a candidate and then answer a questionnaire.

This study's sample ($N = 256$) had a mean age of 37.7 years ($SD = 12.46$); men were 52% and women were 48% of participants. There were 76.9% who reported race as White/Caucasian, 9% as Asian/Asian American, 7.1% as African American/Black, 5.9% as Latino/Hispanic, and 1.2% as Other. Lastly, 47.1% of the participants reported that they have not made hiring decisions as a part of a current or previous job, compared with 51.8% who reported they had made hiring decisions, with 1.2% preferring not to answer. The average time spent taking the survey was 7 minutes.

Design and Procedure

Design and procedure were the same as in Study 1, with a few exceptions. The second version of the survey included a demographic question asking if the participant had any experience making hiring decisions, and the demographic items about school and grade level were eliminated. A 39-item follow-up questionnaire was also included at the end of the survey in order to measure ambivalent sexism as a possible moderating variable.

Materials

Candidate descriptions, the perceived competence and warmth scales, and the hireability scale were all replicated from Study 1. All scales were still found to be internally reliable. Means, standard deviations, and reliability indexes for each of the dependent measures are shown in Table 2.

Ambivalent Sexism. Included in this study was the 22-item Ambivalent Sexism Inventory (ASI; Glick & Fiske, 1996), which measured overall sexism using 11-item subscales for benevolent sexism (e.g., “Women should be cherished and protected by men”) and hostile sexism (e.g., “Women exaggerate problems they have at work”). Responses to all questions were in the form of Likert-type scales ranging from 1 (*Strongly disagree*) to 7 (*Strongly agree*). Mean hostile sexism ($\alpha = .94$) was significantly correlated with mean benevolent sexism ($\alpha = .92$), $r = .30$, $p < .001$. As such, all 22 items were averaged in a single measure of ambivalent sexism ($\alpha = .92$). The measured ambivalent sexism score was then trichotomized so that it could be used in a 3-way ANOVA with warmth and competence on hireability. Scores were categorized into three groups of roughly equal size, low ($M = 2.28$, $SD = .69$), moderate ($M = 3.68$, $SD = .25$), and high ($M = 4.57$, $SD = .43$). Each group contained approximately 30% of the sample.

Inventories of racism and personality were included in the same section with sexism in order to minimize the effect that the experimental condition, and the participant’s hiring decision, may have on feelings of sexism. The seven-item Modern Racism Scale (MRS) (McConahay, 1986) was adapted by replacing the word “Blacks” in each of the questions with “racial minorities,” and participants responded to statements such as “Racial minorities are getting too demanding in their push for equal rights”

(Morrison & Chung, 2011). A shortened 10-item version of the Big Five Inventory (BFI), the BFI-10 (Rammstedt & John, 2007), assessed the participant's personality characteristics on the five major dimensions: extraversion, agreeableness, conscientiousness, neuroticism, and openness. Participants indicated how well statements such as "I see myself as someone who is reserved," and "I see myself as someone who tends to find fault with others," described their personality. Together, these three inventories made up a 39-item follow-up questionnaire (See Appendix D). Item order for all 39 items was randomized using a random number generator, and the same order appeared for all participants.

Results

Overview

Preliminary analyses consisted of factor and reliability analyses of all scales used, manipulation checks of warmth and competence conditions, and significance tests for possible demographic covariates. Two 2 x 3 ANOVAs were then conducted to test the first three hypotheses for this sample. Lastly, two 2 x 3 x 3 ANOVAs were conducted to assess whether ambivalent sexism contributed to the observed effects.

Table 2

Means, Standard Deviations, and Reliability Indexes of Perceived Warmth, Perceived Competence, Hireability, and Ambivalent Sexism Scales in Experiment 2

	<i>M</i>	<i>SD</i>	<i>α</i>
Perceived Warmth	5.12	1.14	.92
Perceived Competence	4.52	.92	.94
Hireability	5.27	1.41	.97
Ambivalent Sexism	3.50	1.05	.92

Note. All variables were measured on a 1-7 scale with higher numbers indicating greater levels of the constructs.

Factor Analyses

Principal axis factoring was carried out on all scales used in the analysis to assess dimensionality of the data. Number of factors extracted was decided based on eigenvalues, cumulated variance, and inspection of scree plot. For the six perceived warmth items, one factor was suggested, accounting for 66% of the variance. For the six perceived competence items, one factor was suggested, accounting for 77% of the variance. A factor analysis of the 12 items together suggested two factors, warmth and competence, which had a correlation of .48 and explained 77.5% of the variance cumulatively. Analysis of the six hireability items suggested only one factor that accounted for 82.6% of the variance. Analysis of the 22-item ambivalent sexism scale suggested two factors, hostile and benevolent sexism, which had a correlation of .30 and explained 55.9% of the variance cumulatively.

Manipulation Checks

Manipulation checks of warmth and competence conditions presented in the candidate descriptions indicated that the manipulation was effective. A one-way analysis

of variance (ANOVA) showed a significant effect of warmth on perceived warmth, $F(2, 253) = 41.57, p < .001$. Pairwise comparisons indicated that participants in the high warmth condition ($M = 5.76, SD = .87$) perceived the job candidate to be significantly higher in warmth than participants in the no mention condition ($M = 5.21, SD = 1.03$), $p < .001$, who in turn perceived the job candidate to be significantly higher in warmth than participants in the moderate warmth condition ($M = 4.40, SD = 1.09$), $p < .001$. An independent samples t-test showed a significantly higher level of perceived competence in the high competence condition ($M = 5.11, SD = .63$) than the moderate competence condition ($M = 3.98, SD = .80$), $t(250.32) = -12.67, p < .001$.

Demographic Factors

Preliminary analyses were carried out to assess whether any demographic factors needed to be included as covariates in the main analyses. There was no significant difference in judgments of hireability by male versus female participants, $t(239.71) = .19, p > .05$. Participant age was not a significant predictor of hireability judgment ($p > .05$). Participant ethnicity was not significantly related to judgment of hireability, $F(4, 250) = .70, p > .05$, nor was participants' prior experience in a managerial role, $F(2, 252) = .597, p > .05$. Based on these analyses, the demographic variables of gender, age, ethnicity, and managerial experience were not included as covariates in the main analysis.

Hireability

To test hypothesis 1, a 2 (competence condition: moderate or high) x 3 (warmth condition: no mention, moderate, or high) between-subjects ANOVA was conducted on

the outcome variable of hireability. The simple 2 (competence condition: moderate or high) x 2 (warmth condition: moderate or high) interaction was examined. In support of hypothesis 1, there was a significant main effect of competence on hireability, such that highly competent candidates ($M = 6.12, SD = .88$) were rated as more hireable than moderately competent candidates ($M = 4.51, SD = 1.36$), $F(1, 250) = 143.70, p < .001$. As hypothesized, there was also a significant main effect of warmth on hireability, such that highly warm candidates ($M = 5.59, SD = 1.08$) were rated as more hireable than moderately warm candidates ($M = 4.89, SD = 1.57$), $F(1, 250) = 22.45, p < .001$. Descriptively, the effect size for competence ($\eta^2 = .37$) was greater than the effect size for warmth ($\eta^2 = .08$). Unlike in the student sample, the interaction between the effects of competence and warmth on hireability was also significant, $F(1, 250) = 5.97, p = .02$. As hypothesized, the effect of warmth was weaker when competence was high than when competence was moderate. The moderately competent candidate was rated as significantly more hireable when high in warmth ($M = 5.10$) than when moderate in warmth ($M = 3.90; p < .001$), but there was no significant effect of warmth for the highly competent candidate ($p > .05$).

To test hypothesis 2, the full 2 x 3 interaction was examined, this time including the no mention warmth condition, to examine the hypothesized compensatory nature between warmth and competence. There was a significant main effect of competence on hireability such that the highly competent candidate ($M = 6.12, SD = .88$) was rated as more hireable than the moderately competent candidate ($M = 4.51, SD = 1.36$), $F(1, 250) = 143.70, p < .001$. There was also a significant main effect of warmth on hireability, $F(2, 250) = 11.33, p < .001$. Pairwise comparisons revealed that, contrary to the

hypothesis, the highly warm candidate ($M = 5.56$, $SD = 1.08$) was not rated as significantly more hireable than the candidate whose warmth was not mentioned ($M = 5.35$, $SD = 1.45$), $p > .05$. Consistent with the hypothesis, the moderately warm candidate ($M = 4.89$, $SD = 1.57$) was rated as significantly less hireable than both the highly warm candidate ($p < .001$) and the candidate whose warmth was not mentioned ($p = .02$). As hypothesized, there was a significant interaction between the effects of competence and warmth on hireability, $F(2, 250) = 3.31$, $p = .04$, however the effect was not in the direction hypothesized. Results from simple pairwise comparisons are shown in Figure 3. As hypothesized, the candidate described as highly competent with no mention of warmth ($M = 6.25$) did not have a significantly different hireability rating than the candidate described as highly competent and moderately warm ($M = 5.88$), $p > .05$. Contrary to the hypothesis, the candidate described as high in both competence and warmth ($M = 6.26$) was not significantly more hireable than the candidate described as high in competence with no mention warmth, or the candidate described as highly competent and moderately warm, $p > .05$ for both. Contrary to the hypothesis, the candidate described as moderately competent with no mention warmth ($M = 4.44$) was significantly less hireable than the candidate described as moderately competent and highly warm ($M = 5.10$), $p = .01$. As hypothesized, the candidate described as moderate in both competence and warmth ($M = 3.90$) was rated as significantly less hireable than both the candidate described as moderately competent with no mention warmth ($p = .03$) and the candidate described as moderately competent and highly warm ($p < .001$).

An exploratory 2 (competence condition: moderate or high) x 2 (gender: male or female) x 3 (warmth condition: no mention, moderate, or high) ANOVA was conducted

with hireability as the outcome variable to examine whether the interaction between competence and warmth varied for men and women. The three-way interaction between warmth, competence, and gender on hireability was not significant, $F(2, 244) = .33, p > .05$.

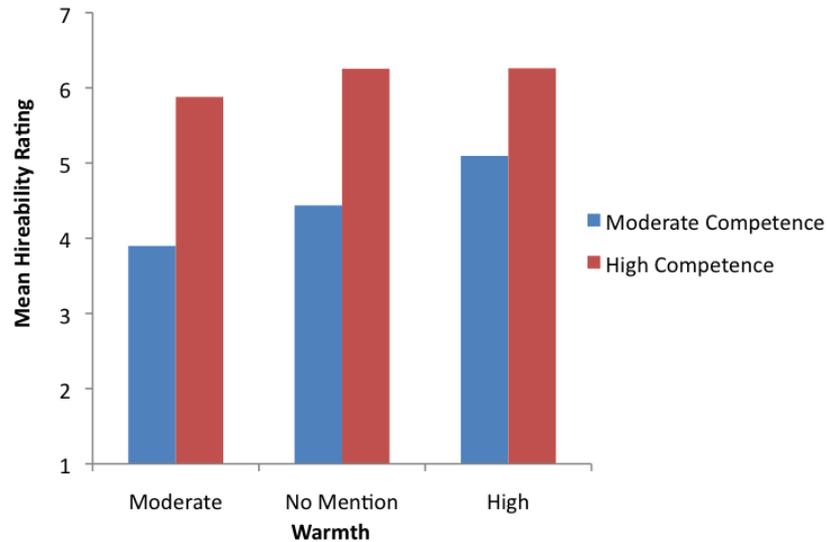


Figure 3. Mean hireability rating as a function of job candidate's manipulated warmth (moderate vs. no mention vs. high) and competence (moderate vs. high) descriptions in Experiment 2.

Perceived Warmth

To test hypothesis 3, a 2 (competence condition: moderate or high) x 3 (warmth condition: no mention, moderate, or high) between-subjects ANOVA was conducted with perceived warmth as the outcome variable. As reported in the manipulation check analyses above, there was a significant main effect of warmth on perceived warmth in the direction predicted, $F(2, 250) = 33.12, p < .001$. Pairwise comparisons revealed that, as hypothesized, the highly warm candidate was perceived as significantly higher in warmth

($M = 5.76$, $SD = .87$) than both the no mention warmth candidate ($M = 5.21$, $SD = 1.03$), $p < .001$, and the moderately warm candidate ($M = 4.40$, $SD = 1.09$), $p < .001$. The no mention warmth candidate was perceived as significantly higher in warmth than the moderately warm candidate, $p < .001$. As predicted, there was a significant main effect of competence on perceived warmth, but not in the direction hypothesized, such that the highly competent candidate ($M = 5.43$, $SD = 1.02$) was perceived to be higher in warmth than the moderately competent candidate ($M = 4.84$, $SD = 1.18$), $F(1, 250) = 33.12$, $p < .001$. In support of hypothesis 3, there was a significant interaction between the effects of competence and warmth on perceived warmth, $F(2, 250) = 3.96$, $p = .02$. Means for the simple pairwise comparisons are shown in Figure 4. Consistent with the hypothesis, there was not a significant effect of competence when warmth was high, $p > .05$. Contrary to the hypothesis, there was a significant effect of competence when warmth was moderate such that the highly competent and moderately warm candidate ($M = 4.86$) was perceived as higher in warmth than the candidate described as moderate in both warmth and competence ($M = 3.93$), $p < .001$. As predicted, there was a significant effect of competence when warmth was not mentioned, but not in the direction hypothesized. The candidate described as highly competent with no mention warmth ($M = 5.65$) was actually perceived to be higher in warmth than the candidate described as moderately competent with no mention warmth ($M = 4.78$), $p < .001$. Furthermore, when competence was high, there was no significant difference in perceived warmth between the no mention ($M = 5.65$) and high warmth ($M = 5.88$) conditions, $p = .27$, but the moderate warmth condition ($M = 4.86$) was significantly lower than both the no mention warmth condition ($p < .001$) and the high warmth condition ($p < .001$). When competence was

moderate, the high warmth candidate ($M = 5.67$) was perceived as significantly higher in warmth than the no mention warmth ($M = 4.78$) candidate, $p < .001$, who was perceived as significantly higher in warmth than the moderate warmth candidate ($M = 3.93$), $p < .001$.

A test of mediated moderation of the effect of manipulated competence on hireability by manipulated warmth through perceived warmth yielded a significant result (Hayes' index of moderated mediation = $-.25$, 95% CI [$-.433 - .051$]), suggesting that the indirect effect of manipulated competence on hireability through the impression of perceived warmth is dependent on level of manipulated warmth. The indirect effect of manipulated competence on hireability through perceived warmth seems to increase with decreasing or not mentioned warmth. In other words, when manipulated warmth was moderate or not mentioned as opposed to high, higher competence increased hireability because more competent candidates were perceived to be higher in perceived warmth.

An exploratory 2 (competence condition: moderate or high) x 2 (gender: male or female) x 3 (warmth condition: no mention, moderate, or high) ANOVA was conducted with perceived warmth as the outcome variable to examine whether the interaction between competence and warmth varied for men and women. The three-way interaction between warmth, competence, and gender on perceived warmth was not significant, $F(2, 244) = 1.77, p > .05$.

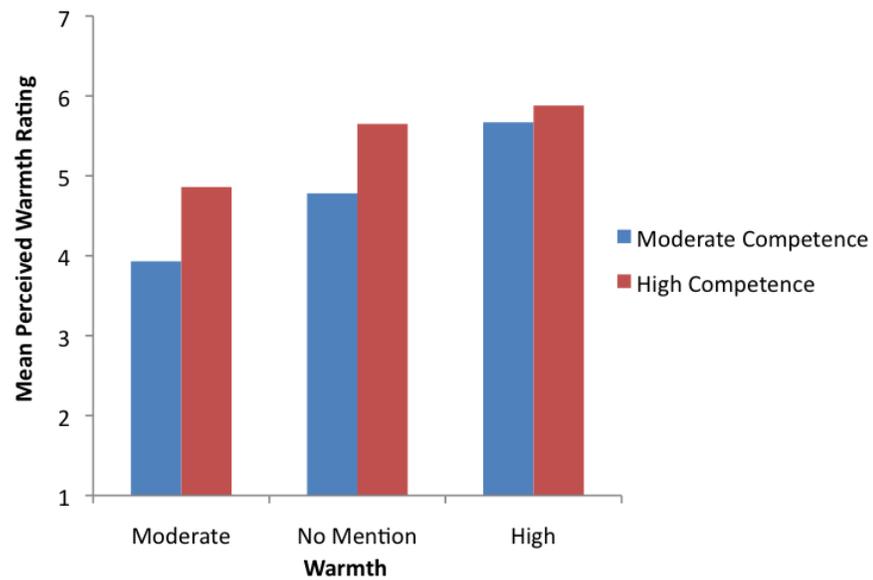


Figure 4. Mean perceived warmth rating as a function of job candidate's manipulated warmth (moderate vs. no mention vs. high) and competence (moderate vs. high) descriptions in Experiment 2.

Ambivalent Sexism

Before examining whether the effects of warmth and competence on hireability and perceived warmth were moderated by ambivalent sexism, we examined whether ambivalent sexism was affected by the experimental condition to which the participant was assigned.

Preliminary Analysis. A 2 (competence: moderate or high) x 3 (warmth: no mention, moderate, or high) ANOVA was conducted on the continuous measure of ambivalent sexism (before trichotimization) to assess whether the experimental conditions had an effect on level of ambivalent sexism. There were not significant main effects of warmth or competence on ambivalent sexism, but there was a significant

interaction, $F(2, 250) = 3.16, p = .04$. There was not a significant effect of warmth when competence was high, $p > .05$. There was a significant effect of warmth when competence was moderate, such that participants exposed to the moderately competent and highly warm candidate ($M = 3.75, SD = .98$) and moderately competent candidate whose warmth was not mentioned displayed significantly ($M = 3.75, SD = .90$) higher levels of ambivalent sexism than those exposed to the moderately competent and moderately warm candidate ($M = 3.19, SD = 1.02$), $p = .01$ and $p = .02$, respectively (See Figure 5). The candidate described as moderately competent and highly warm did not evoke greater levels of sexism than the moderately competent candidate whose warmth was not mentioned, $p > .05$.

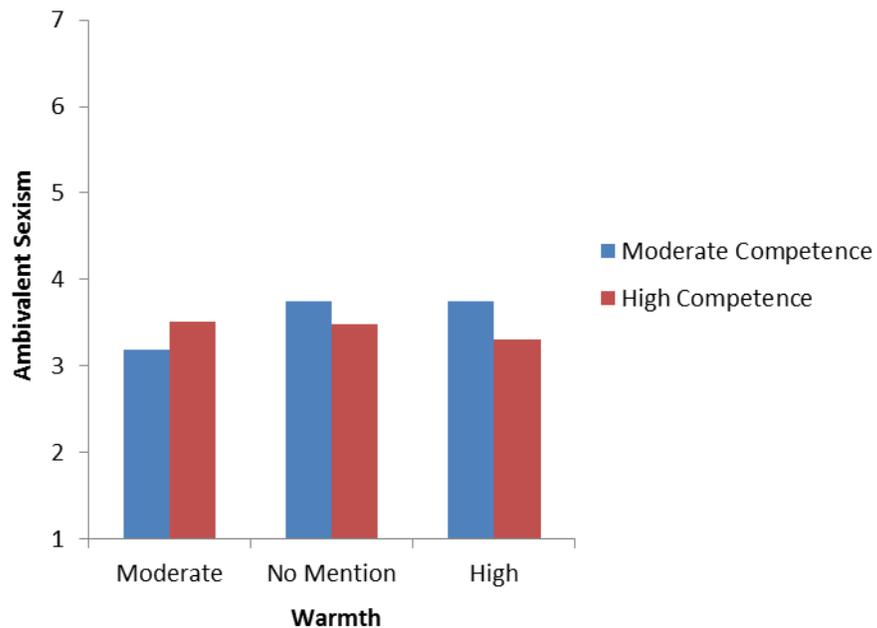


Figure 5. Mean level of ambivalent sexism as a function of job candidate's manipulated warmth (moderate vs. no mention vs. high) and competence (moderate vs. high) descriptions in Experiment 2.

Main Analysis. To test hypothesis 4, a 2 (competence: moderate or high) x 3 (warmth: no mention, moderate, or high) x 3 (ambivalent sexism: low, moderate, or high) ANOVA was conducted with the outcome variable of hireability. Of interest was the effect of ambivalent sexism, which, contrary to the hypothesis, did not have a significant main effect on hireability, $F(2, 238) = .53, p > .05$. Contrary to the hypothesis, the three-way interaction between ambivalent sexism, warmth, and competence on hireability was not significant either, $F(4, 238) = .46, p > .05$. To make sure that trichotomizing the ambivalent sexism variable didn't have an effect on the results, a correlation was run between the continuous measure of ambivalent sexism and hireability; it was not found to be significant, $r = .004, p > .05$.

To test hypothesis 5, a 2 (competence: moderate or high) x 3 (warmth: no mention, moderate, or high) x 3 (ambivalent sexism: low, moderate, or high) ANOVA was then conducted with the outcome variable of perceived warmth. Contrary to the hypothesis, ambivalent sexism did not have a significant main effect on perceived warmth, $F(2, 238) = .07, p > .05$. Contrary to the hypothesis, the three-way interaction between ambivalent sexism, warmth, and competence on perceived warmth was not significant either, $F(4, 238) = 1.06, p > .05$. To make sure that trichotomizing the ambivalent sexism variable didn't have an effect on the results, a correlation was run between the continuous measure of ambivalent sexism and perceived warmth; it was not found to be significant, $r = .09, p > .05$.

Discussion

Consistent with the first hypothesis, higher warmth led to greater hireability, as did higher competence, and the effect of competence was greater than the effect of

warmth. Also consistent with the first hypothesis, the effect of warmth on hireability was weaker when competence was high as opposed to moderate. When moderate in competence, the candidate was rated as more hireable when high in warmth than when moderate in warmth, but when she was highly competent, there was no effect of warmth. Competence could have been given more weight in the hiring decision because of the nature of the job description at a large consulting firm, as well as the general importance placed on competence in the workplace. The job was likely to have been perceived to require more competence than warmth, thus explaining why the effect on hireability was larger for competence than warmth, and also why warmth did not have any effect when competence was high. This finding replicated Cuddy et al.'s finding that competence had a greater effect on professional outcomes for women than warmth. Thus, when competence was high, the participant saw the candidate as highly hireable regardless of her warmth.

We also expected that hireability of the no mention warmth condition would be greater than that of the moderate warmth candidate, but less than that of the high warmth candidate. Instead, our findings matched those of Experiment 1. The no mention warmth candidate was significantly more hireable than the moderately warm candidate, but was not significantly lower in hireability than the highly warm candidate.

Contrary to findings in Experiment 1, there were significant interactions between warmth and competence on both hireability and perceived warmth. However, the patterns of interaction were not consistent with hypotheses 2 and 3. There was a significant effect of warmth on hireability when competence was moderate, but not when competence was high. When competence was high, we had expected that the high warmth candidates

would be significantly more hireable than those in the no mention and moderate warmth conditions because both the moderate and no mention conditions would imply lower warmth, and therefore the explicit high warmth condition would be interpreted as significantly warmer and thus more hireable. Contrary to the prediction, however, when competence was high, the high warmth candidate was not significantly more hireable or warmer than the no mention candidate. She was not more hireable than the moderate warmth candidate either, despite being significantly warmer. This suggests that warmth had no effect on hireability in the high competence conditions. Despite the fact that perceived warmth was significantly lower for the moderate warmth/high competence candidate, hireability was not. On the other hand, when candidate competence was moderate, we expected that not mentioning candidate warmth would cause hireability and perceived warmth to mirror that of the high warmth condition because moderate competence would imply higher warmth. Contrary to our expectation, and consistent with what was found in Experiment 1, not mentioning candidate warmth when competence was moderate actually led to significantly lower perceived warmth and hireability ratings than describing her as highly warm, though still significantly higher perceived warmth and hireability ratings than when she was described as moderately warm. This could suggest a reverse halo effect, such that participants inferred that lower competence also meant lower warmth. One possible explanation for the entire pattern of results is once again the notion that competence mattered the most for hireability, especially for a job at a large consulting firm, a highly competitive profession that places an emphasis on competence and perhaps does not require as much warmth. Thus, once high in competence, levels of warmth are irrelevant for a hiring decision. When competence was

moderate, however, warmth mattered more. This could be explained by participants' hesitancy to hire a moderately competent candidate who hadn't met the requirement of high competence, and thus reliance on other information and inferences to judge hireability. Thus, when competence was moderate, warmth responded in the direction we expected, except that the no mention condition did not reach as high of a level as high warmth, suggesting absence of a compensation effect.

As mentioned above, these effects can also be explained by our findings regarding perceived warmth. As expected, there was no effect of competence on perceived warmth when warmth was high. Our description of high warmth was so explicit that there was little room for interpretation regarding perceived warmth. Contrary to what we expected, however, there actually was an effect of competence for the moderate warmth condition, and the effect of competence for the no mention condition was in the opposite direction to what we expected. When warmth was moderate or not mentioned, the highly competent candidate was perceived as significantly higher in warmth than the moderately competent candidate. This is consistent with our findings from Experiment 1, and once again suggests a possible halo effect for high competence candidates, and negative halo effect for moderate competence candidates. The halo effect, which boosted perceived warmth for highly competent candidates over moderately competent candidates, was even observed when moderate warmth information was explicitly given to participants. It is possible that the moderate warmth condition showed a halo effect because of the nature of the experimental manipulation. As the "moderate" warmth condition was not extremely low, and perhaps not as unambiguously low as the "high" warmth condition was unambiguously high, the warmth information given may have been more open to

interpretation by the participant, leaving more room for a bias like the halo effect. The halo effect was even strong enough to overpower the explicit descriptions of warmth that were given in this condition. One reason for the halo effect observed in the no mention category could be that the lack of explicit information given regarding the warmth dimension made warmth inferences highly subject to interpretation. Although we had expected the interpretation to reflect a compensation effect (inferring lower warmth from higher competence), it appeared instead to reveal a halo effect (inferring higher warmth from higher competence). One possible explanation for finding a halo effect instead of a compensation effect could be that participants were not using implicit comparisons when making their judgments as we expected they would. For example, when reading about the job candidate who was high in competence with no mention of warmth, the participant was not implicitly comparing her to a lower competence female who may be seen as higher in warmth, and thus did not comparatively rate the high competence female as lower in warmth (because there was no higher warmth individual to compare her to). Rather, the halo effect may have functioned to maintain cognitive consistency in the participant's perceptions. If participants saw the candidate as positive on one dimension, they regarded her positively overall, and thus responded on the other dimension also in a positive manner in order to maintain the positive perception they had formed.

Consistent with hypothesis 3, the effect of competence and warmth on hireability was mediated by perceived warmth such that when manipulated warmth was moderate or not mentioned as opposed to high, higher competence increased hireability because more competent candidates were perceived to be higher in perceived warmth. When warmth was high, on the other hand, competence didn't have as much of an effect on hireability

through perceived warmth, because perceived warmth was the same for both competence conditions. While hireability was significantly different for the moderate versus high warmth candidates in the high warmth condition, perceived warmth was not. Thus, perceived warmth did not mediate hireability for this condition. One explanation for this is that when warmth was explicitly high, it was perceived as such for both competence conditions, because the information was clear and obvious. However, the similar levels of perceived warmth did not translate into similar levels of hireability for the two competence conditions, perhaps because high warmth was still not enough to justify a high level of hireability. Because warmth was not as important to the hiring decision as competence, the high level of warmth was not enough to ameliorate the lower level of competence, thus reducing the hireability for the high warmth/moderate competence candidate. In the other warmth conditions, however, the level of hireability responded according to level of perceived warmth. With higher perceived warmth came higher hireability, as we expected.

The results from our analysis of the effects of warmth and competence on ambivalent sexism show that the female candidate described as moderately competent evoked greater ambivalent sexism when she was described as either high in warmth or when warmth was not mentioned as opposed to moderate in warmth. This finding suggests that reading a description of a female job candidate that reflects the ambivalent stereotype (specifically, moderate competence and high or no mention warmth) elicits higher levels of ambivalent sexism in a participant than the other conditions. This finding is consistent with the literature suggesting that ambivalent stereotypes are the basis for ambivalent sexism. However, it is interesting to note that merely being exposed to an

ambivalent description of a female seemed to have an effect on the participant's level of sexism, which alludes to one's broader views and attitudes toward women in general. This finding could have important implications regarding how women are represented in society. If it is the case, as our results would suggest, that merely reading a description of a woman stereotyped ambivalently could increase levels of ambivalent sexism, then that would suggest that by confirming these stereotypes in the media and in our discourse surrounding the female gender, we as a society may be reinforcing and invoking higher levels of sexism. Given the possible implications, this point is an important one to research further and validate with future studies.

Contrary to what was expected in hypotheses 4 and 5, ambivalent sexism did not have a significant effect on outcomes. We predicted that higher levels of ambivalent sexism would lead to lower levels of hireability, and a greater compensation effect in perceptions of warmth. However, we found that ambivalent sexism had no effect on either perceived warmth or hireability. This could suggest that ambivalent sexism does not actually have implications for women in the workforce, or at least not in hiring situations or warmth perceptions. Future research should aim to explore potential variables that would be affected by ambivalent sexism in order to determine whether it plays a role in discrimination of women and gender inequality in the workforce or society at large.

General Discussion

The present study investigated the effect of warmth and competence perceptions on judgments of hireability for female job candidates. The study adds to a growing body of research on both the dimensions of person perception and how stereotypes are formed

using these dimensions, and uniquely investigates the potential implications of these perceptions and stereotypes for women in the workplace.

Consistent with hypothesis 1, there were main effects of both warmth and competence on hireability for both the student sample and the MTurk sample. The effects were in the direction hypothesized, such that highly competent candidates were seen as more hireable than moderately competent candidates, and highly warm candidates were seen as more hireable than moderately warm candidates. Consistent with Cuddy, Fiske, and Glick's (2004) finding that female professionals with children (higher warmth, lower competence condition) were less hireable than female professionals without children (lower warmth, higher competence condition), suggesting that competence had a greater effect on professional outcomes for women than warmth, we found that hireability was higher for the moderate warmth/high competence condition than for the high warmth/moderate competence condition. Our findings thus also suggest that the effect of competence was greater than the effect of warmth for both samples. Results may be different for jobs that require more warmth and less competence, such as childcare or teaching pre-school. These jobs may value warmth over competence and thus the opposite effect may be found such that moderate warmth/high competence candidates would be seen as less hireable than high warmth/moderate competence candidates.

The interactions between warmth and competence on hireability and perceived warmth, however, were only significant for the MTurk sample. This could be due to the fact that students were generally harsher judges of the job candidates than the MTurk participants. The MTurk sample saw the highly competent candidate as hireable regardless of warmth, while the student sample used warmth perceptions in judgments of

hireability even when competence was high. A possible explanation for this is that students could have been a harsher judge of the job candidate overall because they attended highly competitive colleges, where they are likely judged and judge others with higher standards than the general population employs. This is supported by results showing that their hireability ratings were, on average, lower than those of the MTurk sample. Thus, they seemed to be overall harsher judges of the candidate, and may not have seen high competence as sufficient justification to rate the candidate as highly hireable without taking warmth into account.

Consistent with hypothesis 2, the no mention warmth candidate was significantly more hireable than the moderately warm candidate for both samples. Contrary to what was predicted, however, the no mention warmth candidate was not rated as significantly less hireable than the high warmth candidate. This could suggest that in the absence of explicit information about a candidate's warmth, participants assumed high warmth. This could be due to a self-presentation bias of the participant, who is more likely to judge the candidate as positively for fear of appearing sexist or prejudiced. Another possibility is that women are generally seen as warm, and thus when warmth information was not given, participants assumed it was generally high.

Furthermore, the results did not support the main hypothesis that there would be a compensation effect between warmth and competence perceptions such that moderate warmth would be inferred from high competence and high warmth would be inferred from moderate competence. Instead, the opposite effect was observed. For both samples, highly competent candidates were seen as higher in warmth than moderately competent candidates. In the MTurk sample, the effect of competence was only significant when

warmth was not mentioned or when described as moderate. In the student sample, this effect was significant across all three warmth conditions. Our results suggest that the dimensions of warmth and competence may be positively correlated, dictated by a halo effect rather than a compensatory one. One explanation for this is that our target may not have carried the implicit comparisons we expected she would. Instead, she may have been judged as an individual without comparison to another target, thus eliciting a halo effect instead of a compensatory effect. We hypothesized that the opposite would occur when rating female job candidates because women belong to a social group that carries implicit comparisons. For example, we thought that the individual presented as a “female professional” (competent but cold) would be spontaneously compared to the individual mirroring traits of a “housewife” (warm but incompetent) because of a tendency to see women as a dichotomous social group, with individuals belonging to one of these two subgroups. Thus, the female professional’s warmth and competence would be judged relative to the housewife’s in a compensatory manner to maintain consistency of the ambivalent stereotypes held by the individual making the judgment. Because stereotypes of women are ambivalent on the dimensions of warmth and competence, the comparisons were expected to elicit compensatory judgments on these two dimensions. It is possible that we did not find a compensatory effect because the implicit comparisons were not made by participants, and if they were, perhaps the participants did not hold strong ambivalent stereotypes of women that would have caused the implicit comparison to produce a compensatory effect.

Furthermore, because the “moderate” warmth condition was not extremely low, and perhaps not as unambiguously low as the “high” warmth condition was

unambiguously high, the warmth information given may have been more open to interpretation and bias such as a halo effect. According to research done by Symonds (1931), the halo effect is most likely to occur when traits are not clearly defined or difficult to observe. This is understandable for the no mention warmth condition, which was completely ambiguous and not clearly defined or even addressed, as well as the moderate warmth condition, which, while described explicitly, was still more ambiguous than the high warmth condition. For example, the candidate moderate in warmth was described as aloof or shy, eating lunch at her desk and not socializing with coworkers or getting involved with others' projects often. This information is open to multiple interpretations. While she could be seen as low in warmth, she could also be seen as shy or introverted. Thus, the moderate warmth condition was fairly ambiguous. Participants were more likely to use the other information in this condition to aid in their decisions. Thus, if competence was high and they regarded her positively because of this, they wanted to remain cognitively consistent and say she was also high in warmth. Similarly, when competence was low, their negative feelings about this dimension may have carried over to her warmth perception, thus decreasing it. Furthermore, a higher competence individual may have been seen as more justified in her lower levels of warmth. For example, an individual who is a very hard worker and highly competent may be more likely to lack social skills, thus seen as shy rather than cold. This may cause others to judge her warmth more leniently and think she is still warm but maybe just lacks social skills due to her high level of competence. The candidate described as moderate in competence may have been less likely to have her lower warmth justified. Rather, the

negative competence condition could have been compounded with the negative warmth condition to make the candidate highly unfavorable.

Following from the halo effect we observed, there was a large effect of competence on hireability at each of the three levels of warmth. Higher competence candidates were consistently rated as more hireable than the moderate competence candidates for both samples. The highly competent candidates' hireability could have been even greater than could be expected from the effect of high competence alone because they received an additional boost in perceived warmth due to their high competence. Thus, hireability of the highly competent candidates could have been magnified by the compound effect of the two factors. On the other hand, the moderately competent individuals saw the reverse effect. It seems likely that they were rated as less hireable not only because they were low in competence, a trait essential for a job at a large consulting firm, but also because their lower competence led participants to perceive them to be lower in warmth as well. Thus, the differences in hireability between the moderate and high competence conditions were exaggerated.

For the student sample, the effect of warmth on both perceived warmth and hireability did not depend on competence. In other words, for both competence conditions, higher warmth candidates were seen as consistently warmer and more hireable than no mention warmth candidates, who were in turn consistently warmer and more hireable than moderate warmth candidates. For the MTurk sample, however, the effect of warmth on both hireability and perceived warmth did depend on competence. The effect of warmth on both perceived warmth and hireability was greater when competence was moderate than when competence was high. The MTurk data supports the

idea that once a candidate is high in competence, warmth information is likely not even used in the hiring decision. Even though the levels of perceived warmth were different across the three warmth conditions for the highly competent candidate, hireability was not, suggesting that the different warmth perceptions did not affect hireability at all. When candidate competence was moderate, the effect of warmth was stronger, and hireability thus followed more closely the levels of perceived warmth, suggesting that warmth information was used more in hiring decisions when competence was moderate than when competence was high. The results suggest that when competence is moderate, participants may go looking for other factors to inform their hiring decision, and place more weight on these factors. Because the high competence threshold is not met, they may need other information to justify their hiring decisions. Therefore, they rely on their perceptions of warmth, and hireability responds accordingly. One possibility for why this effect was not seen in the student sample is that students were harsher critics of the candidate. In general, students rated the candidate as less hireable ($M = 4.98$) than the MTurk participants ($M = 5.27$). Even when the candidate was high in competence, they still looked for warmth information to inform their hiring decision. They were more critical and careful evaluators of the candidate.

Furthermore, we found a mediated moderation effect in our MTurk sample such that the effect of competence and warmth on hireability was mediated by perceived warmth such that higher competence led to higher perceived warmth in the moderate and no mention warmth conditions. As described in Experiment 2's discussion, this suggests a ceiling effect in the high warmth condition such that competence no longer mattered once high warmth had led to high levels of hireability.

Furthermore, the female candidate described as moderately competent evoked higher levels of ambivalent sexism in the participant when she was described as either high in warmth or when warmth was not mentioned as opposed to moderate. This would suggest that exposure to an ambivalent stereotype elicited higher levels of ambivalent sexism in participants. This finding may have important implications for the way we treat gender and stereotypes as a society. If mere exposure to an ambivalent stereotype can increase levels of ambivalent sexism, then stereotypes like these may be at the root of discrimination and gender inequality in society.

Our findings leave us wondering whether women really are judged ambivalently. Our results would lead us to conclude that they are not, despite the convincing literature on the subject. The halo effect we observed was fairly strong, such that even when warmth was explicitly mentioned, high competence led to higher perceived warmth. Candidates actually got a boost in perceived warmth when they were highly competent, which is the opposite of what we expected. If there really was a compensatory effect between the two dimensions, we would have expected that it would have attenuated the halo effect for the no mention warmth condition, but it did not. This suggests that maybe the compensatory effect does not exist, or at least not in these specific conditions. It is possible that we would have found a compensatory effect if we had presented two female job candidates instead of one, and asked participants to judge the candidates in comparison to each other, as suggested by Judd et al.'s finding that direct comparisons were more likely to elicit a compensatory effect.

Limitations

Several limitations to both studies should be noted, starting with Experiment 1. The first involves the ecological validity of the student sample. There is a high likelihood that the student sample had little experience making hiring decisions in the real world. As opposed to the MTurk sample, in which 51.8% of participants reported that they either currently or had previously held a job in which they made hiring decisions, the student sample was less likely to have had experience in these roles, and if they did, it was most likely for a club or student organization that would not mirror the same context as hiring in the “real world”. A related limitation was our failure to ask participants in the student sample if they had any experience making hiring decisions, instead assuming that they did not because of their age. This limits the ecological validity of our first study with the student sample because we cannot assume that people in the real world making these hiring decisions would respond like the students in our sample did. Therefore, our conclusions may not be relevant for the current state of hiring decisions, but rather more indicative of the future of hiring decisions, as participants in the student sample are more likely representative of the next generation of leaders and managers rather than the current ones. Furthermore, the students in our sample attended highly competitive colleges, where they are likely judged and judge others with higher standards than the general population employs. This could explain why their hireability ratings were lower on average, and why they were less likely to see the highly competent candidate as a shoe-in for the position. Because high levels of competence are common at a top college, reading a description of a job candidate high in competence may not have had the same ceiling effect that it did for MTurk participants. Students may have thought more

critically about the candidate and thus took her warmth into account more, even when the candidate was highly competent.

The following limitations were independent of sample thus relevant concerns for both studies. The first involves the external validity of the research findings. The fact that participants in general spent an average of 7 to 8 minutes on the survey is one limitation of the studies. Hiring decisions are rarely made in this short of a time frame. Furthermore, hiring decisions are rarely made based on a short description from a former employer and nothing else. We recognize that this limited external validity may have caused participants to judge candidates more leniently because they did not have to live with the consequences of their decision, and thus had no valid reason to be punitive or harsh when judging hireability. However, while interviews, resumes, and other integral sources of information are necessary for hiring decisions, snap judgments or first impressions do play a role, and this study aimed to assess these on a basic level, without confounding factors from other sources of information. Furthermore, a social desirability bias may have come into play such that participants were wary of seeming sexist or prejudiced against women, and therefore judged them more favorably than they perhaps would have in a situation with more discretion. While they were assured of anonymity, fear of being seen as sexist or prejudiced could still have influenced decisions.

The use of a consulting position as the context for the hiring decision also limits our external validity and thus generalizability to other contexts. Our conclusions regarding hireability of a female job candidate are limited for jobs in consulting, in which competence is likely much more valued than warmth. For more traditionally female-oriented professions that value competence and warmth more equally, such as teaching or

nursing, we might expect to find more of a compensatory effect, which would cause higher competence candidates to be judged as lower in warmth and thus less hireable, while lower competence candidates may get a boost in hireability from their perceived greater warmth.

Lastly, we may not have seen the compensation effect predicted due to the nature of our manipulations as being “moderate” at the lower end of the spectrum instead of truly low. We chose to do this because we ran the risk of making the job candidate completely unhireable by using a low warmth description and thus seeing a floor effect. In reality, a candidate low in competence would not even be considered for a job at a consulting firm. Thus, we had to use moderate competence and warmth, which were less decisive and obvious than the high warmth conditions. Consistent with Symonds’ finding that the halo effect was most likely to occur in instances of ambiguity, the halo effect for both of our samples was most prevalent when warmth was moderate or not mentioned. Furthermore, the halo effect was not found in the MTurk sample when warmth was high because the high level of warmth was explicit and thus understood well, causing perceived warmth and hireability to be already so high that higher competence wouldn’t give them much of a boost. One suggestion to remedy this may be changing the context. For a job position other than consulting, in which low competence would be detrimental to hireability, truly low conditions may be possible without seeing a floor effect. For example, for a position such as a data entry clerk, which wouldn’t seem to require high levels of warmth or competence, we would be able to make the conditions more strongly valenced without completely sabotaging the candidate’s hireability.

Further Research

The relationship between the dimensions of warmth and competence need further research to determine whether there is a compensatory effect or halo effect, and under what circumstances each would be more likely to occur. While we found evidence of a halo effect for individuals, despite the fact that they belong to a social group that has been found to carry implicit comparisons, perhaps these implicit comparisons were not strong enough or do not have the effect purported by the literature. Perhaps presenting two job candidates to be judged comparatively would uncover a compensation effect in judgments. Furthermore, we only included an ambiguous warmth condition in our study and not an ambiguous competence condition. Future studies could include a no mention competence condition in order to assess whether warmth has the same halo effect on competence that competence had on warmth.

Additionally, research on the difference between halo and compensation effects for women in comparison to men needs further exploration. While the halo effect may have boosted a female's hireability, it is impossible to know whether she is still being discriminated against unless we also have information about the hireability of a male job candidate described equivalently. We did not compare female job candidates to male candidates in this study, and thus cannot conclude that warmth and competence perceptions or hireability would be any different for males and females. Without this comparison, we cannot make any claims about hiring discrimination or inequality in the workplace. Inherent to this discourse is women's treatment as it compares to men, which we did not address. Further research should focus on teasing out these differences both in effects seen and for whom.

Future studies could also focus on providing a more realistic hiring setting with more information about the candidate, and possibly an interview video or audio clip, in order to make the manipulation stronger and more realistic. Using a different profession as the context for the hiring decision may be interesting as well, perhaps one that places more weight on warmth, or one in which warmth and competence carry more equal weights, such as lower-level administrative or secretarial.

Lastly, further research on the effects these dimensions have on workplace outcomes other than hireability are important given our finding that ambivalent sexism was affected by candidate descriptions but did not have a consequent effect on hireability. Thus, future research should try to identify dependent variables that ambivalent sexism does predict, and how these measures contribute to discrimination or inequality for women. This research will be important for both potential job candidates and executives in charge of hiring decisions. Without completely understanding how one's own perceptions and stereotypes may be affecting judgment, it may be hard to target inequality in the workplace and make any progress toward gender equality.

Conclusion

The compensatory effect we expected in the present study was not supported by our results. Instead, our results suggested that a halo effect caused females higher in competence to also be perceived as higher in warmth. This is good news for women in a hiring situation, and may suggest that negative stereotypes of women are not hurting them in the workplace. Once again, it is impossible to make these conclusions without comparing them to male job candidates in identical situations. The present study contributes to the growing body of literature on warmth and competence perceptions by

providing rare evidence for a halo effect in warmth and competence perceptions of women when the target is an individual.

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APPENDIX A.**Condition 1: high competence moderate warmth**

Jane completed tasks with high levels of efficiency and skill. In evaluations of her work, she was judged to be highly competent and capable. Her contribution to the company's profits was above average for the office. She often worked late to meet deadlines. She ate lunch at her desk and did not socialize with coworkers very often. She rarely got involved with others' projects. Some thought she was aloof; others thought she was just shy.

Condition 2: high competence high warmth

Jane completed tasks with high levels of efficiency and skill. In evaluations of her work, she was judged to be highly competent and capable. Her contribution to the company's profits was above average for the office. She often worked late to meet deadlines. She was well liked in the office and socialized with coworkers often. She spent time helping with others' projects. People would describe her as warm, and she worked well in groups.

Condition 3: high competence no mention warmth

Jane completed tasks with high levels of efficiency and skill. In evaluations of her work, she was judged to be highly competent and capable. Her contribution to the company's profits was above average for the office. She often worked late to meet deadlines.

Condition 4: moderate competence moderate warmth

Jane completed tasks with average levels of efficiency and skill. In evaluations of her work, she was judged to be fairly competent and capable. Her contribution to the company's profits was average for the office. She left the office promptly at 5:00 pm every day. She ate lunch at her desk and did not socialize with coworkers very often. She rarely got involved with others' projects. Some thought she was aloof; others thought she was just shy.

Condition 5: moderate competence high warmth

Jane completed tasks with average levels of efficiency and skill. In evaluations of her work, she was judged to be fairly competent and capable. Her contribution to the company's profits was average for the office. She left the office promptly at 5:00 pm every day. She was well liked in the office and socialized with coworkers often. She spent time helping with others' projects. People would describe her as warm, and she worked well in groups.

Condition 6: moderate competence no mention warmth

Jane completed tasks with average levels of efficiency and skill. In evaluations of her work, she was judged to be fairly competent and capable. Her contribution to the company's profits was average for the office. She left the office promptly at 5:00 pm every day.

APPENDIX B.

Please rate the candidate on a 7-point scale (1 = not at all, 7 = extremely) on the following traits:

1. Capable (C)
2. Competent (C)
3. Intelligent (C)
4. Well-intentioned (W)
5. Good natured (W)
6. Confident (C)
7. Sincere (W)
8. Friendly (W)
9. Efficient (C)
10. Skillful (C)
11. Trustworthy (W)
12. Warm (W)

C= Competence traits

W= Warmth traits

APPENDIX C.*Applicant Favorability:*

Rate from 1 (strongly disagree) to 7 (strongly agree) the degree to which you agree with these statements:

- a) This candidate is a good match for the job
- b) The candidate appears to be very qualified for the job
- c) Overall, I would evaluate this candidate positively

Willingness to Hire:

Rate from 1 (not at all likely) to 7 (extremely likely) the probability that:

- a) I believe the applicant would be hired for the job
- b) I would interview the applicant for the job
- c) I would personally hire the applicant for the job

APPENDIX D.

Indicate the degree to which you agree with these statements (1=Strongly Disagree, 7=Strongly Agree):

1. Over the past few years, racial minorities have gotten more economically than they deserve. (R)
2. Racial minorities should not push themselves where they are not wanted. (R)
3. Many women are actually seeking special favors, such as hiring policies that favor them over men, under the guise of asking for “equality”. (HS)
4. It is easy to understand the anger of racial minorities in America. (R)*
5. In a disaster, women ought not necessarily to be rescued before men. (BS)*
6. Feminists are making entirely reasonable demands of men. (HS)*
7. People are often truly happy in life without being romantically involved with a member of the other sex.(BS)*
8. Feminists are not seeking for women to have more power than men. (HS)*
9. No matter how accomplished he is, a man is not truly complete as a person unless he has the love of a woman. (BS)
10. I see myself as someone who is generally trusting. (P)
11. Racial minorities are getting too demanding in their push for equal rights. (R)
12. I see myself as someone who does a thorough job. (P)
13. I see myself as someone who tends to find fault with others. (P)*
14. I see myself as someone who is outgoing, sociable. (P)
15. Men are complete without women. (BS)*
16. I see myself as someone who tends to be lazy. (P)*
17. Many women have a quality of purity that few men possess. (BS)
18. When women lose to men in fair competition, they typically complain about being discriminated against. (HS)
19. I see myself as someone who is relaxed, handles stress well. (P)*

20. A good woman should be set on a pedestal by her man. (BS)
21. I see myself as someone who is reserved. (P)*
22. Over the past few years, the government and news media have shown more respect to racial minorities than they deserve. (R)
23. Men should be willing to sacrifice their own well being in order to provide financially for the women in their lives. (BS)
24. Women exaggerate problems they have at work. (HS)
25. Every man ought to have a woman whom he adores. (BS)
26. I see myself as someone who has an active imagination. (P)
27. Most women fail to appreciate fully all that men do for them. (HS)
28. Racial minorities have more influence upon school desegregation plans than they ought to have. (R)
29. Women seek to gain power by getting control over men. (HS)
30. There are actually very few women who get a kick out of teasing men by seeming sexually available and then refusing male advances. (HS)*
31. Women, as compared to men, tend to have a more refined sense of culture and good taste. (BS)
32. I see myself as someone who has few artistic interests. (P)*
33. Women are too easily offended. (HS)
34. Women, compared to men, tend to have a superior moral sensibility. (BS)
35. Women should be cherished and protected by men. (BS)
36. Discrimination against racial minorities is no longer a problem in the United States. (R)
37. Once a woman gets a man to commit to her, she usually tries to put him on a tight leash. (HS)
38. Most women interpret innocent remarks or acts as being sexist. (HS)
39. I see myself as someone who gets nervous easily. (P)

(R) = Racism

(BS) = Benevolent Sexism

(HS) = Hostile Sexism

(P) = Personality

* = reverse coded