THE IMPACT OF EMOTIONS ON STEREOTYPING AND DISCRIMINATION IN WORKPLACE SELECTION: THE ROLE OF CERTAINTY APPRAISALS

by

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Abstract

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In the present studies, an appraisal tendency approach (e.g., Lerner & Keltner, 2000, 2001) was adopted to make predictions regarding the role of emotional certainty in the use of stereotypes in a workplace context. This approach suggests that emotional certainty increases reliance on heuristic processing strategies, as evidenced by greater use of stereotypes. The current research examined stereotypes associated with physical attractiveness (Studies 1 & 3) and age (Study 2). In Studies 1 and 2, participants completed an emotional memory task designed to induce one of four specific emotions representing two different levels of emotional certainty. They then reviewed interview footage, a résumé, and qualifying criteria before rating the hypothetical job candidate's personality and employability. In Study 3, participants completed four measures of dispositional emotion: anger, fear, happiness, and hope. All other features of the study were identical to Study 1. In Study 1, emotions high in certainty (compared to uncertainty) led to more favorable personality and employability ratings for attractive (compared to unattractive) candidates. In Study 2, the same pattern of results emerged for younger (compared to older) candidates. However, in Study 3, contrary to predictions, trait emotions characterized by high certainty (compared to uncertainty) did not lead to more favorable personality and employability ratings for attractive (compared to unattractive) candidates. Taken together, the findings contribute to a growing literature suggesting that

certainty appraisals, when associated with temporary, incidental emotions, are a useful predictor of the likelihood that stereotypes will be applied in decision-making.

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I can do all things through Him who strengthens me.

-Philippians 4:13

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Dedication

To Noah and Samuel: May you each persevere through the challenges that life presents.

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Chapter 1: Introduction

Despite significant efforts to usher greater transparency and fairness into employee selection and evaluation, workplace discrimination continues to be one of the most vexing issues plaguing the American workplace. The EEOC reported receiving 23,264 charges of age-related employment discrimination in fiscal year 2010, representing a 45% increase in the number of charges that have been received since fiscal year 2000. Additionally, workplace discrimination exacted a dramatic financial toll on employers. In 2010, employers paid a total of $93.6 million as a result of age-related discrimination charges filed through the EEOC alone, and this number does not include monetary benefits plaintiffs obtained through litigation. Additionally, there are many recent examples in which the courts have enforced legislation that protects older workers from discrimination [e.g., *Meachem v. Knolls Atomic Power Laboratory* (2008), *Parks v. University Hospitals Case Medical Center* (2010), and *Smith v. City of Jackson* (2005)]. Of course, age-related discrimination is not the only type of workplace discrimination. Charges of discrimination on the basis of sex and race and the monetary benefits resulting from some of these charges have also increased in recent years (EEOC, 2011). Since the terrorist attacks of September 11, 2001, religious intolerance and discrimination toward middle-eastern looking employees have also increased.

Both discrimination and stereotyping have been thoroughly investigated within the psychological literature. Among stereotype researchers, the consensus is that the influence of stereotypes on judgments of others is determined by both the situational conditions under which the impression-formation process occurs and the characteristics of the person who is making the judgments. Individual differences associated with greater use of stereotypes include high need for structure (Neuberg & Newsom, 1993), social dominance orientation (Duckitt & Sibley, 2007;

Heaven & St. Quintin, 2003; Pratto & Shih, 2000; Whitley, 1999) low need for cognition and low attributional complexity (Schaller, Boyd, Yohannes, & O'Brien, 1995), right wing authoritarianism (Heaven & St. Quintin, 2003; Whitley, 1999) and essentialist beliefs (Bastian & Haslan, 2006).

The characteristics of the situation in which judgments are being made also impact stereotype use. A generally accepted principle among stereotype researchers is that individuals rely on stereotypes when they are not operating at their full capacity (Bodenhausen, 2000). Indeed, one of the most robust findings in the stereotype literature is that stereotype use is related to the depth of information processing (Bargh, 1984, 1989, 1994; Kihlstrom, 1990; Bodenhausen, 1990; 1993; 2000; Bodenhausen & Lichenstein, 1987; Kim & Baron, 1988; Kruglanski & Freund, 1983; Macrae, Hewstone, & Griffiths, 1993; Pratto & Bargh, 1991; Rothbart, Fulero, Jensen, Howard, & Birrell, 1978; Stangor, 2000; Stangor & Duan, 1991). That is, when individuals are not sufficiently motivated or able to process information in a detailed fashion, they are more likely to rely on stereotypes when making judgments. Additionally, several empirical demonstrations suggest that more complex situations produce more stereotyping because they tax the cognitive capacity of the perceivers (Bodenhausen & Macrae, 1998; Macrae, Milne, & Bodenhausen, 1994).

In recent years, researchers have turned their attention to the role of affect in stereotype use. This is because affect is one factor that has been shown to have an impact on the depth to which individuals process information (Festinger, 1954; Pelham & Wachsmuth, 1995; Weary & Jacobson, 1997). Studies along these lines suggest that mood plays a role in whether people rely on stereotypes or other simple decision cues when rendering judgments of others (Bodenhausen, 1994a; Clore, Schwarz, & Conway, 1994; Park & Banaji, 2000). However, despite the wealth of

research that has been conducted to investigate the effects of affect on stereotyping, nagging inconsistencies in this literature remain. For example, much of the literature has sought to distinguish between the effects of various emotions or moods on cognition by using a valence approach. In a valence approach, emotions and moods are often grouped into two categories—positively-toned and negatively-toned—and then compared. Researchers who conducted much of the initial work in this area have generally concluded that positive affective states (e.g., happiness) lead to high use of stereotypes (i.e., heuristic processing), whereas negative affective states lead to mixed outcomes (Clore et al., 1994). More recent work suggests that distinguishing between affective states on the basis of valence alone obscures many important characteristics of the individual affective states (e.g., Lazarus & Cohen-Charash, 2001, Tiedens & Linton, 2001). That is, researchers have found important differences among emotions that can be described as similar in valence. For example, although anger and fear are both negative emotions, they have divergent effects on cognition. Fear has been shown to increase risk estimates and plans for precautionary measures, while anger has been shown to do the opposite (Lerner, Gonzalez, Small, & Fischhoff, 2003). Thus, the use of a valence-based approach to distinguish among affective states may be responsible for some of the lingering inconsistencies observed in previous studies.

My predictions draw heavily upon appraisal theories of emotion (Roseman, 1984; Lazarus, 1991) and in particular the Appraisal Tendency Framework proposed by Lerner and colleagues (Lerner & Keltner, 2000, 2001; Lerner & Tiedens, 2006; Han, Lerner, & Keltner, 2007). These theories propose that emotions are defined by tendencies to perceive new events and objects in ways that are consistent with the original cognitive-appraisal dimensions of the emotion. In particular, the ATF proposes that emotions trigger specific responses that empower

the individual to adaptively manage encountered problems or opportunities. In addition, the ATF suggests that emotions influence cognition by suspending ongoing cognitive processes and mobilizing attention, memory, and judgment to deal with the emotion-eliciting event (Lerner & Keltner, 2000). The ATF has received empirical support from studies that have examined economic and consumer decision-making and risk perceptions as outcomes (Han et al., 2007; Lerner et al., 2003; Lerner, Small, & Loewenstein, 2004). I suggest that the ATF can also be adopted as a fruitful framework for predicting and explaining the varied impact of affect on workplace decision-making.

The aim of the present investigation was to empirically test the proposition that various emotional states differentially impact cognition (specifically, stereotyping) depending upon the appraisal tendencies associated with the specific emotional states. Appraisal tendencies, which I will discuss in detail later, are defined as implicit cognitive predispositions to appraise future events in line with central appraisal themes that characterize the emotions. The stereotypes investigated in the current research are the physical attractiveness stereotype and age-related stereotypes. While evidence suggests that these stereotypes are particularly germane to a workplace context (Dipboye & Colella, 2005), they have received relatively little attention in the literature (cf. Avolio & Barrett, 1987; Cann, Siegfried, & Pearce, 1981; Dipboye, Arvey & Terpstra, 1977; Dipboye, Fromkin & Wiback, 1975; Gilmore, Beehr & Love, 1986; Haefner, 1977; Perry & Bourhis, 1998; Raza & Carpenter, 1987; Rosen & Jerdee, 1976). Additionally, I elected to study these two particular stereotype categories because of the different level of legal protection currently available for each. With regard to physical attractiveness, there exists only very limited legal protection. The District of Columbia has a statute prohibiting discrimination on personal appearance. Santa Cruz, California has an ordinance prohibiting discrimination on

physical characteristics and the State of Michigan and the City of San Francisco, California each list height and weight as protected categories. In most other states, mere unattractiveness will not qualify as a disability within the American with Disabilities Act (ADA) since it excludes ordinary physical characteristics such as weight, hair color, and height from its definition of impairment. In contrast, with regard to age, the Age Discrimination in Employment Act (ADEA) of 1967 provides legal protection from age discrimination at the federal level. Moreover, a rich history of case law now exists that has defined and enforced this protection.

The potential link between affective state and stereotype use is of both theoretical and applied importance. Although the ATF has shown clear promise as a useful framework for understanding how affect influences judgment and choice, only one published study has applied it to the domain of stereotyping. Thus, the primary goal of the present research was to broaden psychologists' understanding of how specific emotions attenuate or exacerbate individuals' tendencies to engage in stereotyping. A secondary goal was to provide organizational decision makers with a greater understanding of the factors that impinge on fairness and accuracy in interviewing and employee selection. Accomplishing this goal could be one small step toward reversing the troubling trend of ever-increasing charges of workplace discrimination. Improving fairness in employee selection serves the interests of organizational leaders, incumbent employees, and candidates for employment. The time is especially ripe for the study of this topic given that stereotypes associated with age loom large as the American workforce rapidly grays.

The organization of this paper is as follows: I begin by summarizing the empirical literature on the physical attractiveness stereotype and age-related stereotypes. A discussion of these stereotypes is followed by a review of research investigating the role of affect (i.e., moods and emotions) in social cognition. Next, I present a review of the ATF and the empirical work

supporting its application to the area of stereotyping. Lastly, I describe and discuss three studies that test predictions derived from the ATF in the context of stereotyping and discrimination in workplace selection.

Chapter 2. Physical Attractiveness and Age-Related Stereotypes in the Workplace

Stereotypes are heuristics that help individuals to integrate large amounts of information with relative ease (Macrae et al., 1994). The process that gives rise to stereotypes is understood to be effortless, automatic, and unintentional (Bargh, 1984). Thus, stereotypes serve as useful adaptations allowing individuals to quickly and efficiently understand countless new situations encountered each day. It is the desire to manage this onslaught of information with cognitive efficiency that provides the motivation to stereotype. A number of studies have shown that stereotypes are used when people are unable or unmotivated to attend to individuating information (Bodenhausen, 1990, 1993; Bodenhausen, Sheppard & Kramer, 1994a; Macrae et al., 1993; Bodenhausen, Kramer & Susser, 1994b). Results of these studies and others consistently suggest that when the processing demands of an environment reach a sufficient level of difficulty, and the perceiver's resources are correspondingly depleted, stereotypes are likely to be activated and used in tasks requiring judgment.

The bulk of the work on stereotyping in the workplace has focused on gender and race[1]. This is likely the result of our society's greater focus on these important social categories. The past half century has seen remarkable changes in the way race and gender are discussed and debated. Important legislative and judicial strides (e.g., the Civil Rights Acts of 1964, 1968, and 1991, the 19th Amendment to the US Constitution, the 1963 Equal Pay Act, *Meritor Savings Bank v. Vinson*, the Violence Against Women Act of 1994, and others) have been made in attempts to usher in a fairer society, and these strides have coincided with social movements including the sexual revolution and the civil rights movement. Nonetheless, stereotypes extend well beyond the categories of gender and race, and existing research leaves a gap in our

[1] I refer readers to comprehensive reviews of this work found in Fiske and Lee (2008), Elias (2008), and Cohn (1999).

knowledge regarding the impact of other forms of stereotypes. Moreover, shifts in cultural norms over the last several decades have made it socially unacceptable to openly endorse stereotypic beliefs about race and gender. For instance, overt racism has been largely replaced with modern racism, a much more subtle form of racism that only surfaces when conditions allow for socially acceptable derogation (e.g., all Mexican Americans *who commit crimes* should be deported) (Hass, Katz, Rizzo, Bailey, & Moore, 1992). As a result of changing social mores, the study of these particular stereotypes has become much more difficult, and researchers have had to rely increasingly on implicit measures (e.g., Greenwald, McGhee, & Schwartz, 1998), which are relatively impervious to conscious control.

Stereotype use is affected by both individuals' motivation to attend to individuating information as well as their processing capabilities. My focus was on factors that impact individuals' motivation to stereotype. Because gender and racial stereotypes (compared to physical attractiveness or age stereotypes) are subject to relatively greater individual efforts to consciously control their expression, factors that increase or reduce the motivation to stereotype are probably less likely to affect the expression of these stereotypes. Indeed, unlike racial or gender stereotypes, people often readily endorse stereotypes related to physical attractiveness and age (Dipboye & Colella, 2005). Accordingly, people might use these stereotypes unabashedly in a workplace context or abandon efforts to appear unbiased. Therefore, I chose to investigate stereotypes concerning physical attractiveness and age. In the next section, I will review work that has examined these stereotypes in a workplace context.

The Physical Attractiveness Stereotype

Since the mid-1960s, a significant amount of research has been devoted to identifying the content of the physical attractiveness stereotype and understanding the circumstances under

which it is applied to social judgments. Social scientists believe that beauty is defined by social consensus and that this consensus can change over time (Berscheid & Walster, 1974). Initial studies investigating the physical attractiveness stereotype were conducted using college students who were asked to make trait attributions to attractive and unattractive students from photographs (Dion, Berscheid & Walster, 1972; Miller, 1970). These studies found that socially desirable characteristics were more often ascribed to attractive students than unattractive students. This led researchers to infer that attractiveness leads to a "beautiful-is-good" halo effect (Dion et al., 1972). A meta-analysis of the experimental and correlational research on the physical attractiveness stereotype found that attractive persons are believed to be more socially skilled, dominant, intelligent, mentally healthy and warm than unattractive persons (Feingold, 1992). This meta-analysis also found that physically attractive people are perceived to be less lonely, less socially anxious, more popular, more socially skilled and more sexually experienced than less attractive people. A weaker relationship was found between physical attractiveness and personality as well as between physical attractiveness and mental ability.

While many aspects of the physical attractiveness stereotype are positive in nature, there are some areas in which the physical attractiveness stereotype does not benefit the attractive. For instance, in a criminal sentencing, jurors have been shown to give harsher sentences to defendants who are attractive if these individuals could have used their attractiveness to commit the crime (Hocking, Walker, Fink, 1982; Kulka & Kessler, 1978). Physical attractiveness is also perceived to be associated with negative traits such as vanity and egoism, and physically attractive individuals are not perceived as having more integrity or concern for others than less attractive individuals (Adams, 1982). A comprehensive review suggests that physical attractiveness appears to matter most for perceptions of social competence, less for perceptions

of intelligence, potency and adjustment and not at all for judgments about a person's integrity and concern for others (Eagly, Ashmore, Makhijani & Longo, 1991). Essentially, the effects of an individual's physical attractiveness depend largely on the type of inference participants in a study are asked to make. However, when characteristics such as intelligence, integrity, and concern for others are held constant, physical attractiveness may tip the scale in favor of those who are attractive.

Physical Attractiveness in the Employment Context

In the initial phases of employee selection, such as résumé screening and first-level interviewing, interviewers are typically faced with the daunting task of selecting potential employees without the benefit of much information. In many cases, the information available is limited to a short screening interview and/or what little information can be included on a standard one-page résumé. Thus, when applicants are highly similar in qualifications and experience, interviewers have little to go on when making important distinctions among those candidates who will advance to later stages in the selection process and those who will not. This provides the opportunity for a variety of non job-related factors to influence the way in which these decisions are made. Ample empirical evidence suggests that physical attractiveness may be one of these factors (Cann, Siegfried, & Pearce, 1981; Dipboye, Arvey & Terpstra, 1977; Dipboye, Fromkin & Wiback, 1975; Gilmore, Beehr & Love, 1986).

For example, Gilmore et al. (1986) studied the effect of physical attractiveness on hypothetical employment decisions for attractiveness-relevant jobs and attractiveness-irrelevant jobs. For attractiveness relevant jobs, the researchers used personnel interviewer and personnel counselor job descriptions, while for the attractiveness-irrelevant jobs they used safety administration and personnel records job descriptions. They presented college students and

personnel recruiters with a résumé and an interview transcript. Attached to the résumé was a photograph that varied in terms of sex and physical attractiveness (attractive and unattractive). Participants were then asked if they would hire the candidate and if so, what salary they would offer the candidate. In addition, participants were asked to rate the applicant's ability for the prescribed job, the applicant's personality in terms of how well it fit with the job description, and the applicant's expected performance if the applicant were hired. The researchers believed that participants would choose attractive candidates over unattractive candidates for attractiveness-relevant jobs because compared to unattractive applicants, attractive applicants should be perceived as having a more appropriate personality for the job and would be expected to perform better. Results of the study indicated that, compared to unattractive candidates, physically attractive candidates were more likely to be hired for both attractiveness-relevant and attractiveness-irrelevant jobs, were perceived to have a more appropriate personality for the job no matter the job type, and were expected to perform better on the job. Participants did not rate the attractiveness-relevant job differently than the attractiveness-irrelevant jobs in terms of attractiveness-relevance. Thus, on the basis of these results one cannot conclude that the attractiveness-relevance of the job does not matter. Nonetheless, in this study, attractive applicants were preferred over their less attractive counterparts.

Dipboye et al. (1975) conducted an experimental study using both male college students and male professional interviewers as raters of hypothetical résumés in a bogus employee selection task. Participants in the study were asked to review a job description for a furniture manager and then rate each of twelve résumés on a nine-point scale designed to measure the strength of the interviewer's recommendation for hiring the applicant. Following this task, participants were asked to rank the twelve applicants from 1 (most satisfactory) to 12 (least

satisfactory). Applicant sex, attractiveness (attractive and unattractive) and scholastic standing (high, average, and low) were manipulated through the use of wallet-sized photographs and variations in the résumé. Pilot research insured that the manipulations were effective. Results demonstrated that both male college students and male professional interviewers preferred males to females, attractive applicants to unattractive applicants, and applicants of high compared to low scholastic standing. Participants exhibited a strong bias in favor of males and attractive candidates when the candidates had equivalent qualifications. That is, people with equal qualifications had unequal probabilities of being hired.

To investigate whether female raters would show the same biases, Dipboye et al. (1977) conducted another study to examine the effects of rater sex, rater physical attractiveness, applicant qualifications, applicant sex, and applicant physical attractiveness on résumé evaluations for a sales management trainee position. In this study, attractiveness was manipulated by attaching glossy yearbook photos to the résumés. These photos were rated as high, moderate, or low on attractiveness during pilot testing. College students served as participants. Results indicated that regardless of rater sex and attractiveness, male applicants were preferred over female applicants and attractive candidates were preferred over unattractive candidates. The researchers attributed the discrimination in employment decisions to sex-role and physical attractiveness stereotypes. Thus, the results of these two studies (Dipboye et al., 1975; Dipboye et al., 1977) demonstrate that both male and female participants showed the same effects, favoring male over female applicants and attractive over unattractive applicants.

Other studies provide empirical evidence that physical attractiveness is salient in employee selection contexts, even when participants are instructed to consider specific qualifications before making overall hiring decisions. For example, Cann et al., (1981) asked

male and female undergraduates to evaluate the qualifications of an attractive, average, or unattractive male or female applicant, and to make overall hiring decisions. Attractiveness was manipulated using black-and-white yearbook photos that were pre-rated according to attractiveness. Participants were given a file folder containing a job description (for a department manager position), a 2-page résumé, and three reference letters. The researchers varied the order in which participants completed an overall rating of the applicant's qualifications and individual ratings (e.g., personal, educational background, work experience). Participants were then asked to rate how much they favored hiring the applicant. Finally, participants rated the extent to which the applicant's physical attractiveness affected their evaluation of the applicant's qualifications. Results indicated that the order variable influenced the ratings of specific qualifications but did not affect overall hiring decisions. Participants preferred to hire male over female candidates and attractive over unattractive candidates regardless of whether or not they were forced to consider separate aspects of the applicant's qualifications prior to or after making the overall qualifications rating. The individual ratings were higher when they preceded the overall ratings, but only for the applicant of average attractiveness. The general tendency for early ratings to be higher was "over-ridden" by the extreme attractiveness levels. The combined results of these studies (Gilmore et al., 1986; Dipboye et al., 1975; Dipboye et al., 1977; Cann et al., 1981) provide substantial empirical evidence supporting the argument that physical attractiveness is salient in employee selection contexts.

Contrary to previous findings, Beehr and Gilmore (1982) found some evidence that use of the physical attractiveness stereotype in employment settings depends on the type of job to which candidates are applying. Beehr and Gilmore manipulated the attractiveness of male applicants and the perceived relevance of attractiveness for managerial job performance. In this

study, college undergraduates received a job description, a résumé with a picture attached and an interview transcript (identical for all conditions). To manipulate attractiveness, the researchers selected pictures that varied in pre-rated physical attractiveness. Participants then made a hiring decision and, if they chose to hire, they assigned a starting salary. Participants also made job-specific attributions (i.e., applicant ability for the job, applicant's personality fit with the job, and expected performance if the person were hired for the job) and general attributions (e.g., ratings of the extent to which applicants were educated, successful, sociable, likable, friendly, articulate). As in Gilmore et al. (1986), four types of jobs were used—personnel interviewer, personnel counselor, safety administration, and personnel records. The first two required working with others more than the second two, which was believed to make the first two positions more attractiveness-relevant than the second two. Results supported a predicted interaction between applicant attractiveness and attractiveness-relevance of the job, such that participants preferred to hire attractive over unattractive candidates for jobs that were thought to be attractiveness-relevant, while no preference was found for attractiveness-irrelevant jobs. Similarly, attractive applicants were viewed as more capable of performing attractiveness-relevant jobs than were unattractive applicants. However, no main effect for applicant attractiveness or interactions between attractiveness and attractiveness-relevance of the job on the general attributions, starting salary decisions, perceived personality to do the job, or expected performance on the job were found. Thus, it did not appear that participant decisions to hire or not hire or to set salary levels were due to generally favorable characteristics attributed to the candidates (e.g., likability, friendliness) based on candidates' physical attractiveness. While these results do not illustrate a pervasive physical attractiveness stereotype beyond hiring and ability

decisions for attractiveness-relevant jobs, they nonetheless provide additional support for the presence of the physical attractiveness stereotype in employee selection.

A study conducted by Riggio and Throckmorton (1988) used a different methodology to examine the effects of physical attractiveness, verbal and nonverbal behavior, and social skills on evaluations made in hiring interviews. In this study, Riggio and Throckmorton (1988) attempted to distinguish between dress (attire) and attractiveness in an effort to un-confound physical attractiveness from related variables such as status, which may be reflected in attire. In addition, this was a more realistic study than the previous studies reviewed, taking advantage of naturally-occurring individual differences in attractiveness and social skills of the interviewees. Rather than using résumés, Riggio and Throckmorton (1988) interviewed student volunteers (all of whom had interview/work experience) and videotaped these mock interviews. The student interviewees were instructed to assume that they were applying for an entry level position in their chosen field. The interviews were intentionally kept very general and all of the student interviewees were interviewed by the same female graduate student interviewer. Following the creation of the mock interviews, a group of undergraduate and graduate student research assistants (serving as participants providing the data) viewed the videotaped interviews. These judges were asked to rate each interviewee on a seven-point bipolar scale of "overall hirability." Two student judges rated interviewees' dress (attire) on a nine-point bipolar scale (scale anchors were *not at all well dressed* to *extremely well dressed*). Three other student judges evaluated physical attractiveness (participants had a full frontal view of the interviewee from his/her head to his/her knees) of the interviewees on a nine-point bipolar scale (scale anchors were *not at all attractive* to *extremely attractive*). The results indicated a small but significant correlation ($r = .21$) between physical attractiveness and judges' hirability ratings. The correlation between dress

(attire) and judges' hirability ratings was larger (r = .41). Together, dress and appearance seemed to predict interview evaluations.

Only a single, published study failed to find evidence consistent with other research examining the physical attractiveness stereotype in employee selection. Farley, Chia, and Allred (1998) asked participants in a telephone survey to respond to short scenarios concerning the hiring of local middle school teachers. Gender and attractiveness had been manipulated in these scenarios such that descriptions of the candidates included information about the candidate's gender and attractiveness. In this study, attractiveness was made salient because respondents were simply told that the candidates they were evaluating were attractive or unattractive. Participants were asked to answer questions about the candidate's ability, effort, hirability, who they would hire and why. In addition, participants were asked who they thought had an easier time getting a job in general. This question was intended to make bias in hiring practices salient. The question appears to have been successful, because the findings of the study showed a slight preference for women over men, but a more powerful preference for unattractive people over their attractive counterparts. In addition, participants preferred applicants they believed to have a more difficult time obtaining a job. Results also indicated that while participants felt that "people in general" would act upon stereotypes concerning gender and attractiveness, the participants themselves would not. Thus, the only published study that failed to find evidence for the physical attractiveness stereotype in employee selection contexts also made participants aware of the potential biasing effects of attractiveness.

Taken together, the work examining the physical attractiveness stereotype in employee selection tasks demonstrates that attractiveness plays a role in selection decisions, particularly when attractiveness is viewed as central to job effectiveness. Further, the positively biasing

effects of physical attractiveness are likely to occur only when interviewers and persons responsible for making selection decisions are unaware of the potential biasing effects of attractiveness on decision-making processes. Educating people about the PAS appears to give rise to demand characteristics wherein respondents favor the "underdog" (Farley et al., 1998), leading to a reversal of the bias. In light of these findings, managers and consultants should be cautioned from assuming that making bias and attractiveness salient is the key to ensuring objective decision-making.

Age-related Stereotypes

Arguably, the hot-button issues of race and gender discrimination have often overshadowed the no less important issue of age discrimination. However, age has not gone ignored in either public or academic discourse. Indeed, employment discrimination against anyone at least 40 years of age was prohibited when the United State Congress passed the Age Discrimination in Employment Act (ADEA) in 1967. Current demographic trends foretell a growing need to address issues surrounding age, particularly in the workplace (Bureau of Labor Statistics, 2011). The Bureau of Labor Statistics (2011) provides plentiful evidence to this effect. For instance, between 1977 and 2007, employment of workers age 65 and over increased 101 percent, compared to a much smaller increase of 59 percent for total employment (age 16 and over). While the number of employed people age 75 and over is relatively small (0.8 percent of the employed in 2010), this group saw the most dramatic gain, increasing 172 percent between 1977 and 2007. Furthermore, these figures do not take into account the aging of the baby-boom population, because in 2007, the baby-boom generation—those individuals born between 1946 and 1964—had not yet reached the age of 65. Thus, current trends are unlikely to abate. The Bureau of Labor Statistics (2008) data suggest that the total labor force is likely to increase by

8.5 percent during the period 2006-2016. However, when analyzed by age categories, very different trends emerge. The most dramatic growth is projected for the two oldest groups—those between the ages of 65 and 74 and those aged 75 and up. The growth for each of these groups is predicted to soar by more than 80 percent. Notably, older workers are now more likely than ever to choose full-time over part-time employment. Between 1995 and 2007, the number of older workers on full-time schedules nearly doubled while the number working part-time rose just 19 percent. As a result, full-timers accounted for a majority among older workers: 56 percent in 2007, up from 44 percent in 1995 (Bureau of Labor Statistics, 2008). These data make a compelling case that age could soon become the most controversial workplace issue for the next generation. To the extent that age stereotypes exist, and to the extent that these beliefs impact work-related outcomes, researchers both inside and outside of organizations will benefit from a deeper understanding of how issues surrounding age might impact fairness, satisfaction, productivity and profitability.

There is considerable agreement among researchers that a multidimensional, negative stereotype concerning age exists (Crockett & Hummert, 1987; Lutsky, 1980; McTavish, 1971; Miele & Deaux, 1989). Older adults are often viewed as prone to physical illness, lacking in mental quickness, inactive, unproductive, bothersome, absentminded, unhappy, unwilling to participate in activities, undesirable for company, physically unattractive, and self-deprecating (Aaronson, 1966; Hickey, Hickey, & Kalish, 1968; Crockett & Hummert, 1987; Lutsky, 1980; McTavish, 1971; Miele & Deaux, 1989). Suffice it to say that older adults are viewed in a much more negative light than younger adults across a broad array of characteristics. As demonstrated in the next section, these stereotypes have clear implications for how older adults are viewed in the workplace.

Age-related Stereotypes in the Workplace

An important distinction between workplace discrimination on the basis of physical attractiveness and discrimination on the basis of age concerns legality. Whereas there are currently no federal protections from discrimination on the basis of physical attractiveness, denying selection, promotion, and training opportunities on the basis of an employee's age is prohibited by the ADEA (1967). Several recent, high-profile cases have underscored the courts' seriousness on this matter. For example, in *Smith v. City of Jackson* (2005), the U.S. Supreme Court issued a decision broadening workers' protection against age discrimination. The Court ruled that federal law bars unjustified employers' actions that have a discriminatory impact without requiring proof of the employers' intent. In *Meachem v. Knolls Atomic Power Laboratory* (2010), the U.S. Supreme Court ruled for older workers, placing on employers the burden of proving that a layoff or other action that hurts older workers more than others was based not on age but on some other "reasonable factor." Finally, in *Parks v. University Hospitals Case Medical Center* (2008), a Cleveland jury in the Cuyahoga County Court of Common awarded $900,000 to Gloria Parks, a medical assistant, in support of her claim that she had been unfairly discriminated against because of her age when she was terminated from her job of 30 years.

Although discrimination on the basis of physical attractiveness and age are each undesirable, the obvious legal implications for employers in the case of age discrimination underscore the importance of avoiding this particular bias in workplace decision-making. In the paragraphs that follow, I review the content of age-related stereotypes at work as well as representative work that has investigated how age impacts decisions in employment settings.

Consistent with the negative age-related stereotype, older (compared to younger) workers are seen as less likely to seek new challenges, less flexible, displaying less desire to learn new skills, and having less need for variation in their work. Similarly, negative age-related stereotypes hold that older workers are unable to undergo retraining and are less adaptable than younger workers (Vrugt & Schabracq, 1996; Warr & Pennington, 1993). One meta-analysis revealed that younger workers view their younger (compared to older) peers as having greater developmental potential, as superior in overall job qualifications, and as being better suited for physically demanding positions (Finkelstein, Burke, & Raju, 1995). According to the stereotype, older workers are fearful of new technology and as a result will not use or embrace it (Stagner, 1985).

In the years since the passage of the Age Discrimination in Employment Act of 1967 (ADEA), an abundance of research has examined how age might impact decisions in the employment setting. For example, researchers have investigated how age affects actual job performance, the nature of age stereotypes in the work setting, how age might impact performance ratings, and how age relates to recruitment, selection, and promotion decisions. In one of the earliest studies to directly investigate age-related stereotypes at work, Rosen and Jerdee (1976) administered to both professional realtors and undergraduate business students a 65-item questionnaire that assessed performance capacity (e.g., productivity, creativity, efficiency), potential for development (e.g., learning ability, eagerness to achieve), stability (e.g., dependability, steadiness), and interpersonal skills (e.g., awareness of others' feelings, effectiveness in group situations) of adult males. Participants were asked to imagine that they would be meeting two people for the first time and that the only information available was that one person would be a 60-year-old man and the other person would be a 30-year-old man. No

other information was provided. The 60-year-old was rated lower on performance capacity and potential for development, while the 30-year-old was rated lower on stability. No differences were found for ratings of interpersonal skills.

In another study aimed at exploring the potential consequences of age-related work stereotypes, Rosen and Jerdee (1976b) asked undergraduate business students to assume the role of a division manager and to react to a series of six in-basket items that each pertained to a different subordinate problem or incident (i.e., resistance to change, lack of creativity, cautiousness and slowness of judgment, lower physical activity, disinterest in technological change, and untrainability). To manipulate the target employee's age, these six incidents were presented in one of two forms, specifying the target employee as either an "older" or "younger" person. For four of the six incidents, the researchers also included personnel forms with pictures of the target employees. The pictures depicted younger or older men dressed in business attire. Pre-testing suggested no differences in perceived physical attractiveness between the photographs. To control for a specific picture effect, three different pictures of older men and three different pictures of younger men were used in each of the four incidents. Results produced strong evidence of age-related discriminatory managerial decisions. Participants' assumptions about the physical, cognitive, and emotional characteristics of older employees accompanied a series of administrative actions that were clearly damaging to the well-being and career progress of older workers. Specifically, participants who evaluated an older (compared to younger) employee predicted encountering more difficulty in getting an older employee to correct his behavior. They were also more likely to recommend avoiding confrontation with older (compared to younger) employees. Participants were much more likely to suggest a promotion to a position requiring creativity and innovative thinking when reviewing the record

of a younger compared to older employee. Participants also discriminated against older employees when choosing an employee to fill a position requiring financial risk taking. Additionally, when an older employee requested a transfer to a job requiring strenuous physical activity, participants were significantly more likely to endorse administrative action persuading the employee to withdraw the request or to simply deny it. Finally, participants in this study were less likely to endorse administrative action recommending organizational support to maintain and develop the skills of older (compared to younger) employees, and were also strongly opposed to providing retraining opportunities for older (compared to younger) employees who no longer possessed the job knowledge to carry out their job assignments effectively. Because these findings are based upon the perceptions of undergraduate business students, generalizations to organizational decision makers must be made cautiously. However, this study does shed light on the potential for destructive discrimination against older workers.

A study conducted by Haefner (1977) partly addressed this generalizability issue by examining the sources of discrimination among employees from the state of Illinois. Haefner interviewed over five-hundred employees to determine the types of discriminatory feelings that exist in the work environment. The employees interviewed included professionals, managers, clerical workers, sales workers, craftsmen and foremen, operatives, service workers, and laborers. Participants received stimulus materials comprised of the individual profiles of 16 hypothetical people, all of whom were described as disadvantaged (i.e., limited educational background and raised in substandard living conditions). The researchers manipulated the age (25 vs. 55 years old), competence (low vs. high), race (black vs. white) and sex of each profile. Participants rated the extent to which they would be willing to work with each of the 16 hypothetical persons. The results exposed a number of biased perceptions, including one

concerning age. Specifically, participants stated a preference for working with younger employees over older employees. Importantly, this study only examined preferences and not behavior, and thus employees may indeed not act in a discriminating way when actually on the job. Nonetheless, the study provides further evidence that age discrimination is a potential problem in the workplace.

Another field study conducted by Raza and Carpenter (1987) focused on the decision-making processes of eight professional interviewers. The researchers sought to test the role of both applicant and interviewer demographics in hiring decisions. They examined 171 unstructured job interviews (spanning a variety of industries) conducted by the professional interviewers. Immediately following each interview, the interviewers filled out a questionnaire in which they provided demographic information for themselves and the applicant (e.g., age, sex), ratings of the applicant (e.g., intelligence, physical attractiveness, likability) and ratings of hirability (degree of hiring recommendation) and employability (the general acceptability of the applicant as an employee). Results indicated that older applicants were not uniformly rated lower than younger applicants, but they were differentially viewed by male and female interviewers. Older and younger applicants were rated similarly by both male and female interviewers for likability, skill, and employability. Male interviewers gave older applicants lower intelligence ratings and lower hiring recommendations; whereas female interviewers gave older applicants lower attractiveness ratings. The study's authors emphasized the fact that for employability and hiring decisions, demographic characteristics of the applicants were less important than their skills, intelligence, likeability, and physical attractiveness. On the one hand, this may provide some comfort that actual interviewers give more weight to certain job-relevant information (i.e., skills, intelligence) than to certain job-irrelevant information (e.g., age, gender). Skills and

intelligence certainly should be more important than age and gender when making hiring decisions. On the other hand, it also suggests that applicant age (illegally) influenced interview outcomes in a sample of experienced interviewers.

Avolio and Barrett (1987) asked college students to review a 12 minute, simulated, audio-taped interview of an applicant (age 32, 59, or none given) applying for a temporary supervisory position. To prepare for the interview, all participants reviewed a detailed job description and a brief biographical sketch of the male applicant. One group of participants also read a supervisory profile in addition to the job description before reviewing the tape. All participants then rated the interviewee's potential for performing six supervisory functions (i.e., planning for goals, administering rules fairly, training subordinates, job knowledge, communication skills, and administrative skills). They also rated the extent to which the interviewee possessed the six requisite supervisory attributes, and the interviewee's future potential and overall interview performance. Results indicated that younger (compared to older) applicants were viewed to have higher future potential and were given higher overall evaluation ratings. However, ratings given to the older interviewee were not significantly different from those given to an interviewee whose age was not designated. Thus, in this study youth may have served as an advantage rather than advanced age serving as a handicap.

In another study investigating applicant age as a variable, Perry and Bourhis (1998) trained 81 introductory business students to evaluate hypothetical job applicants for two different jobs (i.e., pizza deliverer and fast food worker). The researchers sought to examine whether and how age discrimination operates in a selection context in which raters are provided with subjective applicant information in addition to age that matches their job stereotypes to a greater or lesser degree. Although both jobs studied were associated with young workers, pilot testing

indicated that the job of pizza deliverer was more likely to be associated with young job holders than the job of fast food worker. Participants were provided with six applicant profiles (three for each of the two jobs) that included the applicant's age and five descriptive features that varied in relevance to the job (e.g., punctual, independent, fast, careful, well-groomed). Thus, the hypothetical applicants varied in age (young vs. old) and degree of match with the job. Participants were randomly assigned to evaluate either young or old applicants. Results revealed that younger applicants were evaluated more favorably than older applicants across the two jobs. This effect was qualified by a significant age by job interaction whereby older workers applying for the less young-typed job (i.e., fast food worker) were evaluated more favorably than old applicants applying for the more young-typed job (i.e., pizza deliverer). In contrast, young applicants were viewed equally favorably across job types. Finally, applicants who matched on more central features (e.g., polite, precise, likes pizza, works well with others) were evaluated more favorably than were those who matched on fewer central features. Altogether, the results of this study suggest that in a selection context in which older applicants are applying for a traditionally young-typed job, older applicants may be able to compensate for their mismatch on age by conveying information about other characteristics they possess that match central features of the rater's job stereotype. However, this research also indicates that young applicants who match on the same or more central features will likely possess an advantage over older applicants.

In sum, the research literature on age discrimination in the workplace has consistently found that older age is a barrier rather than a benefit. This finding is robust—emerging in studies using undergraduate students, business students, state employees, and even professional

interviewers. For this reason, it is important to address factors that may influence stereotyping and discrimination on the basis of age.

In the next chapter, I review the psychological literature that has investigated the role of affect in social cognition. One objective here is to provide a review of work that has identified affect as an important factor influencing the extent to which category-based information is used in decision-making. A second objective is to outline the important theoretical foundations that attempt to explain the findings from this work.

Chapter 3. Affect and Social Cognition

Recent decades have seen numerous published studies investigating the role of affect in social cognition, making it a hot topic within social psychology. The present chapter reviews the overall pattern of findings resulting from these studies and summarizes the major theoretical accounts advanced to explain these findings. I begin by distinguishing among commonly used terms in the affect and social cognition literature. I then review the extant work investigating the roles of mood and emotion in cognition. Finally, I present a brief description of the cognitive appraisal theories of emotion followed by a lengthier description of the Appraisal Tendency Framework, which serves as the primary theoretical basis for the proposed research.

Distinguishing Among Affect, Moods, and Emotions

Before discussing the impact of affect on social cognition, it is important to distinguish among several commonly used terms in the literature. The terms affect, mood, and emotion are often used interchangeably. Thus to avoid potential confusion, I follow Rosenberg's (1998) analysis of the organization of affect, which suggests that affect consists of three levels: affective traits, moods, and emotions. Affect is used as a general term and can refer to moods, emotions, or traits. Rosenberg (1998) defines affective traits as enduring inclinations toward certain types of emotional responding. These traits are thought to form stable aspects of our personalities. For example, the affective trait of hostility is defined as the predisposition toward anger (Buss & Durkee, 1957; Ekman, 1984). People who are more hostile have a lower threshold to anger elicitation than those who are less hostile. Because of their status as personality traits, affective traits exert an organizational influence on the affective states and thus take their place at the top of the affective realm. The affective states are moods and emotions. They are referred to as states because they are transient. Rosenberg (1998) and Schwarz (1990; Schwarz & Clore, 1996)

suggest that moods and emotions differ in terms of intensity and duration. Emotions consist of short, intense episodes, whereas moods are longer lasting. As emotions fade over time, they may evolve into general mood states. Schwarz and Clore (1996) further distinguished moods from emotions by suggesting that moods refer to general affective states without a particular referent, whereas emotions refer to affective states with a specific referent.

Another useful elucidation of terms is provided by Thayer (1989), who writes that moods differ from emotions in that they are less specific, less intense, and less likely to be triggered by a particular stimulus or event. People often speak of being in a good mood or a bad mood, suggesting that valence is the most obvious or descriptive feature of moods. Moods and emotions also differ in terms of duration. Unlike acute, emotional feelings like fear and surprise, moods typically last for hours or even days. Mood can also be distinguished from temperament or personality traits which are even more general and longer lasting.

Finally, Lazarus (1991) defines emotions as complex, organized subsystems consisting of thoughts, beliefs, motives, meanings, subjective bodily experiences, and physiological states. He argues that emotions depend on appraisals, which arise from and facilitate struggles to survive and prosper. Lazarus prefers to distinguish moods from discrete emotions on the basis of the vagueness and lack of a contextual provocation in the mood. He argues that moods do not seem to be clearly related to a single object or piece of business in an adaptational encounter, as is the case in discrete emotions such as anger and fear.

To be sure, not all researchers studying affect use these definitions of moods and emotions (for alternative perspectives, see Batson, Shaw, & Oleson, 1992; Morris, 1992). However, the above definitions and descriptions capture useful distinctions between terms that I will adopt throughout this paper.

Fredrickson (2001) makes the interesting point that distinctions between emotions and moods have been guarded more at the theoretical level than at the empirical level. In many cases, positive moods and positive emotions are induced in strikingly similar ways in experimental research, making much of the literature on moods directly relevant to positive emotions. For example, many experiments induce positive mood by giving participants small gifts or having them view brief clips of comedic films (e.g., Aspinwall, 1998; Isen, 1987, 2000). Therefore, a review of the work investigating the impact of mood states on cognition follows.

Mood and Cognition

An extensive body of research has examined the impact of moods and emotions on judgment, decision-making and information processing (for reviews, see Clore, Schwarz, & Conway, 1994; Fiedler, 1988, 2000; Forgas, 1995; Martin, 2000; Rusting, 1998; Schwarz & Bless, 1991; Schwarz, Bless, & Bohner, 1991). The bulk of this work includes laboratory studies in which participants are induced to feel positive or negative affect and then are given a task that allows the researchers to make inferences about the participants' level of information processing. This research has been generally consistent in showing two things: (1) That people engage in more systematic processing when in negative (compared to positive) moods or emotional states and (2) that people engage in more heuristic processing (e.g., use of stereotypes, schemas, scripts, global categories) when in positive (compared to negative) moods or emotional states (Batra & Stayman, 1990; Bless, Bohner, Schwarz, & Strack, 1990; Mackie, Asuncion, & Rosselli, 1992; Mackie & Worth, 1989, 1991; Murray, Surjan, Hirt, & Surjan, 1990; Schwarz, 1990; Schwarz et al., 1991; Sinclair, 1988; Sinclair & Mark, 1992; Worth & Mackie, 1987).

A smaller body of research, however, has found differences in processing among negative affective states (Bodenhausen, 1993; Bodenhausen, Kramer, & Susser, 1994; Lerner,

Goldberg, & Tetlock, 1998). For example, studies that have examined sadness specifically have generally found that it leads to the use of effortful algorithms, the tendency to evaluate complex hypotheses, and consideration of all available information (i.e., systematic processing) (Bless, 2000; 2001; Gasper & Clore, 2002; Gasper, 2004). Anger, by comparison, encourages less systematic and analytic information processing and generates more top-down, schematic, and heuristic processing (Bodenhausen, Sheppard, & Kramer, 1994; Lerner & Tiedens, 2006). Thus, the results regarding the effects of negative affective or emotional states on information processing appear to be mixed and to depend upon the specific emotional states being studied. Several theories linking mood to cognition have been proposed. Below, I summarize these theories and the empirical evidence for each.

Theories of Mood and Cognition

According to the *mood repair hypothesis* (Clark & Isen, 1982; Isen, 1984; Taylor, 1991; Forgas, 1995), people hedonistically prefer positive moods to negative moods. As a result, positive and negative moods lead to vastly different motivational and processing tendencies. According to this view, good moods are always desired and maintained while bad moods are always resisted. Essentially, the hypothesis predicts that once an individual is motivated to "repair" his or her mood (because it is sufficiently negative), that individual's processing shifts from reliance on heuristics to more systematic processing strategies. However, it is not difficult to point to several examples of everyday behavior that seem to contradict such hedonistic explanations of behavior. For instance, Erber and Erber (2001) note that people regularly spend money and time on movies that are quite sad (Titanic is the highest grossing movie of all time). Additionally, mood repair explanations do not account for the fact that mood repair processes are also dependent on context. For example, while a rainy day might usually make one sad, it may

have a less negative impact on one's mood if one has to spend the entire day inside working anyway. In this case, a sunny day would be more likely to make an individual sad.

Perhaps a more nuanced approach to explaining the differences in processing under positive and negative moods is the *mood-as-general-knowledge theory* (Bless, Clore, Schwarz, Golisano, Rabe, & Wolk, 1996; Bless, Schwarz, & Wieland, 1996). According to this theory, moods states are assumed to provide information about the nature of the immediate situation. When an individual is experiencing a positive mood, he or she interprets this as a signal of the absence of threat. That is, positive mood informs the individual that all is well. As a result, happy individuals are not motivated to expend cognitive effort unless this extra effort is called for by other goals. The cognitive consequence of being in a positive mood is the increased likelihood of heuristic processing. An example of heuristic processing is the use of general knowledge about social groups in judgments about individual members (i.e., stereotyping). According to the theory, in contrast to positive mood, negative mood alerts the individual that a problem exists in the environment. This motivates more detail-oriented careful thinking and an avoidance of relying on heuristics. Furthermore, the theory states that happy individuals' reliance on general knowledge structures (e.g., stereotypes) is an antecedent rather than a consequence of simplified processing. Because general knowledge structures often allow efficient and parsimonious processing, happy moods will lead to more parsimonious processing than sad moods.

Predictions derived from mood-as-general-knowledge theory have received some support from recent experiments on affect and stereotyping. For example, in a series of three experiments, Bodenhausen et al. (1994a) induced positive (i.e., happiness) or neutral affect in participants and then asked them to make judgments about fellow students' guilt or innocence after reading one of two cases. One of the cases involved an allegation of assault while the other

involved cheating on a math test. The case summaries consisted of 5 or 6 sentences detailing the nature of the accusation and providing a mixture of evidence, some implying guilt and some implying innocence. The identity of the student accused in each was manipulated so that, for half the subjects, the student was identified as a member of a group stereotypically associated with the alleged offense (stereotype condition), whereas for the remainder he was not (no stereotype condition). In the first experiment, participants were asked to recall life experiences that elicited either a neutral or a happy mood. The second experiment utilized a facial feedback procedure to directly produce subjective happiness. In the third experiment, participants listened to music excerpts designed to induce an excited, high-arousal positive mood, a relatively lower-arousal positive mood or a neutral mood. In each of the three experiments, participants in a happy mood rendered more stereotypic judgments than participants in a neutral mood. Specifically, in each of the studies happy participants were significantly more likely to rate a hypothetical student as guilty of assault when that student's name was obviously Hispanic (i.e., Juan Garcia) rather than ethnically nondescript (i.e., John Garner). Similarly, in each study happy participants were significantly more likely to rate a hypothetical student as guilty of cheating when the student was described as a well-known track-and-field athlete on campus as opposed to when this specific descriptor was omitted. These findings provide evidence that positive affect increases reliance on category knowledge in the form of stereotypes and that neutral mood does not produce such effects.

Further support for mood-as-general-knowledge theory was provided by a series of studies by Park and Banaji (2000). They induced happy, neutral, and sad moods and asked participants to remember whether names associated with race (African American, European American) belonged to specific social categories (criminal, politician). Park and Banaji

endeavored to create conditions under which they could not only observe whether positive and negative mood increased or decreased stereotype use, but also identify the specific mental processes (e.g., sensitivity to category demarcation, strictness of decision criteria) that are disrupted by mood. In so doing, their research drew on signal detection theory and its statistics of sensitivity and bias to analyze how temporary feeling states can produce shifts in the use of heuristics, in this case, stereotypes of social groups. Results indicated that positive compared to neutral moods led to increased reliance on beliefs about the group in judging individual members. In contrast, sad mood led to the use of a stricter criterion compared with neutral mood. That is, sad participants appeared to set a stricter criterion for judgment than those in a positive or neutral mood by reducing the application of group-level evaluation to individual judgment. These researchers were careful to note that it is not that a sad mood decreases negative group-level evaluations. Instead, the sad mood seems to prevent individuals from being as likely to apply these negative evaluations to individual judgment situations.

To examine whether specific kinds of negative affect impact social information processing differently, Bodenhausen et al. (1994b) asked participants to vividly recall an episode that made them feel sad, angry, or neutral. Following the mood manipulation, participants were asked to read a case of alleged student misconduct and to render judgments about the case. The results indicated that angry participants rendered more stereotypical judgments than sad participants who were not different from neutral subjects. These findings are in contrast to those of Park and Banaji (2000), who found differences between individuals in a sad versus neutral mood. Bodenhausen et al. (1994b) concluded that in order to make systematic progress in understanding the influence of various affective states on depth of information processing, it is

important for researchers to look beyond mood valence to an examination of discrete, positive and negative emotions.

Emotions and Social Cognition

Across many cultures, researchers and laypeople have made comparisons between emotions and reason (i.e., cognition). One overly simplistic view suggests that we either choose to follow emotion or reason when deciding how to behave. Of course, conventional wisdom shows a clear preference for reason over emotion as a motivational guide when making important decisions. For example, individuals are often encouraged to calm down and think rationally before acting. However, modern psychology recognizes that in healthy individuals, emotion, cognition, and behavior have a certain degree of integration and can reciprocally influence each other.

A point of considerable agreement within the emotions literature that is also pertinent to the present investigation concerns the social nature of emotions. Specifically, there is broad consensus that emotions promote and preserve adaptive functioning within momentary social interactions (DeSteno & Salovey, 1996; Frijda & Mesquita, 1994; Keltner & Haidt, 1999; McCullough, Kilpatrick, Emmons, & Larson, 2001; Salovey & Rothman, 1991). Emotions are also believed to influence social judgment in an emotion-congruent fashion. For example, anger leads people to judge unfair events to be more likely in the future, whereas sadness makes loss seem more likely (DeSteno, Petty, Wegener, & Rucker, 2000). Fear leads people to be overly pessimistic and to overestimate risk in the environment (Lerner & Keltner, 2001). Because these emotion-congruent effects have been observed, there is a strong need for theoretical accounts that take into consideration the influences of specific emotions on information processing.

A full review of the theory and research on the topic of emotion is beyond the scope of this chapter. Instead, I refer interested readers to Cornelius (1996), Strongman (1996) and Baumeister, Vohs, DeWall, and Zhang (2007), each of whom provide excellent, integrative accounts of the psychological theories of emotion. In line with the current focus on the impact of emotion on information processing, I limit my review to cognitive appraisal theories of emotion. In the next section, I briefly describe the cognitive appraisal theories of emotion which link emotion to immediate cognitive processes of evaluation of meaning, causal attribution, and assessment of coping capabilities.

Appraisal Theories of Emotion

In their simplest form, cognitive appraisal theories of emotion[2] assert that emotions are elicited by evaluations (appraisals) of events and situations. For example, sadness felt when a loved one moves away may be elicited by the appraisal that something desired has undeniably been lost and cannot be regained (Frijda, 1986; Oatley & Johnson-Laird, 1987; Roseman, 1984; Scherer, 1993; Smith & Lazarus, 1993; Stein & Levine, 1999). Appraisal theories of emotion (Roseman, 1984; Lazarus, 1991) attempt to account for the richness of emotional experience by going beyond generally positive and negative emotions to more specific emotional reactions. Furthermore, they provide a more precise theory of the construal processes that give rise to specific emotions. According to appraisal theories, diverse interpretations of events produce the multitude of emotions that can be seen in characteristic facial expressions (e.g., smiling, frowning) and action tendencies. Action tendencies are defined as, "a readiness to engage or disengage from some goal object in some particular fashion" (Frijda, Kuipers, & ter Schure, 1989, p.213). Behaviorally, these tendencies might manifest as showing attentional interest,

[2] For more complete descriptions of the cognitive appraisal theories of emotion, I refer readers to Smith & Lazarus (1990) and Roseman & Smith (2001).

withdrawing, expressing opposition, or attacking. These action tendencies provide the link between an emotion and its physiological response pattern (Lazarus, 1991). In sum, according to appraisal theory, each distinct emotion is elicited by a distinctive pattern of appraisal.

Cognitive appraisal theories maintain that discrete emotions spring from processes of evaluation of events and of attributions of the causes of those events (e.g., Frijda, 1986; Lazarus, Averill, & Opton, 1970; Parkinson & Manstead, 1992; Roseman, 1984; Scherer, 1999; Smith & Ellsworth, 1985). Specifically, individuals assess the degree to which events are novel or familiar, whether they are under one's control or not, whether they are positive or negative, whether they thwart or advance goals, whether or one is certain or uncertain about what is going on, and whether managing reactions to the event will require considerable or little effort (Niedenthal, Krauth-Gruber, & Ric, 2006). Depending on the result of the pattern of evaluations that characterize the resulting appraisal, a discrete emotion is induced. For example, if a negative event or situation is evaluated as having occurred very suddenly and if it is viewed as being under the individual's control, anger might be evoked. However, if the event was not sudden and if it is not under the individual's control then sadness might be the result.

Substantial support for appraisal theories is taken from studies in which experimental participants are asked to recall an emotional event from their past, and then to evaluate it on the appraisal dimensions of interest to the researcher (e.g., Frijda, Kuipers, & te Schure, 1989; Manstead & Tetlock, 1989). Additional support is gleaned from studies in which participants read descriptions of events that are conducive to specific patterns of appraisal, and then rate their expected emotional reactions (e.g., Ellsworth & Smith, 1988; Reisenzein & Hofmann, 1990). Perhaps most compelling are the supportive findings of studies in which emotions are manipulated or measured in real-life emotional situations, and appraisal processes are assessed

concurrently (e.g., Folkman & Lazarus, 1985; Smith & Ellsworth, 1987). In one such field study, Scherer and Ceschi (1997) videotaped travelers as they reported that their baggage was lost to an agent at the baggage claim office in a large European airport. The investigators then interviewed the travelers about their appraisals of the situation and about their subjective feelings. The results revealed that individuals varied in their emotional reactions to the same experience of losing baggage. Specifically, participants in the study reported feeling such varied emotions as anger, resignation, worry, and good humor. They were also likely to report experiencing a blend of more than one emotion. Consistent with appraisal theories of emotion, the most important factor in determining the participants' emotional reaction to loss of baggage was the subjectively evaluated importance of the loss in the context of the pertinent goals and plans at the moment. For example, the more that the event was perceived as impeding one's current goals, the more the individual experienced anger, and to some degree worry, in the event.

The implications of appraisal theories are that emotions are not revealed in a hardwired way in response to certain situations or objects, but that the emotional significance of the events and objects depends on the goals and the perceived coping capacities of each individual in a given situation. Thus, appraisal theories can easily predict that one person will respond to a stimulus with sadness while a second will respond to the same stimulus with anger. Emotions are differentiated and can be associated with different physiological processes and facial expressions in this view, but the antecedent of the emotion—the specific profile of appraisal—determines which discrete emotion is experienced (Niedenthal et al., 2006).

In sum, cognitive appraisal theories of emotion posit that cognitive evaluations of an event give rise to the specific discrete emotion(s) an individual experiences during the event. Armed with a general understanding of the appraisal theories of emotion, I now turn to a

description of the Appraisal Tendency Framework (ATF) which owes its development to these cognitive appraisal theories and serves as the basis for my research hypotheses.

The Appraisal Tendency Framework

Whereas appraisal theories of emotion describe the cognitive processes that give rise to specific emotions, the ATF proposed by Lerner and Keltner (2000) explains how cognitive and motivational patterns, or appraisal tendencies, continue to linger after an emotion has been experienced and thus influence subsequent judgments, choices, and decisions that are unrelated to the emotion(s). The framework offers a comprehensive set of assumptions and principles that allow for and encourage predictions for the effects of specific affective states. Although the framework is not a catalog of emotion-specific predictions, it does outline a general guide to predict and describe how an emotion will shape decision-making, and this guide can be applied and used to understand the effects of any specific, discrete emotion (Han et al., 2007).

Principles of the ATF. Here I briefly introduce the five principles of the ATF as laid out by Han et al. (2007). In the subsections that follow, I describe each principle in more detail.

The first principle of the ATF concerns its focus on incidental (i.e., irrelevant) rather than integral (i.e., directly relevant) influences on judgment and decision-making. The second principle of the ATF is that it is a multidimensional framework that integrates several dimensions of emotions (e.g., valence, certainty, anticipated effort). Thus, the ATF can be distinguished from other theories of affect and cognition because it goes beyond the single dimension of emotional valence. The third principle of the ATF concerns the motivational features characteristic to each specific emotion that fuel carryover to subsequent decisions and judgments. The fourth principle of the ATF delineates the boundaries beyond which distinct emotions no longer influence judgment and choice. Finally, the ATF outlines two conditions that will significantly weaken the

influences of emotion on judgment and choice. In the following subsections, I describe each of these five principles in greater detail.

Integral and incidental emotions. An important component of the ATF concerns the distinction between integral and incidental emotions (Han et al., 2007). The ATF focuses primarily on incidental emotion, which refers to feelings that are unrelated to subsequent judgments, decisions or choices. In contrast, integral emotion refers to feelings that are related to the judgments, decisions, or choices that follow (Loewenstein & Lerner, 2003). For example, if you were to watch a comedy act prior to filing your taxes, the remnants of happiness or joy that were induced in you by watching the act would be considered incidental, or irrelevant as you complete your taxes. That is, the affective state of happiness/joy is unrelated to the task in which you are currently engaged. By contrast, if the exercise of filing your taxes this year induced in you feelings of anxiety or frustration and these feelings then prompted you to call an accountant in order learn how to better prepare for next year, the anxiety and frustration experienced would be considered integral emotions because they are directly relevant to your phone conversation with the accountant concerning future tax planning.

Dimensions that differentiate the emotions. The ATF goes well beyond the valence approach that has traditionally characterized the literature on affect and judgment by incorporating a range of other dimensions. When introducing the ATF, Lerner and Keltner (2000) asserted that a range of appraisal dimensions collectively define and distinguish among discrete emotions: pleasantness, anticipated effort, certainty, attentional activity, self-other responsibility/control, and situational control. Smith and Ellsworth (1985), who originally identified these six dimensions, define them as features that both characterize and distinguish emotions. Stemming from earlier work (e.g., Ekman, Friesen, & Ellsworth, 1982; Izard, 1977;

Tomkins, 1982), Smith and Ellsworth (1985) provided a description of the properties of 15 common emotions. A number of subsequent studies have used the descriptions provided by Smith and Ellsworth to devise manipulations that discriminate between the effects of emotions with similar valence. In the face of ample support for the existence of the dimensions and properties of emotions described by Smith and Ellsworth, the authors of the ATF incorporate this work into their framework.

Appraisal tendencies. Another important feature of the ATF concerns appraisal tendencies. Specifically, the ATF predicts that each emotion carries with it motivational properties that fuel carryover to subsequent judgments and decisions. According to the ATF, emotions not only can arise from but give rise to an implicit cognitive predisposition to appraise future events in a manner consistent with the central appraisal patterns that characterize the emotions. The ATF summarizes these processes as appraisal tendencies. Appraisal tendencies, although tailored to help the individual respond to the event that evoked the emotion, persist beyond the eliciting situation and affect the content (Lerner & Keltner, 2000, 2001) as well as the depth of people's thought (Lerner & Tiedens, 2006).

Some of the earliest empirical work to illustrate how appraisal dimensions of specific emotions influence the content of thought was a series of studies conducted by Keltner, Ellsworth, and Edwards (1993). Using appraisal theory as a foundation, the researchers predicted that sadness and anger would exert divergent effects on individuals' estimates of the likelihood of negative events. They also predicted that these two emotions would influence individuals' causal attributions of negative events in distinct ways. Appraisal theory suggests that sadness is accompanied by the appraisal that personal setbacks and frustrations are due circumstances beyond anyone's direct control, whereas anger is accompanied by the appraisal that personal

misfortunes are directly caused by other people. In one study, the researchers sought to investigate whether anger and sadness differentially affect people's estimates of the likelihood of events caused by other people and events caused by situational factors. Sadness and anger were induced by either presenting emotionally charged vignettes or by having participants follow detailed instructions to exercise various facial muscles consistent with the target emotion. Consistent with the researchers' expectations, results revealed that sad participants perceived situationally caused negative events as more likely while angry participants perceived humanly caused events as more likely. In a follow-up experiment, Keltner and colleagues investigated the direction in which sadness and anger shift causal judgments. This study used the same emotion inductions as the earlier study. They found that sad participants perceived situational causes as more responsible for an ambiguous event than did angry participants. The angry participants tended to attribute blame to another person.

The way in which appraisal themes determine the content of thoughts can be further illustrated in a study conducted by Raghunathan and Pham (1999). The researchers sought to compare sadness and anxiety because although these emotions share a negative valence, they are accompanied by quite divergent appraisal themes. The appraisal theme associated with sadness is the loss or absence of a treasured object or person. The appraisal theme associated with anxiety is high uncertainty over the result of a personally relevant event, especially when the outcome is potentially harmful and the individual feels powerless to alter the course of events. After inducing either sadness or anxiety in a group of participants, the researchers then presented the participants with a choice between a high-risk/high-reward job and a low-risk/low-reward job. Consistent with the appraisal themes of each emotion, they found that sad decision-makers

preferred the high-risk/high-reward job (reward seeking), whereas the anxious decision-makers preferred the low-risk/low-reward job (uncertainty reducing).

There is reason to believe that the dimension of certainty is particularly relevant to use of category-based information in interpersonal judgments. For example, Weary and Jacobson (1997) found that people who chronically feel uncertain process information more systematically because they lack confidence in their own judgments. Additionally, early theories of social cognition recognized the role of uncertainty as a motivator for effortful processing. Festinger (1954) claimed that individuals engage in social comparison when they feel uncertain of themselves. Pelham and Wachsmuth (1995) extended this argument and showed that when people are uncertain about their self views, they engage in more systematic processing when making social comparisons. Likewise, early attribution theorists argued that careful determination of the causal structure of events is the result of uncertainty (Heider, 1958; Kelley, 1973).

Further, recent dual processing theories of attitude change have emphasized the importance of feelings of certainty. Eagly and Chaiken (1993), in describing Chaiken's et al.'s (1989) sufficiency threshold hypothesis, wrote that people "will invest whatever amount of effort is required to attain a sufficiently confident assessment of message validity" (p. 330). When people's actual level of confidence or certainty is below their desired level of confidence or certainty, they will apply more effort in their processing. Because feeling certain is an internal cue that one is already correct and accurate, it may also suggest that further processing is not necessary (also Mackie et al., 1992). Indeed, Martin et al.'s (1993) work on mood as input suggests that positive mood leads to heuristic rather than systematic processing because it

provides a sense of subjective certainty. They argued that people in a positive mood achieve Chaiken et al.'s (1989) sufficiency threshold more easily than do those in a negative mood.

On the basis of early theories of social cognition and attribution as well as more recent dual processing theories of attitude change (outlined above), Tiedens and Linton (2001) predicted that incidental emotions associated with certainty appraisals (e.g., happiness, anger) would lead to superficial processing strategies. By contrast, they predicted that incidental emotions associated with uncertainty appraisals (e.g., hope, fear) would lead to deep and systematic processing strategies. One study manipulated whether participants experienced anger or contentment (high-certainty emotions), or worry or surprise (low-certainty emotions) by asking them to recall and write about memories that had made them feel one of these emotions. To assess appraisals of certainty, the investigators asked participants to respond to a shortened version of Smith and Ellsworth's (1985) appraisal questionnaire. Participants rated the degree to which they understood what was happening around them, how well they could predict what would happen next, and how uncertain they were about what was happening (reverse scored) when they were feeling the target emotion. Then, in an ostensibly unrelated study, participants read an essay advocating the end of grade inflation. The essay was presented as having been written by either a distinguished professor (expert) or a student from a nearby school (non-expert). Participants then rated the extent to which they agreed with the position argued in the essay. Consistent with the researchers' expectations, both angry and content participants demonstrated greater reliance on the heuristic source cue (i.e., expert vs. non-expert) than worried or surprised participants. That is, participants were more likely to rely on the expertise of the source when induced to feel emotions associated with certainty than when induced to feel emotions associated with uncertainty. Importantly, no main effects or interactions involving

valence were obtained, suggesting that certainty (rather than valence) is a stronger predictor of the extent to which individuals base their judgments on superficial cues in the environment.

In another example, two studies by Small and Lerner (2008) compared the effect of sadness (a low-certainty emotion) versus anger (a high-certainty emotion) on welfare policy preferences. Each study induced the incidental emotions and then—in an ostensibly unrelated study—presented participants with a brief description of a person currently receiving welfare assistance. Participants then chose whether and how to adjust the current level of public assistance. They found that sad participants recommended significantly more welfare support than did neutral or angry participants (Study 1) unless the participants' capacity to process information was constrained (Study 2). When constrained by cognitive load, the recommendations of sad and angry participants were indistinguishable. One can infer, therefore, that differences in depth of processing in sadness and anger drove the differences in welfare policy preferences. One possible explanation for why systematic thought led to increased assistance has to do with stereotype use. Given that stereotypes of welfare recipients tend to be negative (e.g., "lazy," "deadbeats"), the authors speculated that increased thought might lessen reliance on the negative stereotype and thereby result in a relatively more positive evaluation.

In a final example, Benkendorf and Sommer (2007) examined both certainty appraisals and valence as possible moderators of the use of the physical attractiveness stereotype in an employee selection task. One of four emotions was induced in participants: happiness, disgust, hope, or fear. The effects of emotional certainty were investigated by collapsing induced happiness and disgust (high-certainty emotions) and comparing this with hope and fear (low certainty emotions). The effects of valence were examined by collapsing happiness and hope (positive valence) and comparing this category with disgust and fear (negative valence).

Participants viewed short film clips designed to induce one of the four emotions. Then, in an ostensibly separate study, participants assigned trait ratings and assessed the employability of a job candidate based upon a review of the applicant's résumé and the job description. A photograph of an attractive or unattractive person was attached to the résumé. The results revealed an interaction between emotional certainty and attractiveness on intelligence ratings. Specifically, high-certainty emotions led to higher intelligence ratings for attractive compared to unattractive candidates, whereas appraisals of uncertainty led to higher intelligence ratings for unattractive compared to attractive candidates. The researchers did not find a similar interaction between valence and attractiveness on ratings, suggesting that certainty may be a more important determinant of stereotype use than valence.

In their analyses, Benkendorf and Sommer collapsed across emotions to test competing hypotheses for certainty and valence. The study did not examine the effects of specific emotions. However, the mean intelligence ratings for the individual emotions revealed that happy participants assigned higher intelligence ratings to the attractive (compared to unattractive) job applicants, whereas disgusted participants did not. Thus, while Benkendorf and Sommer's findings can be viewed as supportive of other research findings showing that happiness increases reliance on simplified processing (e.g., stereotypes), they do not provide full support for the proposition that certainty appraisals lead to heuristic processing. In light of this, additional research is needed to clarify when appraisals of certainty may trump appraisals of pleasantness in determining the level to which information will be processed.

Matching constraint. According to the ATF, the effects of emotion are limited to judgments or choices that are related to the emotion's core appraisal dimensions. In other words, carryover will be limited to situations where there is a match between the core appraisal

dimensions or appraisal themes of the emotion and the correspondent cognitive dimensions of the judgment or choice at hand. For instance, as Han and colleagues (2007) point out, research in cognitive psychology has demonstrated that predictions of certainty/predictability and perceptions of control regulate perceptions of risk (Slovic, 1987). Hence, an emotion such as fear, which is defined by appraisals of uncertainty and lack of individual control, should influence judgments of risk, whereas an emotion such as anger, which is defined by appraisal of high certainty and individual control, should not. Lerner and Keltner (2000, 2001) tested this by asking participants either to estimate the number of annual fatalities due to 12 events that lead to a certain number of deaths each year in the United States (Lerner & Keltner, 2000) or to estimate the likelihood that specific positive and negative events would occur in their own life compared to the lives of relevant peers (Lerner & Keltner, 2001). The results of both studies were consistent with predictions derived from the ATF. Specifically, angry participants made optimistic risk assessment while fearful participants made pessimistic risk assessments. The important lesson here seems to be that appraisal dimensions and themes of discrete emotions provide a more precise avenue for differentiating among emotions than a mere valence approach.

Deactivating conditions. The final principle of the ATF concerns two deactivating conditions that will reduce or remove the influence of emotion on judgment and choice. First, the ATF proposes that when the relevant goal(s) is/are attained or the relevant problem is solved, the effects of residual emotion will be deactivated. For example, suppose that an individual experiences hope that his preferred candidate will be elected to office. The goal-attainment hypothesis within the ATF suggests that the appraisal tendencies associated with hope will persist unless the emotion-eliciting problem is solved. In this case, if the individual's preferred candidate withdrew from the race before the election, the problem would be solved (even though

the individual might not like the solution) and thus the appraisal tendencies associated with hope would be deactivated. Additionally, the ATF proposes that when decision makers become cognitively aware of their judgment and choice processes, the influences of residual emotion are deactivated. For example, imagine that a teenager's parents ask her to clean out her closet and identify old clothes that can be donated. However, immediately before she does this, she and her friends watched a popular new movie with several severely disgusting scenes. Normally, the appraisal tendency associated with disgust compels individuals to distance themselves from objects, even disposing of possessions. However, the teenager is enrolled in a psychology class and has learned about this tendency. The cognitive awareness hypothesis within the ATF would predict that because she is aware of the judgment processes that she generally uses, the emotional carryover from the disgusting movie scenes would be deactivated. Her donation bag would not be as full as it would have been had she not enrolled in psychology.

It is important to note that the ATF shares features with other theories of affect and judgment that were reviewed earlier. For example, it shares with the Mood as Information Model (Schwarz, 1990; Schwarz & Clore, 1983) the general assumption that affect powerfully guides decision-making and behavior even without conscious awareness. Also, as mentioned earlier, the ATF incorporates much of the appraisal theories of emotion (Roseman, 1984; Lazarus, 1991) that primarily explain the antecedents to specific emotions. However, the ATF adds value over these theories by accounting for the diversity of affective states and providing an explanation of how appraisal tendencies linger after an emotion has faded and continue to influence subsequent judgments, choices, and decisions that have little or nothing to do with the emotion that was experienced.

The next chapter provides an overview of the proposed research. This overview identifies the specific research questions that will be addressed and outlines the three studies that will be conducted.

Chapter 4 – Overview of Current Research

A primary goal of this research was to gather evidence in support of the ATF by testing whether both discrete and dispositional emotions associated with feeling certain (compared to uncertain) would lead to greater use of stereotypes in workplace decision-making. Further, these effects should occur regardless of the valence of the specific emotion. Work reviewed earlier reveals that simple valence-based explanations to account for the effects of affect on cognition may be inadequate. However, only a single published study (Tiedens & Linton, 2001) has directly investigated the role of uncertainty in promoting deep or thoughtful processing. In the present series of studies, I sought to extend this literature by testing the competing predictions offered by valence and certainty accounts of the effect of emotions on information processing. These studies build on prior work (Benkendorf & Sommer, 2007) that has directly examined the role of certainty appraisals in the use of stereotypes in the context of workplace decision-making.

The ATF has been developed to explain the effects of incidental emotion on cognitive processes. For this reason, in the first two experiments, the focus was on incidental emotions and their effects on judgment and decision-making within the context of employee selection. These studies examined the PAS and age-related stereotypes given their relevance to workplace decision-making. The third study sought to gather converging evidence for the role of certainty appraisals in stereotyping by focusing on trait affect rather than incidental emotion. Specifically, this study examined whether people in a chronic state of uncertainty engage in more stereotyping than those in a chronic state of certainty.

The choice of emotions to study was guided by both the theoretical and applied goals of the research. From a theoretical standpoint, in order to construct a strong test of the predictions stemming from the ATF, it was important to manipulate or measure emotions that differ in

appraisals of pleasantness (valence) and certainty. Smith and Ellsworth (1985) demonstrated that happiness and hope, while sharing a positive valence, differ in terms of certainty. Happiness is associated with feeling certain, while hope is associated with feeling uncertain. Anger and fear share a negative valence but differ in certainty; anger is associated with feeling certain while fear is associated with feeling uncertain. Thus, the inclusion of these four emotions—happiness, hope, anger and fear—permitted me to directly test the competing predictions offered by the valence and certainty approaches. Other research has shown that happiness, hope, anger, and fear are relatively easy to manipulate. Moreover, because each of these emotions has already received some attention in the literature, studying them allowed me to make comparisons with previous research.

Additionally, these specific emotions were strong candidates for study because of their organizational relevance. The greatest practical or applied value is likely to result from the study of emotions that are commonly experienced in the workplace. It is not difficult to generate examples of feeling happy at work; one could be happy about news of a salary increase or about getting to wear jeans on Friday. On the flip side, it is also easy to think of examples of feeling afraid at work; one could fear that rumors of impending layoffs are true or that one's beloved boss is leaving the company. Examples of feeling angry and hopeful can be generated with similar ease; one can feel anger about a co-worker's rude behavior or hopeful about leaving the office at a reasonable hour.

In Studies 1 and 2, participants were induced to feel one of four emotions (happiness, hope, anger, or fear) by generating autobiographical accounts of times that they experienced the targeted emotion. In Study 1, participants were asked to render judgments about, and make hiring recommendations for, a job candidate high versus low in physical attractiveness. In Study

2, participants were asked to render judgments about a job candidate whose age did or did not conform to prevailing stereotypes regarding the type of person most capable of performing the job. Lastly, in Study 3, participants completed measures of individual differences in happiness, hope, anger and fear then rendered judgments and hiring recommendations for a job candidate high or low in attractiveness. Across studies, I expected to find that individuals are more apt to use stereotypes when they incidentally experience, or when they are dispositionally prone to experiencing, affective states associated with high (compared to low) levels of certainty. Detailed predictions are provided within each study chapter that follows.

Chapter 5 – A Report of Three Pilot Studies

Pilot Study 1

Overview and Method

The purpose of the first pilot study was to identify an emotion manipulation that could effectively induce the four target emotions (i.e., happiness, hope, anger, and fear) under investigation. One hundred and ten undergraduates enrolled in psychology courses at Baruch College took part in the study in return for partial credit toward a class requirement. Participants arrived in groups of 1 to 6 and were seated in a large room in the laboratory. Participants were told that the task was designed to help the researchers learn more about what kinds of experiences most often lead to the expression of specific emotions.

Prior research (e.g., Lerner, Gonzalez, Small, & Fischhoff, 2003; Strack, Schwarz, & Gschneidinger, 1985; Tiedens & Linton, 2001) indicates that self-reflective writing successfully elicits discrete target emotions (such as anger) with only minimal levels of related (but nontarget) emotions (such as sadness). Participants in each condition were asked to remember and relive an event that made them feel the target emotion (i.e., happy, angry, hopeful, or afraid). They were instructed to write a brief paragraph describing the event. After writing about the event, participants were asked the following questions about the event they recalled:

- What aspect of the event or situation that you recalled makes you feel the most HAPPY/HOPEFUL/ANGRY/AFRAID?
- Why does it make you so HAPPY/HOPEFUL/ANGRY/AFRAID?

Immediately after recalling and writing about the emotional memory, participants in all conditions were asked to report the salience of various emotions during the task. The self-report

measure that was used was originally adapted from Gross and Levenson (1995) and has since been used extensively in research on emotion and decision-making (see, for example, Lerner & Keltner, 2001; Lerner, Small, & Loewenstein, 2004; Small & Lerner, 2008). It includes twelve emotion terms (e.g., "anger," "scared," "elated"), derived from the emotions of interest. Six additional items, "happy," "joy," "hope," "longing," "optimistic," and "despair" were added for the current study. Response scales ranged from 1 (*did not experience the emotion at all*) to 9 (*experienced the emotion more strongly than ever before*). Based on internal consistency among the items ($\alpha > .75$) I collapsed similar emotions for the purposes of analysis. Specifically, I collapsed "happy," "joy," "elated," and "gleeful" to reflect overall happiness ($\alpha = .82$); "hope," "optimistic," and "despair" (reverse-scored) to reflect hope ($\alpha = .78$); "angry," "irritated," and "mad" to reflect anger ($\alpha = .96$) and "afraid," "anxious," "fearful," "nervous," "scared," and "tense" to reflect fear ($\alpha = .93$).

Analyses

Several one-way analyses of variance (ANOVA) on overall emotion ratings were conducted to determine whether ratings differed depending on the instructions given. Emotion ratings differed significantly across the four different instruction conditions, F (3, 104) = 72.52, p = .001. Additionally, to ensure that each felt emotion differed significantly from each of the others, Tukey post-hoc analyses were conducted. These comparisons of the four groups indicated that the happy instruction group [M = 27.16, 95% CI (25.18, 29.14)] gave significantly higher happiness ratings than the other groups [$M \leq 16.10$, 95% CIs (≥ 5.89, ≤ 17.45)], Tukey F (3, 104) = 84.35, $ps \leq .001$. Participants who were asked to remember a hopeful memory reported more hope [M = 24.17, 95% CI (23.43, 24.91)] than those asked to remember events associated with happiness, fear, or anger [$M \leq 11.83$, 95% CIs (≥ 9.19, ≤ 14.14)], Tukey F (3,

106) = 64.44, *ps* ≤ .001). Participants who were asked to remember an angry memory reported more anger [*M* = 21.44, 95% CI (18.94, 23.94)] than those asked to remember events associated with happiness, hope, or fear [*M* ≤ 12.34, 95% CIs (≥ 3.16, ≤ 15.54)], Tukey *F* (3, 105) = 35.62, *ps* ≤ .001). Finally, participants who were asked to remember a fearful memory reported more fear [*M* = 37.10, 95% CI (31.33, 42.88)] than those asked to remember events associated with happiness, hope, or anger [*M* ≤ 23.96, 95% CIs (≥ 9.84, ≤ 29.26)], Tukey *F* (3, 106) = 15.73, *ps* ≤ .002). Thus, I was able to trust that the emotional memory task would be a strong enough manipulation to produce the desired emotions in participants.

Pilot Study 2

Overview and Method

One of the stereotypes examined in the main studies was the physical attractiveness stereotype. The extent to which physical attractiveness benefits a job candidate is likely to depend on the type of job for which the candidate is applying. For example, while physical attractiveness is relevant and beneficial for jobs in sales or broadcasting, it is probably less beneficial for jobs in accounting or food preparation. For this reason, I selected the job of sales associate for study in order to provide a good initial test of the physical attractiveness stereotype.

The goal of Pilot Study 2 was to pilot-test the attractiveness manipulation to demonstrate its effectiveness. That is, I wanted to ensure that the stimulus materials presented in the attractive condition differed significantly from those presented in the unattractive condition, in the expected direction. Undergraduate student volunteers participated in the study in order to earn credit toward a course requirement. They were asked to view a short (approx. 2 minutes, 20 seconds) video clip featuring a job candidate answering interview questions. A single female model served as the job candidate in both the high and low attractiveness video conditions.

Make-up was used to manipulate her attractiveness. For example, in the *low attractiveness* condition, dark circles were added underneath her eyes, splotches to her skin and her hair was disheveled. In the *attractiveness condition,* her eyes were highlighted, her skin was smooth and free of flaws, and flattering shades/colors of make-up were used. After viewing the video clip, participants rated the candidate's physical appearance on a 7-point Likert-type scale (e.g., 1 = *extremely unattractive*; 7 = *extremely attractive*). Modifications (e.g., make-up, hairstyling) were made to the model's appearance until ratings of the "attractive" and "unattractive" clips were significantly different in the expected direction. The final sample, after all modifications were made, was 60 participants.

Analyses

Analysis of variance revealed a significant main effect for attractiveness condition on participants' attractiveness ratings of the candidate F (1, 58) = 75.83, $p < .01$, $d = 2.23$. That is, participants rated the candidate as she appeared in the attractive condition (*M = 5.81, SD = .90*) as significantly more attractive than when she appeared in the unattractive condition (*M = 3.61, SD = 1.07*). Thus, there was strong evidence that the attractiveness manipulation was effective.

Pilot Study 3

Overview and Method

Hypothetical résumés specific to the jobs of sales associate and technology assistant were pilot tested and revised to produce two final résumés for use in the main studies. As I wrote in the overview for Pilot Study 2, the job of sales associate was chosen in order provide a good initial test of the physical attractiveness stereotype. For Main Study 2, my focus is on the impact of negative age stereotypes at work. Therefore, I decided to ask participants to review a candidate (either younger or older) who was purportedly applying for a job in the information

technology/computing industry. This should be fertile ground on which to observe negative age-related stereotypes.

The goal of Pilot Study 3 was to develop résumés that would receive moderate ratings across the dependent measures when evaluated against qualifying criteria for the sales associate and technology assistant positions. A résumé that garners moderate ratings from participants allows for the maximum variance in ratings due to experimental manipulations while providing the greatest insurance against ceiling and/or floor effects.

Sixty-two Baruch College undergraduates participated in the study in exchange for partial credit toward a class requirement. After providing consent, each participant was given a single hypothetical résumé that included the applicant's name, address, work experience and education (see Appendices A and B for the two résumés that were used). Participants were provided with a one-page sheet describing the qualifying criteria for the position of sales associate or technology assistant (see Appendices C and D). Instructions asked participants to review the résumé and qualifying criteria and then complete the one-page evaluation questionnaire. For the sales associate position, the questionnaire asked participants to rate the candidate's social skills, intelligence, dominance, mental health, integrity, and concern for others (see Appendix E). For the technology assistant position, the questionnaire asked participants to rate the candidate's adaptability, trainability, flexibility, competence, motivation, future potential, level of energy, resistance to change, likability, and friendliness (see Appendix F). The interview transcripts (not provided to participants) are provided in Appendices G and H.

Analyses

The results are presented in Table 1. Descriptive statistics showed mean ratings for the candidate to be near the midpoint for each of the trait rating items. Additionally, average ratings

for both résumés indicated that the candidate scored near the midpoint on the likelihood of being hired. Thus, the final résumés selected for use appeared to be neutral enough so as to be sensitive to variation produced by my emotion, attractiveness, and age manipulations.

Chapter 6 – Study 1

One goal of Study 1 was to replicate the physical attractiveness stereotype effect in a selection decision context. To accomplish this, I designed a study in which participants reviewed a hypothetical job candidate's résumé and viewed a brief excerpt of that job candidate's interview. Interview footage was included in the stimulus materials to increase experimental realism as well as to provide a means of manipulating candidate attractiveness.

A second goal of Study 1 was to examine how emotions that differ in appraisals of certainty affect stereotype use. To do this, the study was set up as two ostensibly separate tasks. During the first task, I induced the emotions of happiness, hope, anger, or fear using the emotional memory recall and writing task described in Pilot Study1. Immediately after the emotion induction task, participants reviewed the job candidate's résumé, viewed the interview excerpt, and examined the qualifying criteria specified by the hiring organization. They then rated the candidate along ten personality characteristics. Finally, participants made two overall hiring judgments (one continuous and one categorical), which assessed the potential job-related consequences of using the physical attractiveness stereotype. Based on my review of the literature on affect and stereotyping, I offered the following predictions:

Hypothesis 1: I expected participants to evaluate attractive (compared to unattractive) candidates more favorably on stereotype-relevant attributes (i.e., social skills, intelligence, competence, confidence, dominance, dependability, likeability, mental health, and vanity), replicating the physical attractiveness stereotype effect.

Hypothesis 2: I predicted a two-way interaction between attractiveness and certainty appraisals, such that individuals experiencing high certainty emotions would use the physical attractiveness stereotype to a greater extent than people experiencing low

certainty emotions. That is, I expected participants who felt an emotion high in certainty to rate attractive (compared to unattractive) candidates higher on the stereotype-relevant traits, whereas those experiencing an emotion low in certainty would not show this effect.

Hypotheses 3 & 4: I expected to find no differences in the ratings of attractive (compared to unattractive) candidates on the stereotype-irrelevant traits (i.e., integrity, concern for others) (H3). Furthermore, I did not expect to find any interaction effect on the ratings of the stereotype-irrelevant traits (H4).

Hypothesis 5: I expected participants to rate attractive candidates as more employable than unattractive candidates.

Hypothesis 6: I predicted a two-way interaction between attractiveness and certainty appraisals on employability ratings, such that individuals who experienced high certainty (but not uncertainty) emotions would show a greater tendency to assign higher employability ratings to attractive job candidates.

Hypothesis 7: I expected participants to choose to hire attractive job candidates more often than unattractive candidates.

Hypothesis 8: I predicted a two-way interaction between attractiveness and certainty appraisals on hiring decisions, such that individuals who experienced high certainty (but not uncertainty) emotions would be more likely to hire attractive (compared to unattractive) job candidates, whereas those experiencing emotions low in certainty would not.

Method

Participants and Design

Ninety-six undergraduate students at Baruch College participated in this study. A power analysis indicated that 24 participants would be necessary in each of the experimental conditions in order to achieve an 80 percent chance of correctly rejecting a false null hypothesis with an effect size of .5 (www.math.yorku.ca/SCS/Online/power/). In return for their participation, participants received credit toward partial fulfillment of a course requirement. Participants were randomly assigned to experimental conditions.

The experiment employed a 2 (certainty appraisal: certain vs. uncertain) x 2 (candidate attractiveness: attractive vs. unattractive) between-subjects design. Participants were randomly assigned to conditions.

Procedure and Measures

Upon arrival to the study location, groups of 1 to 7 participants were greeted and given a brief description of the tasks. Students signed informed consent forms indicating their willingness to participate in the study. In an effort to conceal the purpose of the study as well as reduce any potential demand for emotional carry-over, participants were told they were completing two separate tasks. They learned that the first task involved recalling emotional memories. The second, ostensibly separate task involved making hiring and personality judgments for a hypothetical employee.

In the initial task, participants in each condition were asked to remember and relive an event that made them feel the target emotion (i.e., anger, fear, happiness, or hope). They were instructed to write about the event and answer the questions described in Pilot Study 1. Immediately after recalling and writing about the emotional memory, participants were asked to complete a hypothetical hiring task. Participants were asked to imagine that they were assisting a large company in the initial phases of selecting a new cohort of employees. Each participant

viewed a short clip (approx. 2 minutes, 20 seconds) from a hypothetical interview and received a résumé purportedly for the same hypothetical job candidate seen in the interview footage. Two separate versions of the interview footage were used; one featuring an attractive candidate, the other featuring an unattractive candidate. The footage used was the same footage that was pre-tested in the pilot study.

The résumé remained consistent across conditions. Additionally, to assist in hiring judgments, participants received a sheet listing the qualifying criteria for the position of sales associate.

After watching the interview footage, participants were asked to review the candidate's résumé and the position's qualifying criteria and complete the evaluation form (Appendix E) containing each of the dependent measures. The ordering of the final two items (likelihood of hire and dichotomous hire/do not hire) was counterbalanced so that each item appeared as the final item on the questionnaire for half the participants. Candidate attribute rating items always preceded these two items. After completing the tasks, participants were thanked, debriefed, and dismissed.

Results

A multivariate analysis of variance (MANOVA) on trait ratings was conducted in order to determine the validity of interpreting any univariate ANOVAs. Separate MANOVAs were conducted for the attributes on which I predicted the physical attractiveness stereotype to emerge (i.e., social skills, intelligence, competence, confidence, dominance, dependability, likability, and mental health) and for those on which I did not predict such an effect (i.e., integrity, concern for others).

The 2 (certain vs. uncertain)[3] x 2 (attractive vs. unattractive) MANOVA on stereotype-relevant ratings revealed a main effect for attractiveness [Wilks's $\Lambda = .63$, F (11, 71) = 3.87, p = .00, $\eta^2 = .38$], qualified by a significant Certainty X Attractiveness interaction [Wilks's $\Lambda = .64$, F (11, 71) = 3.72, p = .00, $\eta^2 = .37$]. Univariate ANOVAS revealed that participants rated attractive candidates as more socially skilled, more intelligent, more confident, more dependable, more likable and more mentally healthy than unattractive candidates [all Fs (1, 93) $\geq$ 8.55, ps $\leq$ .004 , $\eta^2 \geq .09$]. Attractive candidates were rated as somewhat more competent than unattractive candidates [F (1, 93) = 3.46, p = .07, $\eta^2 = .04$]. Thus, Hypothesis 1 received strong support. For complete means, standard deviations, and F-values, see Table 2.

Univariate ANOVAs also revealed several significant interaction effects. Specifically, significant two-way interactions between emotional certainty and attractiveness emerged for ratings of social skills, intelligence, competence, confidence, dominance, dependability, and likability [Fs (1, 93) $\geq$ 3.98, $p \leq .05$, $\eta^2 \geq .04$]. Planned contrasts were computed to determine which cell means significantly differed from each other (e.g., certain/attractive vs. certain/unattractive). The results of these contrasts revealed a consistent pattern suggesting that the physical attractiveness stereotype held for participants experiencing certainty emotions, but not uncertainty emotions. Overall the results provided strong support for Hypothesis 2.

The 2 (certain vs. uncertain) x 2 (attractive vs. unattractive) MANOVA on stereotype-irrelevant ratings failed to reveal any significant main effects or interactions [Wilks's $\Lambda \leq .90$, F (1, 92) $\leq$ 1.52, $p \geq .22$, $\eta^2 \leq .02$]. Subsequent univariate ANOVAs revealed no significant main effects for attractiveness for either integrity or concern for others [Fs (2, 91) $\leq$ 0.96, $p \geq .33$, $\eta^2 \leq$

[3] In order to explore any potential emotion-specific effects, separate 2 (attractive vs. unattractive) X 4 (anger vs. happiness vs. fear vs. hope) Univariate ANOVAs were conducted for all dependent measures. These analyses failed to find any significant interaction effects, all Fs < 2.05, all ps $\geq$ .11).

.01], nor any significant interactions between emotional certainty and attractiveness for ratings of integrity or concern for others [*F*s (1, 93) ≤ 1.50, $p \geq .23$, $\eta^2 \leq .02$]. Thus, Hypotheses 3 and 4 were fully supported.

A 2 (certain vs. uncertain) X 2 (attractive vs. unattractive) ANOVA revealed a significant main effect for attractiveness on ratings of candidates' likelihood of being hired. This supports my prediction that participants would rate the attractive (compared to unattractive) candidates as more likely to be hired (Hypothesis 5). This main effect was qualified by a significant interaction, F (1, 93) = 7.58, $p < .01$, $\eta^2 = .08$. Planned contrasts revealed that, in the certainty emotion condition, participants were more likely to hire the attractive compared to unattractive candidate; in the uncertainty emotion condition participants were equally likely to hire the attractive and unattractive candidates. This supports my prediction that participants in the certainty condition (but not those in the uncertain condition) would rate attractive candidates as more likely to be hired than unattractive candidates (Hypothesis 6).

Dichotomous hiring decisions were subjected to a log linear analysis in which certainty, attractiveness, and hiring decision were entered as factors[4]. Backward elimination was used to assess the significance of main effects and interactions. As predicted, the highest order interaction (Certainty X Attractiveness X Hiring decision) was significant, χ^2 (1) = 9.92, p = .002. To break down this effect, separate Attractivensss X Hiring Decision chi-square tests were performed within each certainty condition. In the certainty condition, there was a significant association between the candidate's attractiveness level and whether or not participants chose to hire the candidate, χ^2 (1) = 20.49, $p < .001$; this was not true in the uncertainty condition, χ^2 (1) = 0.59, $p > .05$. Odds ratios indicated that the odds of hiring were forty-six times higher for

[4] To explore possible effects by discrete emotion, a separate log linear analysis was conducted in which emotion, attractiveness, and hiring decision were entered as factors. The highest order interaction (Emotion X Attractiveness X Hiring Decision) was not significant, χ^2 (3) = 3.69, $p > .30$.

attractive (compared to unattractive) candidates in the certainty condition, but only 1.57 times higher in the uncertainty condition. Thus, the pattern of results provides support for Hypotheses 7 & 8.

Discussion

Collectively, the results reveal a fundamental difference in information processing as a function of emotion. Specifically, when participants experienced emotions accompanied by certainty appraisals, they exhibited an exceptionally strong preference to hire attractive candidates, whereas the experience of uncertainty emotions led to a much weaker preference to hire attractive candidates. These results provide support for the Appraisal Tendency Framework by showing that certainty appraisals appear to be a useful way to distinguish between emotional states, and that known differences in certainty appraisal are informative for predicting future behavior.

Additionally, these results provide strong evidence of a physical attractiveness stereotype effect within a workplace selection context, thus extending and supporting an existing literature documenting this phenomenon. The theoretical and applied implications of this are discussed in greater detail in Chapter 9.

Chapter 7 – Study 2

Study 2 investigated negative age-related stereotypes within a selection decision context. Thus, Study 2 was a conceptual replication of Study 1, but here my aim was to extend the results to an additional stereotype category (i.e., negative age stereotypes) that, similar to stereotypes associated with physical attractiveness, is pertinent to workplace selection scenarios.

Workplace age stereotypes are beliefs and expectations about workers based on their age (Hamilton & Sherman, 1994). On the negative side, older workers are often believed to be inflexible, incompetent, and resistant to change. When compared to younger workers, older workers often come out looking bad—they are believed to have less energy, less future potential, and less motivation than their younger counterparts. However, age stereotypes can also be positive. For example, older workers are often believed to be more stable, dependable, honest, trustworthy, loyal, and committed than younger workers. Whether age works as an advantage or an impediment at work seems to depend on the industry and type of job. A recent review of the literature identified 117 studies in industrial/organizational psychology on the topic of age stereotypes in the workplace (Posthuma & Campion, 2009). The reviewers concluded that there are perceptions that certain jobs should be held by workers of certain ages, and that age stereotypes are more influential when this perception does not match the candidate's (or incumbent's) age. For example, retail sales is thought to be a particularly "young" industry, and older workers may believe that they have fewer job opportunities in this industry (and they may be right). In addition to retail, research also has shown that age stereotypes are particularly strong in industries such as finance, insurance, and information technology/computing (Posthuma & Campion, 2009).

Taken together, prior work investigating age stereotypes in the workplace suggests that although older age is sometimes a benefit for job applicants, when the job itself is associated with youth, advanced age becomes a handicap. In the current research, my focus was on negative rather than positive age-related stereotypes. Therefore, I wanted to select a job category that would allow for these types of negative beliefs to surface. In light of previous work that has investigated age stereotypes in the workplace, I chose information technology and computing as the industry for the current study. Because this industry is associated with youth, it allowed me a reasonable opportunity to examine the impact of negative age stereotypes at work.

In the current research, participants reviewed a hypothetical job candidate's résumé before listening to a brief interview excerpt. Only audio was used in an effort to eliminate a possible confound between age and physical appearance. I do not believe this change diminished the mundane realism, as many interviews are conducted over the phone. To maintain methodological consistency with the first study, I began by inducing emotions (i.e., happiness, hope, anger, or fear) by asking participants to complete the same emotional memory recall and writing task employed in Study 1. After participants completed the emotion induction task, they were asked to review the job candidate's résumé, listen to the interview excerpt, and examine the qualifying criteria provided. They then completed the dependent measures including making ratings of ten personality characteristics that served as a measure of the negative age stereotype. To measure the potential job-related consequences of using the negative age stereotype, I asked participants to make two overall hiring judgments (just as in Study 1). Based on my review of the literature on affect and stereotyping, I offered the following predictions:

Hypothesis 1: I expected participants to evaluate older candidates less favorably than younger candidates on stereotype-relevant traits (i.e., adaptability, trainability, flexibility,

competence, future potential, motivation, resistance to change, and energetic) evidencing negative age stereotypes.

Hypothesis 2: I predicted a two-way interaction between age and certainty appraisals, such that individuals experiencing high certainty emotions would operate on negative age-related stereotypes to a greater extent than people experiencing other emotions. That is, I expected participants who felt an emotion high in certainty to rate younger (compared to older) candidates higher on the stereotype-relevant traits, whereas those who experienced emotions low in certainty would exhibit no differences between age conditions.

Hypotheses 3 & 4: I expected to find no differences in the ratings of older and younger candidates on the stereotype-irrelevant traits of likeability and friendliness (H3). Furthermore, I did not expect to find any interaction effect on the ratings of the stereotype-irrelevant traits (H4).

Hypothesis 5: I expected participants to rate older candidates as less employable than younger candidates.

Hypothesis 6: I predicted a two-way interaction between age and certainty appraisals on employability ratings, such that individuals who felt emotions high in certainty (but not uncertainty) would show a greater tendency to assign higher employability ratings to younger (compared to older) job candidates.

Hypothesis 7: I expected participants to choose to hire older candidates less often than younger candidates.

Hypothesis 8: I predicted a two-way interaction between age and certainty appraisals, such that individuals who experienced an emotion characterized by appraisals of certainty

(i.e., happiness and anger) would be more likely to hire younger (compared to older) job candidates, whereas those experiencing emotions low in certainty would not.

Method

Participants and Design

One hundred and nine undergraduate students at Baruch College participated in the study. A power analysis indicated that a minimum of 24 participants would be necessary in each of the experimental conditions in order to achieve an 80 percent chance of correctly rejecting a false null hypothesis with an effect size of .5 (www.math.yorku.ca/SCS/Online/power). In return for their participation, they received credit that could be used to partially fulfill a course requirement. Participants were randomly assigned to conditions.

The experiment employed a 2 (certainty appraisal: certain vs. uncertain) × 2 (age: older vs. younger) between-subjects design. Participants were randomly assign to one of the four experimental conditions.

Manipulations and Measures

Age and emotion manipulations. Age of the candidate was manipulated in two ways. First, because it is not unusual for job candidates to disclose personal information during the course of an interview, the job candidate stated his age (either 30 or 60) as part of his response to the question "*Tell me about yourself*" during the brief interview clip. Two separate recordings were made using the same male actor. The only difference between the two recordings was the age that was revealed. Additionally, the last item of the résumé indicated the year in which the candidate graduated from college (either 1970 or 2000). This served as a second, more subtle, indication of the candidate's age. The emotion manipulation for Study 2 was identical to that used in Study 1.

Dependent measures. Participants were asked to rate the candidate on a variety of personality characteristics (e.g., flexibility, competence, trainability) on an evaluation form. These items were chosen because they form the basic constellation of traits on which prior research has shown a negative age stereotype effect (see Posthuma & Campion, 2009). The items are 9-point Likert-type items ranging from 1 (i.e., *strongly disagree*) to 9 (i.e., *strongly agree*). In addition, participants were asked to complete a Likert-type item asking them to rate their opinion of the likelihood that that candidate would be hired using a scale from 1 (*not at all likely*) to 9 (*very likely*). Finally, participants completed a dichotomous measure indicating whether or not they would hire the candidate.

The final two items were counterbalanced so that each item appeared as the final item for half the participants. The candidate attribute rating items always preceded these two items.

Procedure

Groups of 1 to 7 participants were greeted and given a brief description of the tasks. They completed informed consent forms indicating their willingness to participate in the study. Again, in an effort to conceal the study's purpose, participants were told that they were completing two separate tasks. The initial emotional memory task was identical to that used in Study 1.

Immediately after completing the emotional memory task, participants were asked to complete a hypothetical hiring task. They were asked to imagine that they were assisting a large company in the initial phases of selecting a new cohort of employees. Each participant was randomly assigned to listen to one of two brief audio clips (approx. 1 minute, 30 seconds) featuring interview footage of a hypothetical job candidate (either 30 or 60 years old) being interviewed for the job of temporary technology assistant. The interview transcript is provided in Appendix H. Each participant also received a packet containing information about the candidate

and job for which he was applying. Within the packet was a randomly assigned résumé which varied by college graduation date (i.e., 1970 or 2000), alluding to the candidate's age. Also included in the packet was a page detailing the qualifying criteria for the temporary technology assistant position. Embedded in the qualifying criteria was a statement indicating that successful job candidates "should be quick-minded, adapt easily to change, be excited about new technology, and demonstrate a willingness to learn new technologies and software programs." This statement was intended to provide an opportunity for participants to act on a negative, but subtle, stereotype of older workers.

After listening to the interview footage, participants were asked to review the candidate's application and résumé as well as the job description and the description of the ideal candidate. Then they completed the evaluation form containing each of the dependent measures described above. After completing the tasks, participants were thanked, debriefed, and dismissed**.**

Results

Similar to Study 1, a 2 (certain vs. uncertain)[5] X 2 (young vs. old) MANOVA on stereotype-relevant attributes was conducted to determine the validity of interpreting any univariate ANOVAs. This analysis revealed a main effect for age on trait ratings [Wilks's Λ = .76, F (8, 98) = 3.94, $p < .001$, $\eta^2 = .24$], as well as a marginally significant Certainty X Age interaction for trait ratings [Wilks's Λ = .86, F (8, 98) = 2.44, $p = .06$, $\eta^2 = .14$. Therefore, separate ANOVAs were conducted for each of the attributes. For complete means, standard deviations, and F-values for all analyses performed in Study 2, see Table 3.

[5] As in Study 1, I was interested in exploring any potential emotion-specific effects. To test for such effects, separate 2 (attractive vs. unattractive) X 4 (anger vs. happiness vs. fear vs. hope) Univariate ANOVAs were conducted for all dependent measures. These analyses failed to find any significant interaction effects, all Fs < 1.85, all ps $\geq$ .14).

As expected, these analyses revealed significant main effects ($p \leq .05$) for age on several of the stereotype-relevant traits, such that participants rated younger candidates as more adaptable, more flexible, more trainable, having more future potential, more motivated, less resistant to change, and more energetic than older candidates [all *F*s (1, 112) $\geq$ 5.88, *p*s $\leq$ .02 , η^2 $\geq$ .05]. Participants rated younger candidates as marginally more competent than older candidates [*F* (1, 110) = 3.18, *p* = .08, η^2 = .03]. Therefore, Hypothesis 1 stating that participants would evaluate older candidates less favorably than younger candidates on stereotype-relevant traits received strong support.

Univariate ANOVAs revealed several significant interaction effects. Specifically, significant two-way interactions between emotional certainty and age emerged for ratings of adaptability, flexibility, trainability, future potential, and resistance to change [*Fs* (1, 115) $\geq$ 4.56, $p \leq .05$, $\eta^2 \geq .04$]. Results for each of these outcome measures were in the predicted direction. Planned contrasts were computed to determine which cell means significantly differed from each other (e.g., certain/young vs. certain/old). The results of these contrasts are reported in Table 3. An additional ANOVA revealed a marginally significant two-way interaction effect between emotional certainty and age for ratings of energy [*F* (1, 112) = 3.21, *p* = .08, η^2 = .03] such that participants in the certainty emotion condition rated the younger (compared to older) candidate as more energetic, whereas participants in the uncertainty emotion condition did not. Finally, ANOVA revealed no significant interaction effect between emotional certainty and age for ratings of competence [*F* (1, 110) = 2.01, *p* > .10, η^2 = .01] or motivation [*F* (1, 110) = 1.80, *p* > .10, η^2 = .02]. Thus, Hypothesis 2 predicting a significant two-way interaction between age and certainty appraisals for stereotype-relevant traits was partially supported. For complete means and standard deviations, see Table 3.

A 2 (certain vs. uncertain) X 2 (attractive vs. unattractive) MANOVA on stereotype-irrelevant ratings revealed a significant main effect for age on trait ratings [Wilks's $\Lambda \leq .92$, F (2, 111) = 4.71, p =.01, η^2 =.08]. This analysis failed to reveal a significant interaction between age and certainty [Wilks's $\Lambda \leq .99$, F (2, 111) =.81, $p > .05$, η^2 =.01]. Subsequent univariate ANOVAs revealed significant main effects for age on both likability [F (1, 112) = 9.47, $p < .01$, $\eta^2 = .08$] and friendliness [F (1, 112) = 5.30, $p = .02$, $\eta^2 = .05$], such that older candidates received higher ratings than younger candidates along these dimensions. Thus, Hypothesis 3, stating that participants would rate older and younger candidates similarly on the likability and friendliness dimensions, was not supported. Indeed, it appears that older age actually conferred some advantages, regardless of participants' feelings of certainty. However, Hypothesis 4, predicting the absence of significant interactions between age and certainty for ratings of likability and friendliness was supported.

A 2 (certain vs. uncertain) × 2 (young vs. old) ANOVA revealed a significant main effect for age on ratings of candidates' employability F (1, 112) = 18.82, $p < .01$, $\eta^2 = .14$. This supports my prediction that participants would rate the younger (compared to older) candidate as more likely to be hired (Hypothesis 5). This analysis also revealed the predicted significant interaction between age and certainty, F (1, 112) = 7.38, $p < .01$, $\eta^2 = .06$. Participants in the certainty condition (but not those in the uncertain condition) rated younger candidates as more likely to be hired than older candidates (Hypothesis 6).

Log linear analysis[6] was used to test Hypotheses 7 and 8. Backward elimination was used to assess significance of main effects and interactions. As predicted, the highest order (the

[6] To explore possible effects by discrete emotion, a separate log linear analysis was conducted in which emotion, attractiveness, and hiring decision were entered as factors. The highest order interaction (Emotion X Attractiveness X Hiring Decision) was not significant, χ^2 (3) = 3.61, p = .31.

certainty X age X hire interaction) interaction was significant, χ^2 (1) = 12.05, p = .001. To break down this effect, chi-square tests on the age and dichotomous hire variables were performed separately for the certainty and uncertainty conditions. In the certainty condition, there was a significant association between the candidate's age and whether or not participants chose to hire the candidate, χ^2 (1) = 22.28, $p < .001$; this was not true in the uncertainty condition, χ^2 (1) = 0.04, $p > .05$. Odds ratios indicated that the odds of hiring were 26.42 times higher for young (compared to old) candidates in the certainty condition, but only 1.11 times higher in the uncertainty condition. Therefore, the analysis seems to reveal a fundamental difference between emotions that are accompanied by certainty versus uncertainty appraisals, such that when participants were induced to experience certainty emotions, they exhibited an exceptionally strong preference to hire younger candidates; when they were induced to experience uncertainty emotions they exhibited a much weaker preference to hire younger candidates. Thus, the results provided support for Hypotheses 7 and 8.

Discussion

Taken together, the results of Study 2 closely paralleled those of Study 1, whereby emotions differing in emotional certainty led to fundamental differences in information processing. In particular, when participants experienced high-certainty emotions, they exhibited a marked preference to hire young candidates, whereas the experience of low-certainty emotions led to no reliable preference for young candidates. These results provide further support for the Appraisal Tendency Framework by highlighting the value of considering certainty appraisals as a way of differentiating between emotional states.

In addition, these results echo those of prior work revealing that negative age-related stereotypes operate within the context of workplace selection (e.g., Finkelstein et al., 1995;

Haefner, 1977; Raza & Carpenter, 1987). Furthermore, the present results extend this literature by demonstrating that negative age-related stereotypes can surface when the job under consideration is clearly described as temporary, when the job is in the technology and computing sector, and when there are no differences between candidates in work history or qualifications. I will discuss the theoretical and organizational implications in greater detail in Chapter 9.

Chapter 8 – Study 3

According to the ATF, appraisal-tendency processes apply to the effects of both momentary and dispositional emotions. Whereas momentary emotions refer to immediate affective reactions to a particular target, dispositional emotions refer to the tendency to react with specific emotions across time and situations (Gross, Sutton, & Ketelaar, 1998; Larsen & Ketelaar, 1989; Lazarus, 1994; Malatesta, 1990). The available empirical research suggests that dispositional emotion resembles momentary emotion in important ways, and thus should yield similar effects on judgment. For example, people dispositionally prone to fear report experiencing more fear at a variety of points in time and across situations (Gross et al., 1998). They also report higher levels of state fear in response to negative affect inductions (Gross et al., 1998) and show more evidence of fear in their facial expressions (Keltner, 1996).

Thus, the primary goal of Study 3 was to test theoretical assumptions using a dispositional rather than experimental approach. Operationalizing emotional certainty using trait rather than state emotions allowed for a more complete test of the ATF as a predictor of the impact of affect on judgment and allows me to provide converging evidence for my hypotheses. This feature of Study 3 also provided me with an opportunity to examine whether stereotype use (or non-use) is driven primarily by certainty or uncertainty emotions.

In this study, instead of recalling emotional memories to induce emotion, participants completed four measures of dispositional emotion. Specifically, dispositional happiness, hope, anger, and fear were assessed. Immediately after completing these measures, participants reviewed a résumé and qualifying criteria for a sales associate position before viewing a clip of either an attractive or unattractive female job candidate interviewing for this position. Afterwards, participants were asked to rate the candidate's personality, assess her employability,

and decide whether or not they would hire her for the position. These dependent measures were identical to those used in Study 1.

I tested two propositions. First, I predicted that dispositional emotions characterized by high (compared to low) levels of certainty would increase reliance on heuristic processing strategies, as evidenced by greater use of the physical attractiveness stereotype. Second, I predicted that dispositional emotions characterized by high (compared to low) levels of uncertainty would decrease reliance on heuristic processing strategies, as evidenced by lesser use of the physical attractiveness stereotype. Formally, this resulted in the following hypotheses:

Hypotheses 1 - 4: I predicted that dispositional happiness and anger would each be positively associated with a pattern of candidate attribute ratings associated with the physical attractiveness stereotype. Specifically, I expected regression analyses to reveal a significant interaction between certainty emotions and candidate attractiveness on stereotype-relevant attribute ratings. Simple regression analyses should reveal a significant positive slope between happiness (H1) and anger (H2) and stereotype-relevant attribute ratings in the attractive condition and a flat slope (no relationship) in the unattractive condition. In contrast, I expected that dispositional hope and fear would be negatively associated with a pattern of candidate attribute ratings associated with the physical attractiveness stereotype. Specifically, I expected regression analyses to reveal a significant negative slope between hope (H3) and fear (H4) and attribute ratings in the attractive condition and a flat slope (no relationship) in the unattractive condition.

Hypotheses 5 – 8: In contrast, I did not expect to find any interaction effect on the ratings of the stereotype-irrelevant traits. Specifically, I expected regression analyses would reveal no significant differences among the slopes for happiness (H5), anger (H6),

hope (H7), or fear (H8) and stereotype-irrelevant attribute ratings in the attractive or unattractive conditions.

Hypotheses 9 - 12: I expected to find a significant positive slope between dispositional happiness (H9) and anger (H10) and employability ratings in the attractive condition and a flat slope (no relationship) in the unattractive condition. Conversely, I expected to find a significant negative slope between dispositional hope (H11) and fear (H12) and employability ratings in the attractive condition and a flat slope (no relationship) in the unattractive condition.

Hypotheses 13 - 16: I expected that dispositional happiness (H13) and anger (H14) would be positively associated with decisions to hire attractive job candidates, while dispositional hope (H15) and fear (H16) would be negatively associated with decisions to hire attractive job candidates.

Method

Participants and Design

The participants in the study were 60 undergraduate students at Baruch College. A power analysis indicated that 30 participants would be necessary in each of the experimental conditions in order to achieve an 80 percent chance of correctly rejecting a false null hypothesis with an effect size of .8 (Cohen, 1992). In return for their participation, they received credit in partial fulfillment of a course requirement.

Trait Measures

Trait-Anger scale (TA). Participants completed a subset of the 57-item State-Trait Anger Expression Inventory (TA; Spielberger, 1999), which assesses tendencies to react with sudden and intense anger to a variety of life situations. Because this study concerns trait (i.e.,

dispositional) anger, only 10 items (e.g., *I am quick tempered*) that directly measure how often angry feelings are experienced over time were administered to participants. These items were rated on a 4-point scale ranging from 1 (*almost never*) to 4 (*almost always*). Scores were computed by summing participants' responses to 8 of the 10 items. (Two items are included as filler items.) Scores range from 8 to 32, with higher scores indicating higher trait anger.

Fear Survey Schedule (FSS). Each participant was asked to complete the 52-item Fear Survey Schedule (FSS; Arrindell, Emmelkamp, & Van der Ende, 1984), which assesses the degree of fear one feels in response to specific situations or objects (e.g., enclosed places, worms). Items are rated on a five-point scale; *not at all* (1), *a little* (2), *a fair amount* (3), *much* (4), and *very much* (5). The FSS yields 5 sub scales (i.e., social fears, agoraphobia fears, injury fears, sex aggression fears, and fear of harmless animals) and one total score calculated as the sum of all 52 items. No items are reverse scored. Scores can range from a low of 52 to a high of 260, and high scores are indicative of higher levels of trait fear.

Depression-Happiness Scale (D-Ha). Participants completed the 25-item Depression-Happiness Scale (McGreal & Joseph, 1993). This is a self-report scale that contains items representing a mix of affective, cognitive, and bodily experiences. Each item is rated on a four point scale; *never* (1), *rarely* (2), *sometimes* (3), and *often* (4). Twelve items concern positive feelings (e.g., *I feel happy*) and 13 items concern negative feelings (e.g., *I feel sad*). The 13 items concerning negative thoughts, feelings, and bodily experiences are reverse scored and then summed with the positive items so that possible scores on the scale can range from 25 to 100. Higher scores on the scale indicate a higher frequency of positive (and lower frequency of negative) thoughts, feelings, and bodily experiences (McGreal & Joseph, 1993).

Dispositional Hope Scale (DHS). Snyder (1995) defines hope as the "process of thinking about one's goals, along with the motivation to move toward (agency) and the ways to achieve (pathways) those goals" (p. 355). Based on this definition, Snyder and colleagues developed a 12-item individual difference measure of hope (DHS; Snyder et al., 1991) that I asked participants to complete. Of the 12 items, four items measure pathways (e.g., *I can think of many ways to get out of a jam*), four items measure agency (e.g., *I energetically pursue my goals*), and four are filler items (e.g., *I feel tired most of the time*). All items are rated on a four-point scale; *definitely false* (1), *mostly false* (2), *mostly true* (3), and *definitely true* (4). The total score is computed by adding the four agency and four pathways items. Scores range from 8 to 32, with higher scores indicative of greater dispositional hope. The average score for college and non-college samples is 24 (Snyder, 1995).

Procedure

With the exception of the emotional memory task, the procedure used in Study 3 was identical to that used in Study 1. Immediately after indicating consent, participants were asked to complete the four scales described above. The order in which the scales were completed was counterbalanced so as to avoid order effects. Next, participants received the résumé and qualifying criteria for the job of sales associate. After reviewing these documents, participants were randomly assigned to view a hypothetical interview clip of either an attractive or unattractive female candidate. They then completed the dependent measures. Finally, participants were debriefed, thanked, and dismissed.

Results

Descriptive statistics and correlations

Table 4 presents the means and standard deviations for the dispositional variables, as well as the correlations among them. The normality of the data was checked, revealing univariate normality for TA, FSS, D-Ha, and DHS scores. The skewness[7] and kurtosis of the distributions for scores on each of the four tests fell between -2.0 and +2.0, indicating satisfaction of the criteria commonly used to assess the normality of data.

As might be expected, similarly valenced emotions were positively correlated. Further, D-Ha correlated negatively with both TA and FSS, whereas DHS remained unrelated to TA and FSS.

Analytical approach

Because scores for TA (a certainty emotion) and FSS (an uncertainty emotion) were significantly and positively correlated, the effects of these dispositional emotions on all dependent measures were assessed within the same analysis. Using this approach, TA functioned as a control variable in the analyses examining the impact of FSS, and vice versa. Similarly, because scores for D-Ha (a certainty emotion) and DHS (an uncertainty emotion) were significantly and positively correlated, the effects of these dispositional emotions on dependent measures were assessed simultaneously.

Stereotype-relevant attributes (Hypotheses 1 – 4)

Trait anger and fear. To investigate the extent to which the dispositional negative emotions predicted stereotype-relevant attribute ratings, hierarchical multiple regression analyses were used. Scores on each trait variable were centered so that the mean of each dispositional measure was zero. Centered anger and fear scores, and dummy-coded attractiveness condition (0

[7] Burnham, B.R. (2012) suggests assessing skewness by standardizing the mean score for a given distribution and calculating the skewness statistic. If the probability of obtaining the statistic is < .05 as indicated by a *z*-table, then the distribution is significantly non-normal. I followed this advice and found probabilities of ≥. 26 for the four scales used. Therefore, there was no evidence of non-normality for any of these distributions of scores.

= unattractive, 1 = attractive), were entered at Step 1, and two-way interactions (i.e., anger X attractiveness, fear X attractiveness, and fear X anger) were entered at Step 2.

As can be seen in Table 5, results revealed a significant main effect for attractiveness, indicating that attribute ratings for stereotype relevant traits were higher when the candidate was attractive compared to unattractive. Results also revealed a marginally significant effect for anger, revealing that as anger increased, attribute ratings decreased. No effect was found for fear. Most importantly, the hypothesized interactions between trait anger and attractiveness (Hypothesis 2) and between trait fear and attractiveness (Hypothesis 4) were not significant.

Trait happiness and hope. Procedures for variable entry were identical to those used in the above analysis, except that trait happiness and hope replaced trait anger and fear. Results of this analysis are presented in Table 6.

Results once again revealed evidence for the impact of candidate attractiveness on attribute ratings. However, neither the main effects for happiness and hope, nor the predicted two-way interactions between attractiveness and happiness (Hypothesis 1) and attractiveness and hope (Hypothesis 3) were significant.

Altogether, these results fail to provide support for Hypotheses 1 through 4. Specifically, the results did not support the predicted interactions between certainty emotions (Hypotheses 1 and 2) or uncertainty emotions (Hypotheses 3 and 4) and candidate attractiveness on stereotype-relevant attribute ratings.

Stereotype-irrelevant attributes (Hypotheses 5 – 8)

Trait anger and fear. As can be seen in Table 7, results failed to reveal a significant main effect for attractiveness. Most importantly, the predicted interactions between trait anger and

attractiveness (Hypothesis 6) and between trait fear and attractiveness (Hypothesis 8) were not significant.

Trait happiness and hope. Procedures for variable entry were identical to those used in the above analysis, except that trait happiness and hope replaced trait anger and fear. Results of this analysis are presented in Table 8.

Results revealed evidence for the impact of attractiveness on attribute ratings. Consistent with my prediction, neither the main effects for happiness and hope, nor the two-way interactions between attractiveness and happiness (Hypothesis 5) and attractiveness and hope (Hypothesis 7) were significant.

Employability ratings (Hypotheses 9 - 12)

The procedures for variable entry for this analysis were identical to those for stereotype-relevant and stereotype-irrelevant attribute ratings.

Trait anger and fear. As can be seen in Table 9, results revealed evidence for the impact of attractiveness on employability ratings. However, neither the main effects for anger and fear, nor the predicted two-way interactions between attractiveness and anger (Hypothesis 10) and attractiveness and fear (Hypothesis 12) were significant.

Trait happiness and hope. Procedures for variable entry were identical to those used in the above analysis, only trait happiness and hope replaced trait anger and fear. Results of this analysis are presented in Table 10.

Results were again consistent with earlier analyses, revealing additional evidence for the impact of attractiveness on employability ratings. However, the results failed to reveal any significant main effects for happiness or hope and they failed to provide support for the predicted

two-way interaction between happiness (Hypothesis 9) and attractiveness and the predicted two-way interaction between hope (Hypothesis 11) and attractiveness.

Collectively, these results provide only very limited support for Hypotheses 9 - 12. Specifically, the results do provide support for the predicted main effect for attractiveness on employability ratings such that attractive (compared to unattractive) candidates were rated as more employable. However, these results do not provide support for the prediction of four significant interactions (Attractiveness X happiness, attractiveness X anger, attractiveness X hope, and attractiveness X fear) That is, the prediction that high (compared to low) levels of dispositional happiness or anger would be associated with high (compared to low) employability ratings for attractive (but not unattractive) candidates went unsupported. Additionally, the prediction that high (compared to low) levels of dispositional hope or fear would be associated with low (compared to high) employability ratings for attractive (but not unattractive) candidates also went unsupported.

Hiring recommendations (Hypotheses 13 - 16)

Dichotomous hiring decisions were subjected to a logistic regression analysis in which attractiveness, dispositional negative emotions, and hiring recommendation were entered as factors. As can be seen in Table 11, results again revealed a significant main effect for attractiveness, indicating that the attractive candidate was more likely to be hired than the unattractive candidate. Results also revealed a significant main effect for trait anger indicating that higher (compared to lower) trait anger scores were associated with a decreased tendency to hire. A marginally significant effect for trait fear was revealed indicating that higher (compared to lower) FSS scores were associated with a greater tendency to hire. More importantly, the

hypothesized interactions between trait anger and attractiveness (Hypothesis 14) and between trait fear and attractiveness (Hypothesis 16) were not significant.

Table 12 displays the results of a logistic regression analysis in which attractiveness, dispositional positive emotions, and hiring recommendation were entered as factors. This analysis revealed further evidence of a significant main effect for attractiveness whereby the attractive candidate was more likely to be hired than the unattractive candidate. However, the hypothesized interactions between trait happiness and attractiveness (Hypothesis 13) and between trait hope and attractiveness (Hypothesis 15) were not significant. Thus, the prediction that trait happiness and trait anger would each positively relate to decisions to hire physically attractive compared to unattractive candidates, and the prediction that trait hope and trait fear would both negatively relate to this pattern of ratings went unsupported.

Discussion

These results provide additional evidence of a physical attractiveness stereotype effect within a workplace selection context, thus replicating the effect observed in Study 1 and helping to extend an existing literature that has demonstrated a reliable and pervasive bias pertaining to physical appearance in employee selection.

However, on the whole, the results of Study 3 were not generally supportive of predictions drawn from the ATF. Recall that an appraisal tendency approach predicts that dispositional and momentary emotion will lead to similar effects on information processing. Yet, in the current study, I did not find any evidence of differences in information processing as a function of dispositional emotion. More specifically, participants who reported high (compared to low) levels of high-certainty dispositional emotions (e.g., happiness, anger) did not evidence a

greater tendency to favor an attractive (compared to unattractive) job candidate. Additionally, participants who displayed high (compared to low) levels of high-uncertainty dispositional emotions (e.g., hope, fear) did not show a reduced tendency to favor an attractive (compared to unattractive) candidate. Indeed, participants were equally likely to exhibit a preference for an attractive candidate regardless of differences in dispositional emotion. In sum, these results failed to provide converging evidence in support the Appraisal Tendency Framework in the realm of dispositional emotion. The possible reasons for the lack of predicted effects will be discussed in detail in the next chapter.

Chapter 9 – General Discussion

There is little question that we live in a society that is preoccupied with both youth and physical appearance. Billions of dollars a year are spent on cosmetics, hair products, and plastic surgery to decrease the appearance of wrinkles, rejuvenate sunken skin, color gray hair, remove fat deposits, lift faces, reshape noses, tuck in tummies, and enlarge breasts. Our preoccupation with the twin idols of youth and physical appearance can be understood partly through the lens of our own past experiences, which teach us that there are advantages bestowed to those who are young, to those who are beautiful, and to those who are both. Moreover, research underscores experience. Older adults are often viewed as prone to physical illness, lacking in mental quickness, inactive, unproductive, bothersome, absentminded, unhappy, unwilling to participate in activities, undesirable for company, and self-deprecating (Aaronson, 1966; Hickey, Hickey, & Kalish, 1968; Crockett & Hummert, 1987; Lutsky, 1980; McTavish, 1971; Miele & Deaux, 1989). With regard to physical attractiveness, studies have shown that good-looking people are judged to be socially skilled, smart, happy, well-adjusted, confident and assertive (Eagly et al., 1991). Furthermore, these stereotypes play a role in selection decisions within a workplace context. For example, research has consistently shown physical attractiveness to be a benefit, both with respect to perceived job qualifications (e.g., Dipboye et al., 1975), and hiring recommendations (e.g., Cann et al., 1981; Gillmore et al., 1986). When it comes to age, the empirical literature on age discrimination in the workplace highlights a familiar refrain: Older age is often a barrier rather than a benefit (e.g., Avolio & Barrett, 1987; Perry & Bourhis, 1998; Raza & Carpenter, 1987; Rosen & Jerdee, 1976; Vrugt & Schabracq, 1996).

However, despite the strong evidence pointing to the importance of both age and physical attractiveness in workplace contexts, previous research has not explored factors that may

moderate the use of the negative age-related stereotypes or the physical attractiveness stereotype (PAS) in these settings. The goal of the current research was to build on previous work (e.g., Tiedens & Linton, 2001) suggesting that the degree of emotional certainty that an individual experiences is a useful indictor of the depth to which that individual will process information.

The three studies here addressed emotional certainty as a possible moderator of stereotype use. Participants in Studies 1 and 2 recalled an emotional memory that effectively induced one of four specific emotions that were associated with high or low emotional certainty and positive or negative emotional valence. In both studies, after participants reviewed information about a hypothetical job candidate, they rated the candidate's personal characteristics, the candidate's likelihood of being hired for the position, and indicated whether or not they would hire the candidate for the job. In support of hypotheses, both Study 1 and Study 2 revealed that happiness and anger (both of which are high-certainty emotions) were associated with stereotype-consistent ratings, suggesting that underlying appraisals of certainty accounted for the associations of these emotional experiences with stereotype-consistent ratings. In contrast, hope and fear (both of which are low-certainty emotions) were not associated with stereotype-consistent ratings. In Study 3, participants completed four measures of dispositional emotion before completing the same hiring task used in Study 1. Results provided only limited support for hypotheses. Although participants did show a general preference for attractive over unattractive job candidates, level of dispositional certainty did not appear to be associated with stereotypic ratings. Overall, the findings suggest that it is *the temporary and acute experience of emotions characterized by high levels of certainty* that has the most biasing impact on workplace judgments.

Specifically, these studies documented that incidental emotion—that is, feelings that are unrelated to subsequent judgments, decisions or choices—carried over to shape evaluators' preferences in a hypothetical rating and selection task. The current results suggest that emotions can have dramatic effects on the tendency to exhibit stereotypic beliefs pertaining to both physical attractiveness and age, even when they arise from a memory of a prior, irrelevant situation. A question remains, however, about why parallel evidence was not found with dispositional emotions. According to the ATF, dispositional emotion should produce effects similar to that produced by temporary emotional states. Distinctions between state and trait emotion provide one possible explanation for the pattern of results observed across these three studies. Theoretically, although dispositional emotion should relate to the intensity of state emotion by establishing the relative boundaries within which an individual will experience and express a particular emotion, dispositional emotion is conceptually and practically distinct from emotional states. For instance, scores on any measure of state emotion ought to vary over time whereas scores on any dispositional measure of emotion should show far less variability. Indeed, Snyder et al., (1996) found that coefficients of variability for the State Hope Scale were approximately twice the magnitude of those obtained for the Dispositional Hope Scale. This allows for the possibility that an individual who is dispositionally high in a particular emotion may not experience that emotion with much intensity (or at all) at a particular moment. Lazarus (1991) noted that a dispositional or trait emotion is not really an emotion but a tendency to react with a particular emotion. He explained that the dispositional emotion must be provoked or activated in a situation in order to make it salient. The laboratory experience of participants in Study 3 is not likely to have provoked or activated the dispositional emotions studied. The moments in which participants in Study 3 completed the hypothetical hiring task were a finite

slice out of the day and, in the absence of any emotion manipulation or induction, were probably characterized by little in the way of felt emotion. In contrast, it is likely that the emotion manipulation used in Studies 1 and 2 produced state emotions that were more markedly intense than any assessment of dispositional emotion would have indicated.

Another possible explanation for the observed pattern of results has to do with the salience of the emotion to the task at hand. Although Studies 1 and 2 were designed to investigate the role of incidental (as opposed to integral) emotion, it might still be the case that participants in the first two studies experienced the emotions elicited during the emotional memory task as more relevant to the hypothetical hiring task than participants in Study 3, who simply completed questionnaires measuring their levels of dispositional emotion. In other words, because participants who completed the emotional memory task spent time focusing on and writing about a very specific emotional memory, they faced the possibility of becoming distracted by the lingering emotion and were much more likely than participants in Study 3 to have experienced conspicuous and intrusive emotion even after they were instructed to move on to the hypothetical hiring task. Future research is needed to better understand the ways in which state and trait emotions produce similar or divergent effects on information processing.

Implications for Organizations

These results have practical implications for organizational leaders, human resource professionals, and industrial/organizational psychologists. In light of the present results, one suggestion for selection professionals might be to encourage the use of multiple screeners and interviewers at all stages of the selection process—a practice already in place at many organizations. A second, relatively simple recommendation might be to provide information about the link between emotional states and decision-making to individuals who have the task of

interviewing and making assessments of job candidates. One possible strategy would be to provide information about the potentially biasing nature of specific emotions such as happiness and anger, without specifically providing examples of those biases (e.g., calling attention to physical attractiveness, racial, or gender advantages). This might be paired with the routine completion of self-assessments by assessors and interviewers just before an assessment or interview is to take place. If assessors and interviewers were encouraged to exempt themselves from decision-making when they felt that their emotional states might jeopardize their evenhandedness, incidences of discrimination would likely be reduced. This type of intervention might serve to reduce the kinds of bias evidenced in this study. Additional research would need to address the efficacy of such a practice.

Furthermore, should future research reveal that dispositional emotion predicts the relative frequency with which emotional states will be experienced, this information might lead to the practice of incorporating assessments of dispositional emotion into the selection criteria for organizational decision-makers.

Limitations and Areas for Future Research

The primary focus of this research was to gain a clearer understanding of the role of emotional certainty in information processing—specifically in exacerbating or attenuating individuals' reliance on stereotypes to make assessments and decisions. Furthermore, this study does not purport to examine stereotyping in interviews, but instead focuses on stereotyping in initial pre-interview stages of the selection process in which many candidates are selected for interviews and many others are rejected. To this end, I chose to utilize a lab setting in which I could achieve the greatest amount of experimental control. In the design of this laboratory study, I made a concerted effort to accurately approximate a real-life selection scenario. However, a

laboratory setting inevitably fails to capture all of the elements that would be present in a real-world selection scenario. While efforts to increase mundane realism were made, asking participants to evaluate résumés accompanied by short, scripted interview clips does not perfectly parallel a real employment selection scenario, and thus the applied applications are tentative. Research in industrial and corporate settings, while difficult to conduct, could add to the generalizability of results from this study.

Participants in these studies were college students, who are not necessarily representative of the types of individuals who are involved in hiring decisions in industry. However, prior research has shown that emotion carry-over effects demonstrated in the lab with college students do indeed replicate with more representative samples in naturalistic settings (Lerner et al., 2003). Additionally, several field studies have documented the use of stereotypes in workplace settings (e.g., Eagly & Karau, 2002; Gorman, 2005; Hede & Dingsdag, 1994; Raza & Carpenter, 1987). Nevertheless, future research ought to examine if and how work history and familiarity with hiring procedures interact with emotion when making assessments of job candidates and when making hiring recommendations.

A second possible limitation concerns issues of construct validity. Although a diverse array of scales has been developed to measure each of the four emotions examined in Study 3, I selected only one dispositional scale per emotion, for a total of four scales. I selected scales that have been widely used in published research and that boasted impressive validity and reliability estimates. However, the choice of a single scale necessarily means the rejection of others. As an example, the Dispositional Hope Scale measures two underlying components of hope: pathways and agency. Pathways describe a sense of being able to generate successful plans to meet goals, whereas agency describes the sense of successful determination in meeting goals (Snyder et al.,

1991). Traditional definitions of hope have been less complex. For example, the typical dictionary definition of hope is, "to desire with the expectation of obtainment" (Merriam-Webster). The use of multiple measures is a common and useful way to circumvent construct validity issues, and thus future research should utilize multiple measures of each discrete emotion.

Future research will also need to address in greater detail *why* emotional certainty affects processing. The mood-as-general-knowledge theory, which suggests that mood states provide information about the nature of the immediate situation, might be helpful in answering this question. For instance, feeling certain may suggest to an individual that he or she has enough information to make a decision or judgment and that the present situation is benign. Another possibility is that just as people might prefer positive moods to negative ones, people might also prefer feeling certain as opposed to feeling uncertain. Thus, individuals who feel certain might be perfectly content to rely on heuristic processing strategies rather than carefully examine a given situation and risk losing that feeling of certainty. This view is consistent with existing work on individual differences in causal certainty that shows that people who chronically feel uncertain process information more systematically than do people who chronically feel certain (Weary & Jacobson, 1997). For example, people who are depressed often process information more systematically because of a lack of confidence in their own judgments, leading them to feel chronically uncertain (Edwards & Weary, 1993; Gleicher & Weary, 1991; Weary, 1990).

Future research might also consider the boundary conditions of the present effects. A potentially fruitful avenue of study might be to test the goal-attainment hypothesis within the ATF (Han et al., 2007; Litvak, Lerner, Tiedens & Shonk, 2010). Recall that the goal-attainment hypothesis suggests that the residual effects of emotion will be deactivated if the relevant goal is

attained or the activating problem is solved. Researchers could put this idea to the test by designing experiments that introduce a problem leading participants to experience a particular emotion and then either provide or fail to provide a resolution to the problem. Afterwards, participants could be given a judgment and decision task such as the hypothetical hiring task used in the present research. Future investigations might also test the ATF's proposition that the influence of residual emotion is deactivated when decision makers are made aware of their decisional processes (Han et al., 2007; Litvak, Lerner, Tiedens & Shonk, 2010). Experiments could be designed to manipulate this awareness and then test the effects of being aware versus unaware of one's own decisional processes. In sum, future research investigating the deactivating conditions that the ATF proposes will reduce or remove the influence of emotion on judgment and choice would increase our understanding of the limits to the effects observed in the present studies.

Summary

This series of studies provides the first examination of the effects of emotional certainty on the use of the PAS and negative-age related stereotypes in employee selection decisions. The results contribute to the literature on emotion and stereotyping by helping to clarify inconsistent findings among studies that have examined the effects of negative mood on stereotyping. Specifically, the current research is consistent with prior work that has suggested that emotional certainty is a useful way to predict the depth with which information will be processed. The findings of the current research suggest that, compared to individuals experiencing emotional uncertainty, individuals experiencing emotional certainty are more apt to use stereotypes when assessing hypothetical job candidates, and are more likely to show evidence of those stereotypes when making hiring recommendations about hypothetical job candidates. Overall, the pattern of

data suggests that temporary, incidental emotions characterized by high levels of certainty may introduce bias in the context of employee selection.

Appendix A

BRENDA J. WATERMAN

315 E. Maple Street
Maryville, NY 10562
B_Waterman@hotmail.com

Home: (818) 366-7979
Office: (646) 312-0009
Cell: (917) 955-5955

OBJECTIVE

- A sales/marketing position

SUMMARY OF QUALIFICATIONS

- Over three years experience in retail sales
- Highly organized and enthusiastic
- Skilled in cultivating excellent relationships with both clients and colleagues

RECENT JOB EXPERIENCE

2007-pres. Sales Assistant, **Galaxy Furniture**, New York, NY

- Kept track of sales figures, ordered supplies, maintained brochures and warranties for furnishings.
- Maintained schedule for sales team
- Organized office systems to ensure smooth workflow.

2005-2007. Associate, **Amy Jones**, New York, NY

- Worked the sales floor of the store, interacting with customers to answer questions, obtain sizes, open fitting room
- Maintained store appearance by folding clothing, arranging items by size, and removing items from fitting rooms.

EDUCATION & TRAINING

Fulmer College, Syracuse, NY
B.A., Advertising, 2005

COMPUTER SKILLS

Proficient in Microsoft Office (Word, Excel, PowerPoint, Outlook)

Appendix B

HARRY J. WATERMAN

315 E. Maple Street
Marysville, NY 10562
H_Waterman@hotmail.com

Home: (818) 366-7979
Office: (646) 312-0009
Cell: (917) 955-5955

OBJECTIVE

- A temporary position in an office environment

SUMMARY OF QUALIFICATIONS

- Several years experience in the consumer products industry
- Highly organized and enthusiastic
- Experience in word processing and spreadsheets

RECENT JOB EXPERIENCE

2007-pres. Office Manager (Temporary), **Galaxy Furniture**, New York, NY

- Kept track of office expenditures, ordered supplies, maintained brochures and warranties for furnishings.
- Maintained schedule for sales team
- Organized office systems to ensure smooth workflow.

2005-2007. Training Coordinator (Temporary), **Highland Paper Goods**, New York, NY

- Maintained training schedule for both trainers and trainees
- Assembled welcome packets and materials for registrants.
- Maintained files

EDUCATION & TRAINING

Fulmer College, Syracuse, NY
B.A., Business Administration, 2000

COMPUTER SKILLS

Proficient in Microsoft Office (Word, Excel, PowerPoint, Outlook)

Appendix C

Qualifying criteria for position as Sales Associate:

Please consider the following criteria when evaluating this candidate. These criteria are for an ideal sales associate. Many of the résumés you review might have met some of the criteria and not others. We expect that our new sales associate will need to go through training before assuming all job responsibilities. It is up to your best judgment to make accurate and reasonable assessments.

Experience:

- Ideal Applicant will have at least 3 years experience in sales
- Ideal applicant should demonstrate experience in consulting with company officials, sales departments, and should have worked to develop promotional plans as well.
- Ideal applicant will have experience answering client questions, and making referrals.
- Ideal applicant will be able to provide training to new department personnel
- Ideal applicant will be skilled at establishing long mutually-beneficial relationships with clients and colleagues
- Ideal applicant should have some experience in web development.
- Ideal applicant should have basic skills in Microsoft Office applications, Corel WordPerfect, and Microsoft FrontPage.

Education: Ideal applicant will have at least a BA or BS from a good university. A major in Marketing, Advertising, English, or Psychology is preferred.

Personality and other attributes:

Ideal applicant will be:

- Organized
- Able to handle pressure and stress
- Able to multi-task
- Detail-oriented
- Friendly
- Good social skills
- Intelligent
- Conscientious
- Persuasive, able to make a good sale
- Team-oriented

Appendix D

Qualifying criteria for position as Temporary Technology Assistant:

Please consider the following criteria when evaluating this candidate. These criteria are for an ideal temporary technology assistant. Many of the résumés you review might have met some of the criteria and not others. We expect that our new temporary technology assistant will need to go through training before assuming all job responsibilities. It is up to your best judgment to make accurate and reasonable assessments.

Experience:

- Ideal applicant will have at least 2 years information technology experience
- Ideal applicant should be able to adequately address inquiries regarding computer software or hardware operation to resolve problems
- Ideal applicant would be able to set up equipment for employee use, performing or ensuring proper installation of cables, operating systems, or appropriate software
- Ideal applicant will be able to provide basic software training to new department personnel
- Ideal applicant would have some experience in web development.
- Ideal applicant would have advanced skills in Microsoft Office applications (including Word, PowerPoint, Excel, Outlook, and Access), Corel WordPerfect, and Microsoft FrontPage. Some basic programming knowledge is also preferred.

Education: Ideal applicant will have at least a BA or BS from a good university. A major in Information Technology is preferred.

Personality and other attributes:

Ideal applicant will be:

- Comfortable with frequent change
- Adaptable
- Creative
- Flexible
- Productive
- Efficient
- Eager to achieve
- Intelligent
- Dependable
- Comfortable with new technology
- Trainable

Appendix E

Please complete the following questions regarding the applicant whose résumé you have been asked to review.

1. Please rate the candidate on the following:

	Strongly Disagree				Neither Agree nor Disagree				Strongly Agree
Good social skills	1	2	3	4	5	6	7	8	9
Highly intelligent	1	2	3	4	5	6	7	8	9
Competent	1	2	3	4	5	6	7	8	9
Confident	1	2	3	4	5	6	7	8	9
Dominant	1	2	3	4	5	6	7	8	9
Dependable	1	2	3	4	5	6	7	8	9
Likeable	1	2	3	4	5	6	7	8	9
Mentally healthy	1	2	3	4	5	6	7	8	9
Has high integrity	1	2	3	4	5	6	7	8	9
Concerned about others	1	2	3	4	5	6	7	8	9

2. Please rate your opinion of the *likelihood* that this candidate would be hired for the sales associate position.

1 2 3 4 5 6 7 8 9

Not at all likely — Somewhat likely — Very likely

3. Please indicate ***whether or not you would hire*** this person by checking one of the following options.

   - ❑ Yes, I would hire this candidate
   - ❑ No, I would not hire this candidate

Appendix F

Please complete the following questions regarding the applicant whose résumé you have been asked to review.

1. Please rate the candidate on the following:

	Strongly Disagree				Neither Agree nor Disagree				Strongly Agree
Adaptable	1	2	3	4	5	6	7	8	9
Flexible	1	2	3	4	5	6	7	8	9
Trainable	1	2	3	4	5	6	7	8	9
Competent	1	2	3	4	5	6	7	8	9
Has Future Potential	1	2	3	4	5	6	7	8	9
Motivated	1	2	3	4	5	6	7	8	9
Resistant to Change	1	2	3	4	5	6	7	8	9
Energetic	1	2	3	4	5	6	7	8	9
Likeable	1	2	3	4	5	6	7	8	9
Friendly	1	2	3	4	5	6	7	8	9

2. Please rate your opinion of the *likelihood* that this candidate would be hired for the temporary technology assistant position.

1 2 3 4 5 6 7 8 9

Not at all likely — Somewhat likely — Very likely

3. Please indicate ***whether or not you would hire*** this person by checking one of the following options.

- ❑ Yes, I would hire this candidate
- ❑ No, I would not hire this candidate

Appendix G

Interview Transcript – **Sales Associate**

The following transcript is a brief excerpt that was extracted from a lengthier 30-minute interview.

INTERVIEWER: Okay. Could you tell me a little about yourself?

CANDIDATE: Hmmm. Well, I love life! I am a real movie buff. I like to catch the new releases when I can. I also have a large collection of the classics at home. I am a pretty hard worker. I always have been. When I care about something, I put 100% of myself into it. I try to live life without regrets. I also like to help people out when I can too. Is that what you were looking for?

INTERVIEWER: Sure. That's fine. (Pause) Can you describe one of your strengths as well as one of your weaknesses?

CANDIDATE: Well I would say that my biggest strength is my work ethic. I am a very hard worker. I don't give up easily and strive to do my very best. I throw myself into my work and I care about doing a good job. This is probably my biggest weakness though too. Some people consider me a workaholic. I can get really caught up in my responsibilities and have a hard time pulling myself away.

INTERVIEWER: If I were to ask your old boss or supervisor to describe you, what would he or she tell me?

CANDIDATE: I really liked my old boss. I think he would say that I was a good employee and that he liked working with me. He'd say that I am dedicated and put 100% of myself into what I do. He would say that I am good member of a team and that I am conscientious. Personally, he'd say I am pretty extraverted usually, but in some situations can also be introverted. He would probably also tell you that I can be a bit hard on myself.

INTERVIEWER: Why are you interested in this position?

CANDIDATE: I am really interested in this position because I have read some really wonderful things about Monarch Paper Products. For example, as you are probably aware, the local paper listed Monarch as one of the best local companies to work for last year. I think Monarch was ranked #6 if I am not mistaken. I have read that employees who work for Monarch tend to stay for a long time too because they are pretty happy with their jobs. That says a lot. I am also interested in this position because I think my skills are well suited to it. I think I'd be a good fit.

INTERVIEWER: Why did you leave your last position?

CANDIDATE: Well, actually I did not leave by choice. Like a lot of places, the company has been having difficulties and as a result had to cut staff. I was one of the unlucky ones to get laid off. It really was unfortunate because I really enjoyed my job and I liked everyone there. It is a really good company too. But in a bad economy, everybody has to make cuts. I guess in a way it is a good thing because it opened the door for this opportunity for me.

Appendix H

Interview Transcript – **Temporary Technology Assistant**

The following transcript is a brief excerpt that was extracted from a lengthier 30-minute interview.

INTERVIEWER: Okay. Could you tell me a little about yourself?

CANDIDATE: Hmmm. Well, I love life! I am **30 (60)** years old. I am a real movie buff. I like to catch the new releases when I can. I also have a large collection of the classics at home. I am a pretty hard worker. I always have been. When I care about something, I put 100% of myself into it. I try to live life without regrets. I also like to help people out when I can too. Is that what you were looking for?

INTERVIEWER: Sure. That's fine. (Pause) Can you describe one of your strengths as well as one of your weaknesses?

CANDIDATE: Well I would say that my biggest strength is my work ethic. I am a very hard worker. I don't give up easily and strive to do my very best. I throw myself into my work and I care about doing a good job. This is probably my biggest weakness though too. Some people consider me a workaholic. I can get really caught up in my responsibilities and have a hard time pulling myself away.

INTERVIEWER: If I were to ask your old boss or supervisor to describe you, what would he or she tell me?

CANDIDATE: I really liked my old boss. I think he would say that I was a good employee and that he liked working with me. He'd say that I am dedicated and put 100% of myself into what I do. He would say that I am good member of a team and that I am conscientious. Personally, he'd say I am pretty extraverted usually, but in some situations can also be introverted. He would probably also tell you that I can be a bit hard on myself.

INTERVIEWER: Why are you interested in this position?

CANDIDATE: I am really interested in this position because I have read some really wonderful things about Clear Horizons. For example, as you are probably aware, the local paper listed Clear Horizons as one of the best local companies to work for last year. I think Clear Horizons was ranked #6 if I am not mistaken. I have read that employees who work here tend to stay for a long time too because they are pretty happy with their jobs. That says a lot. I am also interested in this position because I think my skills are well suited to it. I think I'd be a good fit.

INTERVIEWER: Why did you leave your last position?

CANDIDATE: Well, actually I did not leave by choice. Like a lot of places, the company has been having difficulties and as a result had to cut staff. I was one of the unlucky ones to get laid off. It really was unfortunate because I really enjoyed my job and I liked everyone there. It is a really good company too. But in a bad economy, everybody has to make cuts. I guess in a way it is a good thing because it opened the door for this opportunity for me.

Table 1. Means and standard deviations for résumé ratings: Pilot Study 3

Sales Associate (Brenda)		**Technology Assistant (Harry)**	
Stereotype-relevant traits		**Stereotype-relevant traits**	
Social skills	6.43 (1.79)	Adaptability	5.74 (1.56)
Intelligence	5.06 (1.51)	Flexibility	5.93 (1.80)
Competence	6.09 (1.56)	Trainability	6.81 (1.52)
Confidence	5.91 (1.60)	Competence	5.85 (1.56)
Dominance	4.86 (1.67)	Future potential	6.48 (1.40)
Dependable	6.30 (1.38)	Motivation	6.07 (1.75)
Likable	6.60 (1.44)	Resistance to change	4.35 (1.67)
Mental health	6.83 (1.50)	Energy	5.96 (1.58)
Stereotype-irrelevant traits		**Stereotype-irrelevant traits**	
Integrity	5.69 (1.39)	Likability	5.89 (1.31)
Concern for others	6.00 (1.41)	Friendliness	6.22 (1.53)
Hiring measures		**Hiring measures**	
Likelihood of hire	5.74 (1.88)	Likelihood of hire	5.63 (1.62)
Hire (%)	46%	Hire (%)	44%

Table 2. Means and standard deviations for trait ratings: Study 1.

	Certain emotions		Uncertain emotions				
	Attractive	Unattractive	Attractive	Unattractive	*Condition*	*Attractiveness of target*	*Condition X Attractiveness*
Stereotype-relevant traits							
Social skills	7.33[a] (1.09)	5.79[b] (.98)	7.00[ac] (1.32)	6.52[abc] (1.71)	.55 ($1, 93_{df}$)	14.44**	3.98*
Intelligence	7.50[a] (0.93)	5.92[bc] (1.59)	6.63[abc] (1.31)	6.48[c] (1.64)	.30 (1, 93)	9.27**	6.42**
Competence	6.96[a] (1.40)	5.61[b] (1.59)	6.17[ab] (1.58)	6.40[ab] (1.41)	.00 (1, 91)	3.46†	6.96**
Confidence	7.79[a] (0.98)	5.83[b] (1.46)	7.29[c] (1.81)	7.04[abc] (1.89)	1.21 (1, 91)	11.68**	7.01**
Dominance	6.75[a] (1.42)	5.09[b] (1.93)	5.60[ab] (2.01)	6.12[ab] (1.86)	.02 (1, 88)	2.28	8.32**
Dependable	7.71[a] (1.12)	5.65[bc] (1.67)	6.08[abc] (1.72)	6.32[c] (1.52)	2.37 (1, 92)	8.55**	13.58**
Likable	7.75[a] (1.15)	6.21[bc] (1.02)	6.67[abc] (1.43)	6.40[c] (2.14)	2.12 (1, 93)	8.70**	4.33*
Mental health	7.67[a] (1.20)	5.92[bc] (1.38)	6.54[abc] (1.25)	6.54[c] (1.59)	.81 (1, 92)	9.88**	9.88**
Stereotype-irrelevant traits							
Integrity	6.38 (1.47)	6.17 (1.63)	6.75 (1.19)	6.75 (1.42)	2.67 (1, 92)	.13	.13
Concern for others	6.13[ab] (1.62)	6.21[ab] (1.72)	6.67[a] (1.61)	5.92[b] (1.73)	.14 (1, 93)	.96	1.50
Hiring measures							
Likelihood of hire	7.25[a] (1.45)	5.33[bc] (2.04)	6.00[abc] (1.59)	6.04[c] (1.86)	.58 (1, 93)	6.97*	7.58*
Hire (%)[a]	48%	17%	33%	29%			

Note: Different superscripts indicate significant ($p \leq .05$) differences. †$p \leq .10$. *$p \leq .05$. **$p \leq .01$. [a]These analyses were based on a log-linear analysis. $_{df}$ Indicates degrees of freedom for each analysis.

Table 3. Means and standard deviations for trait ratings: Study 2

	Certain emotions		Uncertain emotions				
	Younger	Older	Younger	Older	*Condition*	*Age of target*	*Condition X Age*
Stereotype-relevant traits							
Adaptable	7.13[a] (1.43)	5.65[b] (1.01)	6.32[b] (1.93)	6.48[b] (1.35)	.00 ($1, 112_{df}$)	5.88*	9.11**
Flexible	6.77[a] (1.36)	5.48[bc] (1.02)	5.96[abc] (1.48)	5.79[c] (1.29)	1.04 (1, 112)	9.12**	5.34*
Trainable	7.60[a] (1.13)	5.93[bc] (1.41)	6.30[abc] (1.41)	6.29[c] (1.86)	2.96† (1, 110)	9.26**	9.03**
Competent	6.83 (1.21)	6.07 (1.77)	6.52 (1.50)	6.29 (1.44)	.03 (1, 110)	3.18†	.90
Has future potential	7.07[a] (1.17)	5.34[b] (1.95)	6.64[c] (1.52)	6.17[c] (1.58)	.47 (1, 112)	13.98**	4.56*
Motivated	7.23[a] (1.33)	6.14[b] (1.35)	6.93[c] (1.65)	6.57[abc] (1.48)	.05 (1, 110)	7.03**	1.80
Resistant to change	4.27[a] (2.10)	6.11[b] (1.79)	5.04[c] (1.48)	5.31[c] (1.91)	.00 (1, 111)	9.49**	5.20*
Energetic	7.60[a] (1.07)	6.31[bc] (1.37)	6.79[abc] (1.66)	6.44[c] (1.57)	1.62 (1, 112)	9.37**	3.21†
Stereotype-irrelevant traits							
Likable	6.53[a] (1.58)	7.41[b] (1.40)	6.32[c] (1.72)	7.21[ad] (1.50)	.53 (1, 112)	9.47**	.00
Friendly	6.83[a] (1.51)	7.69[b] (1.42)	7.18[b] (1.31)	7.55[b] (1.50)	.15 (1, 112)	5.30*	.82
Hiring measures							
Likelihood of hire	7.25[a] (1.45)	5.33[b] (2.04)	6.00[b] (1.59)	6.04[b] (1.86)	.33 (1, 112)	18.82**	7.38**
Hire (%)	93%	34%	68%	66%			

Note: Different superscripts indicate significant ($p \leq .05$) differences. †$p \leq .10$. *$p \leq .05$. **$p \leq .01$. $_{df}$ Indicates degrees of freedom for each analysis.

Table 4. Correlations, means, and standard deviations for TA, FSS, D-Ha, and DHS: Study 3

Variables	1	2	3	4
1. TA	---			
2. FSS	.35**	---		
3. D-Ha	-.29	-.30*	---	
4. DHS	-.15	-.18	.58**	---
Range of scores	8 – 32	59 – 178	43 – 96	11 – 31
M	17.94	107.66	72.03	23.37
SD	4.94	27.93	13.71	3.53

Note: TA = 10 item subscale extracted from State-Trait Anger Expression Inventory II; FSS = Fear Survey Schedule; D-Ha = Depression-Happiness Scale; DHS = Dispositional Hope Scale
*p < .05. **p < .01.

Table 5. Hierarchical multiple regression predicting aggregated stereotype-relevant attribute ratings from dispositional negative emotions: Study 3

Step	Predictor	$\beta_{standardized}$	*t*	*p*
1	TA	-.43†	-1.93	.06
	FSS	.15	1.32	.19
	Attractiveness	.31*	2.30	.03
2	TA X FSS	-.03	-.19	.85
	TA X Attractiveness	.26	1.39	.17
	FSS X Attractiveness	.16	.16	.87

Notes: TA= 10 item sub-scale extracted from the State-Trait Anger Expression Inventory II; FSS = Fear Survey Schedule. The beta weights reported are the values at the final step.
†p < .10. *p < .05. **p < .01.

Table 6. Hierarchical multiple regression predicting aggregated stereotype-relevant attribute ratings from dispositional positive emotions: Study 3

Step	Predictor	$\beta_{standardized}$	*t*	*p*
1	D-Ha	.02	.17	.87
	DHS	.18	1.26	.21
	Attractiveness	.31**	2.63	.01
2	D-Ha X DHS	-.20	-1.17	.25
	D-Ha X Attractiveness	.12	.49	.62
	DHS X Attractiveness	-.18	-.65	.52

Notes: D-Ha = Depression-Happiness Scale; DHS = Dispositional Hope Scale. $^{\dagger}p < .10$. *p < .05. **p < .01.

Table 7. Study 3 - Hierarchical multiple regression predicting aggregated stereotype-irrelevant attribute ratings from dispositional negative emotions.

Step	Predictor	$\beta_{standardized}$	*t*	*p*
1	TA	-1.00	-.77	.45
	FSS	-1.10	-.81	.42
	Attractiveness	.05	.38	.71
2	TA X FSS	-.01	-.04	.97
	TA X Attractiveness	-.01	-.06	.95
	FSS X Attractiveness	.20	1.03	.31

Notes: TA= 10 item sub-scale extracted from the State-Trait Anger Expression Inventory II; FSS = Fear Survey Schedule. $^{\dagger}p < .10$. *p < .05. **p < .01.

Table 8. Hierarchical multiple regression predicting aggregated stereotype-irrelevant attribute ratings from dispositional positive emotions: Study 3

Step	Predictor	$\beta_{standardized}$	*t*	*p*
1	D-Ha	.28	1.96	.06†
	DHS	.17	1.19	.24
	Attractiveness	.12	.98	.33
2	D-Ha X DHS	-.17	-.98	.33
	D-Ha X Attractiveness	.10	.43	.67
	DHS X Attractiveness	-.07	-.26	.80

Notes: D-Ha = Depression-Happiness Scale; DHS = Dispositional Hope Scale. $^{\dagger}p < .10$. *p < .05. **p < .01.

Table 9. Hierarchical multiple regression predicting employability ratings from dispositional negative emotions: Study 3

Step	Predictor	$\beta_{standardized}$	*t*	*p*
1	TA	-.21	-1.68	.10
	FSS	.17	1.28	.21
	Attractiveness	.28*	2.36	.02
2	TA X FSS	.07	.53	.60
	TA X Attractiveness	-.07	-.35	.73
	FSS X Attractiveness	.21	1.07	.29

Notes: TA= 10 item sub-scale extracted from the State-Trait Anger Expression Inventory II; FSS = Fear Survey Schedule. $^{\dagger}p < .10$. *p < .05. **p < .01.

Table 10. Hierarchical multiple regression predicting employability ratings from dispositional positive emotions: Study 3

Step	Predictor	$\beta_{standardized}$	*t*	*p*
1	D-Ha	.06	.37	.71
	DHS	.19	1.30	.20
	Attractiveness	.34**	2.75	.01
2	D-Ha X DHS	-.11	-.62	.54
	D-Ha X Attractiveness	-.14	-.54	.59
	DHS X Attractiveness	.15	.49	.62

Notes: D-Ha = Depression-Happiness Scale; DHS = Dispositional Hope Scale. $^{\dagger}p < .10$. *p < .05. **p < .01.

Table 11. Logistic regression predicting hiring decisions from dispositional negative emotions: Study 3

Step	Predictor	$\beta_{standardized}$	*t*	*p*
1	TA	-.30**	-2.64	.01
	FSS	.20*	1.76	.08
	Attractiveness	.38**	3.50	.00
2	TA X FSS	.01	.11	.91
	TA X Attractiveness	.06	.31	.76
	FSS X Attractiveness	.04	.21	.84

Notes: TA= 10 item sub-scale extracted from the State-Trait Anger Expression Inventory II; FSS = Fear Survey Schedule. $^{\dagger}p < .10$. *$p < .05$. **$p < .01$.

Table 12. Logistic regression predicting hiring decisions from dispositional positive emotions: Study 3

Step	Predictor	$\beta_{standardized}$	*t*	*p*
1	D-Ha	.80	.58	.57
	DHS	.05	.33	.75
	Attractiveness	.41**	3.45	.00
2	D-Ha X DHS	-.03	-.22	.83
	D-Ha X Attractiveness	-.01	-.05	.96
	DHS X Attractiveness	-.17	-.57	.57

Notes: D-Ha = Depression-Happiness Scale; DHS = Dispositional Hope Scale. $^{\dagger}p < .10$. $*p < .05$. $**p < .01$.

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