RICE UNIVERSITY

Reactions to Stigmas in the Employment Interview: An Eye Tracking Investigation

By

Juan M. Madera

A THESIS SUBMITTED
IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE

Doctor of Philosophy

APPROVED, THESIS COMMITTEE:

Michelle R. Hebl, Associate Professor, Chair
Psychology

Daniel J. Beal, Assistant Professor
Psychology

Margaret E. Beier, Assistant Professor
Psychology

Andrew Perkins, Assistant Professor
Management

HOUSTON, TX

APRIL 2008
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ABSTRACT

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Although the employment interview is one of the most widely used and researched methods for selecting employees, interview are not free from biases, and in fact, research shows that individuals who have stigmas often face discrimination in the employment interview (Dipboye, 1997; Dipboye & Colella, 2005). Drawing from theory and research on perceived stigma (Pryor, Reeder, Yeadon, & McInnis, 2004), attentional processes (Rinck & Becker, 2006), working memory (Baddeley & Hitch, 1974; Engle, 2002) and regulatory resources (Muraven & Baumeister, 2000), this study investigated the processes in which a stigma on the face affects interview outcomes and methods that interviewees might use as remediation strategies. The results showed that participants that viewed an applicant with a stigma attended more to the stigma area and that visual attention to the stigma was related to more self-regulatory depletion and less memory recall. The data suggests that participants looking at applicants with a stigma during an interview regulated and experienced more divided attention than participants looking at applicants without a stigma. Furthermore, participants that looked at an applicant with a stigma rated the applicant lower than participants that viewed an applicant without a stigma. The results also showed that the relationship between stigma and applicant ratings was mediated by visual attention and memory of the interview. Acknowledgement from applicants interacted with time of visual attention affecting attention allocated to the stigma at different time points.
Acknowledgements

First and foremost, I would like to thank my advisor and committee chair, Mikki Hebl, for her guidance and mentorship. In my six years at Rice she has been a constant source of knowledge, encouragement, and support. It has been a true honor and pleasure working for Mikki.

I would like to thank my committee, Margaret Beier, Dan Beal, and Andy Perkins, for their invaluable help with this project. I am very grateful for their insightful comments and enthusiasm for this study. I am also very grateful to Steve Currall for his encouragement and guidance during my graduate career. I owe many thanks to Michael O’Connor, Anish Bavishi, Charlie Law, Cody Cox, and Katie O'Brien for their assistance on this project, and to Mike Byrne for allowing me to use his eye tracker.

Thank you to my lovely sister, Licette, for her support and encouragement. Thanks for all the laughs and good times and for being a great roommate.

I would like to express deep thanks to my parents, Juan and Maria Madera, for their unconditional love and encouragement. I dedicate this thesis to them. Thank you!

Financial support for this project was provided by the Ford Foundation and by a dissertation grant by the Society of Industrial and Organizational Psychology.
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INTRODUCTION

The employment interview is one of the most widely used and researched methods for selecting employees (Dipboye, 1997). The interview is a situation in which the applicant and employer have a chance to learn more about each other. Dipboye (1992) defines the employment interview as “a dialogue initiated by one or more persons to gather information and evaluate the qualifications of an applicant for employment” (p. 3). The interview, however, also provides an opportunity for the applicant to learn about the organization. For example, the interview might reflect an organization’s culture by showing the applicant how much care they place in selecting employees by using a rigorous interview. Thus, the interview serves the purpose of exchanging information.

While the goal of an interview is to gain information about the applicant and reduce bias factors at the same time, the interview is not completely objective because the interview involves an interaction between interviewers and applicants in which both members’ verbal and nonverbal behaviors and physical characteristics influence each other (Posthuma, Morgeson, & Campion, 2002). Research shows that individuals who have stigmas based on race, sex, socioeconomics, religion, physical imperfections, or disability often face discrimination in the employment interview (Dipboye & Colella, 2005). For example, an interviewer might decide on the basis of physical attractiveness that an applicant is either suited or unsuited for a job (Cable & Judge, 1997).

Yet, the mechanism for understanding how stigmatization influences the interview process and outcomes has been largely ignored, as have strategies that attempt to reduce such discrimination. It is important to understand if stigmas influence
interviews, but also how and why. By knowing how and why it occurs, we can get a
better understanding of how to reduce biases that are based on stigmas.

The purpose of this dissertation is to examine both the processes in which stigma
affects interview outcomes and methods that interviewees might use as remediation
strategies. In particular, this dissertation draws from theory and research on perceived
stigma (Pryor, Reeder, Yeadon, & McInnis, 2004), attentional processes (Rinck &
Becker, 2006), working memory (Baddeley & Hitch, 1974; Engle, 2002) and regulatory
resources (Muraven & Baumeister, 2000). Pryor et al. (2004) proposed a theoretical
model of individual psychological reactions to perceived stigma, in which reactions to
stigma involve a reflexive, automatic system that may elicit anxiety or other negative
affect. Research demonstrates that attentional processes play an important role in that
attention is biased selectively toward negative stimuli (Rinck & Becker, 2006). It is
possible that stigmatizing features that are visible are interpreted as negative by others.
Thus, when individuals are confronted with a stigmatized individual (e.g., a birth mark on
his/her face), individuals might be more likely to focus their attention to the features of
the stigma, which could interfere with limited cognitive resources (Schmeichel, 2007).

By examining these issues, this research makes several important contributions to
the field. First, research has not considered how stigmas affect interview processes and
outcomes. This study is the first to examine if a visible stigma distracts interviewers,
impairs their memory, and subsequently affects the ratings of an applicant. Second, this
study provides data on how a visible facial stigma influences the visual pattern of a
perceiver. The stigma literature suggests that individuals feel threat and anxiety when
interacting with stigmatized individuals and that there is a coping phase, yet, it is
unknown how people visually react to physical stigmas - do stigmas attract attention and do people look away or continue to stare? This study provides data that are the first steps at answering such questions. Third, this study is the first known in the field of industrial/organizational psychology to use eye-tracker methodology. In this research, participants interacted with a hypothetical stigmatized individual in mock interviews using eye-tracking methodology.

Eye-trackers are used to measure eye movements or saccades, which are fast scanning eye movements that typically occur 3 to 4 times every second (Richardson & Spivey, 2004). Such eye movements are responsible for processing visual information because the human eye is limited in that the eye cannot process all visual information of a visual field in one glance. Eye movements are fundamental to the operation of the visual system, and can therefore provide insight into cognitive processes such as language comprehension, memory, and decision making through the use of eye tracking methodology. Eye-tracking research has been used in diverse fields, such as neuroscience, ergonomics, human-computer interactions, and marketing.

Furthermore, eye-tracking methodology provides many advantages and the novel use of this technology will lead to new insights. For example, eye-tracker methodology provides objective and quantitative data of an individual’s attentional processes (Duchowski, 2002). More specifically, eye movements are recorded to provide information on an individual’s attentional patterns over a given target. An eye-tracker measures the amount of time and the number of instances that a person gazes at a specific object or region of an object. Thus, the current research and the use of such methodology have both theoretical and applied implications. It allowed to test if the physical
characteristics of a stigma do in fact command visual attention at a very basic level and if such attention affects interview outcomes.

First, I will review extant literature regarding the employment interview, including a discussion of biases in interviews. Second, I will briefly discuss stigma, how it is defined and how people react to stigmatized individuals. Third, I will discuss the research on physical attractiveness. Fourth, I will review the literature on visual attention toward negative stimuli and discuss its implications on the study of stigmas. Fifth, I will then briefly discuss the theory and research on limited resources. Sixth, I will subsequently derive specific hypotheses and describe the method for their investigation. Seventh and lastly, I will present an empirical test of these hypotheses and discuss their implications.

THE EMPLOYMENT INTERVIEW

Employment interviews are tools that are widely used to select employees (Guion, 1998). There are reasons as to why organizations widely use interviews as a selection tool. One reason is that organizations perceive interviews to be highly valid to assess job skills and traits of applicants (Dipboye, 1992). This is partly due to the belief that people are better judges of other peoples’ character than objective measures, such as personality inventories. That is, interviewers are usually members of an organization that have knowledge of the organization and about the job, which makes them confident that they can be appropriately rate and select applicants.

Another reason is that organizations can use interviews to recruit potential employees by disseminating information about organizations in interviews. Interviewers can “sell” their organizations to applicants. An interviewer’s behavior can reveal
information about an organization’s values and culture to applicants. Applicants can use this information to make decisions about their fit or lack of fit with a particular organization (Rynes, Bretz, & Gerhart, 1991). Thus, an organization can use interviews to provide information about the organization to applicants.

Not all interviews are the same. Interviews range in terms of structure – the extent to which interviewers ask the same question and in the same order to all applicants based on pre-established criteria. The strength of structuring interviews is that all applicants are treated the same and are rated on the same criteria. Using the same questions and order increases the reliability and validity. In fact, previous reviews have concluded that structuring employment interviews improves their psychometric properties (Arvey & Campion, 1982; Campion & Palmer, 1997), and research has shown that structured interviews can be as valid and reliable predictors of job success as cognitive ability tests (Campion, Campion, & Hudson, 1994). Huffcutt and Arthur (1994) reported corrected validities for structured interviews that ranged from .35 to .62, whereas unstructured interviews ranged from .14 to .33. Similarly, Conway, Jako, and Goodman (1996) reported corrected validities that were .67 for highly structured interviews, .56 for semistructured interviews, and .34 for unstructured interviews.

Although unstructured interviews have lower reliability, research suggests that applicants and interviewers prefer this method because of the flexibility it provides. Interviewers can probe further on the information they deem important by the applicant. Applicants can add more explanations or ask questions. Furthermore, unstructured interviews are preferred because they are more likely to be perceived as a conversation (Dipboye, 1997).
Interviews also range in their content. For example, a popular approach is the use of situational interviews, in which interviews are based on critical incidents (Latham & Saari, 1984). They are highly structured interviews that ask applicants to respond to future-oriented situations, which reveal behavioral intentions. In such interviews, for example, applicants can be asked what they would do if they worked in a team in which one member had a difficult personality. Job-related interviews, like situational interviews, are highly structured. Questions in a job-related interview attempt to assess past behavior and job-related information, rather than asking about how one would respond to future-oriented situations (McDaniel, Whetzel, Schmidt, & Maurer, 1994). For example, an interviewer might ask an applicant to describe a time in which they had to assume a leadership role.

**New Methods of Interviews**

The traditional method of conducting an interview is face-to-face. That is, interviewers and applicants meet in person to complete the interview. Organizations, however, are now taking advantage of technological advances. Technology-mediated interviews are becoming a popular method of conducting interviews and include telephone and computer-mediated interviews (Viswesvaran, 2003). Computer-mediated interviews uses videoconference technology, in which a variety of systems are used to transmit voice, picture, and sometimes data over telephone lines and/or internet connections (Chapman & Rowe, 2001, 2002; Kroeck & Magnusen, 1997). These are usually conducted using computer monitors with mounted cameras than can sometimes be used to zoom in and out. The interviewer and applicant can see and speak to each
other by using the monitors and cameras. Videoconferencing usually includes the use of phone lines/cables that compress audio and video data, which results in a ¼ second delay in transmission.

By using computer-mediated interviews, organizations can expand their applicant pools to distant locations (Chapman, 1999). By doing so, organizations can compete more effectively in a business sector that is global (Lievens, van Dam, & Anderson, 2002), and can, at the same time, reduce the costs of travel and accommodations for applicants. Thus, unlike the traditional, face-to-face interview, computer-mediated interviews provide organizations with the ability to interview applicants that otherwise might have not been able to apply.

Although the method is different from the face-to-face method because the interviewer is not physically present with the applicant, computer-mediated interviews do share many common elements with the traditional, face-to-face interview. First, the interview can range in structure and content. Interviews can still use a structured interview, with situational-based questions, or an unstructured interviews, in which the interviewer bases the questions on the applicant’s resume. Second, the interviewer can still see the applicant, which can lead to biased decisions based on the physical characteristics of an applicant. For example, an interviewer usually can see the applicants from mid-chest up and therefore have a clear picture of an applicant’s face (Chapman & Rowe, 2000). Furthermore, computer-mediated interviewers still allow the transmission of verbal and nonverbal cues, such as head nods, facial expressions, features of the face, and tone of voice (Chapman, Uggerslev, & Webster, 2003). Any physical anomalies on the face of an applicant would still be visible and therefore potentially biasing. Third and
last, the interviewer is still the decision maker; the one who leads the interviews and rates the applicant. Interviewers, regardless of the type of interview, must still make ratings of the applicants, and because computer-mediated interviews allow applicants to be visible, they are also open to biases.

The Interview as an Exchange of Information

Although there are several types and methods of delivering interviews, at the heart of every interview is the exchange of information between potential employers and potential employees (Dipboye, 1982). The goal of a potential employee is to make the best impression, while the goal of a potential employer is to gain information and to sell their organizations to applicants. Research shows that social factors, such as physical appearance, can influence interview processes and outcomes (Posthuma, Morgeson, & Campion, 2002). Thus, while the employment interview is a selection tool that can be valid and reliable (Campion, Campion, & Hudson, 1994; Campion & Palmer, 1997; Huffcutt & Arthur, 1994) there are physical factors of the applicant that can influence interviewer and interviewees’ perceptions.

First, interviewer-applicant similarity in race or sex is a factor that might influence interview processes and outcomes (Lin, Dobbins, & Farh, 1992; Prewett-Livingston, Field, Veres, & Lewis, 1996). For example, Lin et al., (1992) found that ratings of Black and Hispanic applicants were higher when interviewers were of the same race. In a study of panel interviews, interviewers tended to give favorable ratings to applicants of the same racial group when they were the majority of the panel (Prewett-Livingston et al., 1996). In a similar study using data from police officer applicants, panel
racial composition had an effect on interview outcomes, such that predominately White panels provided significantly more favorable ratings to applicants of all races compared to panels composed of predominately Black raters (McFarland, Ryan, Sacco, & Kriska, 2003). Furthermore, Black raters evaluated Black applicants more favorably than White applicants only when they were on a predominately Black panel.

Second, verbal and nonverbal behavior from interviewers and interviewees also influence interviews (Dipboye, 1982; Dougherty, Turban, & Callender, 1994; Liden, Martin, & Parsons, 1993). For example, Motowidlo and his colleagues (Burnett & Motowidlo, 1998; DeGroot & Motowidlo, 1999; Motowidlo & Burnett, 1995) have found that aural and visual information about the interviewee affect interview outcomes, such as receiving either only visual or aural information leads to valid judgments of future job performance. An interviewer who makes eye contact and smiles (i.e., warm behavior) can enhance an applicant’s performance, but an interviewer who makes little eye contact and does not smile (i.e., cold behavior) can impair an applicant’s performance (Liden, Martin, & Parsons, 1993).

Third, the appearance of an applicant or interviewer, such as physical attractiveness, which has been found to be positively related to a variety of criteria, also influence interviews (Burnett & Motowidlo, 1998). In a study examining interviewer evaluations of college applicants, facial attractiveness (from 506 randomly selected photographs) was a significant predictor of interview evaluations (Shahani-Denning, Dipboye, & Gehrlein, 1993). Arvey and Campion (1982) concluded that interviewee attractiveness is related to higher evaluations, but that this relationship might depend on other factors (e.g., type of job).
Pingitore et al. (1994) explored the effects of obesity in mock employment interviews. Participants viewed eight videotapes simulating job interviews that portrayed different applicants varying in body weight (i.e., average vs. obese) using identical resumes and dialogue. The results showed that the applicant’s body weight was the most powerful predictor and explained about 35% of the variance in employment evaluations. In a similar study, Klesges et al. (1990) showed participants videotapes of an interview with either an average-weight or an overweight woman. The resumes and faces—which were blocked to eliminate extraneous cues during the interview—were identical. The participants’ hiring decisions were affected by the interviewee’s weight (i.e., the obese applicant was less likely to be hired than the average-weight applicant).

Fourth and last, physical disability also influences interviews. In their review of the literature, Arvey and Campion (1982) reported higher ratings for applicants with physical disabilities. Recent research, however, shows that the effect of physical disabilities on interview outcomes depends on their qualifications and disclosure (Hays & Macan, 1997; Henry, 1994). Applicants that openly acknowledge their disability are rated more favorably, but the ratings for those that do not acknowledge receive lower evaluations if they have poor qualifications, but higher ratings if they have good qualifications (Henry, 1994). Disclosure on how an applicant with a physical disability would function at the workplace also leads to higher ratings (Hays & Macan, 1997).

Thus, physical characteristics of applicants, such as physical attractiveness, do influence the interview process and outcomes. Because the interview is an exchange of information between people, regardless of the structure, content, or method (e.g., computer-mediated or face to face), interviewers can be influenced by the social aspects
of the interview – what an applicant says, how they say it, and what they look like. Applicants with physical stigmas might therefore influence interview outcomes, but how this process occurs is still unknown, and in particular, it has not been examined in computer-mediated interviews.

STIGMA

Stigma Defined

The modern study of stigma in psychology can be traced back to Goffman’s (1963) influential book on stigma. Goffman defined stigma as an attribute that discredits individuals and prevents an individual from full social acceptance. According to Goffman, stigmas can be divided as “discredited” stigmas, or stigmas that are visible or known to others (e.g., having a physical disability), and “discreet” stigmas, or those that can be concealed (e.g., homosexuality). Goffman further specified that stigmas may be characterized as: a) moral flaws, b) physical aberrations of the body, or c) heredity-based factors. Stigmas can also vary in the degree to which they are perceived to be controllable. For example, the stigmas of being a drug addict, having AIDS, being homeless, or homosexuality are more likely to be perceived to be controllable than the stigmas of race and age. According to Major and O’Brien (2005), stigmas can also be divided as those that are linked to physical appearance (e.g., a deformity), behavior (e.g., drug addict), or group membership (e.g., African American).

Crocker, Major, and Steele (1998) defined stigma as an “attribute or characteristics that conveys a social identity that is devalued in a particular social context” and that the features of devaluation include “being the target of negative
stereotypes, being rejected socially, being discriminated against, and being economically disadvantaged” (p. 505). There are two main approaches to how a marking is stigmatized (Major & O’Brien, 2005). In the first approach, stigma is considered to be a social construction, a marking that is labeled by society, which can change across cultures in what is to be stigmatized (Crocker et al., 1998). Accordingly, people with scars or stains on their face are stigmatized because such stigmas are socially devalued (Goffman, 1963). In the second approach, stigma is an evolutionary development in which people have developed cognitive adaptations that lead them to reject stigmatized people; that is, those that posses certain devalued attributes. These attributes signal that a) they would make a poor partner, b) they might have an infection, or c) they are part of outgroup that can be dominated and exploited (Kurzban & Leary, 2001). Therefore, simply seeing a person with a stigma such as a scar or stain on their face can heighten anxiety and threat (Blascovich, Mendes, Hunter, Lickel, & Kowai-Bell, 2002).

There are four major mechanisms in which stigma affects the stigmatized (Major & O’Brien, 2005). First, stigmatized groups are discriminated against in the workplace, housing, educational setting, healthcare, and the criminal justice system (Crandall & Eshleman, 2003). Second, stigma can also create self-fulfilling prophecies in which expectations and known stereotypes can affect stigmatized individuals’ behaviors, thoughts, and feelings (King, Shapiro, & Quinones, 2006). Third, stigma can also affect the stigmatized through cultural stereotypes that affect the behavior other people towards stigmatized individuals. Fourth and last, stigmatized individuals can experience threat to their social identity and self-esteem by how others view them, their perceptions of social contexts, and their own motives and goals.
Although there are common characteristics and mechanisms in which stigma affects stigmatized individuals, not all stigmas are the same and therefore the process in which stigma affects the interview process might depend on the type of stigma. For example, race and obesity are stigmas in which stereotypes might come into play and negatively affect the interview process. But the stigma of physical imperfections (e.g., scar on face) might influence the interview at a visual level – that is, physical characteristics play a role in that they might be distracting to the interviewer.

Reactions to Stigma

A common finding in the stigma literature is that people generally have negative reactions towards stigmatized individuals. Stigmatized individuals tend to illicit disgust, avoidance, and negative affect because stigmas are devalued, negative attributes. For example, people tend to display more negativity and interact farther away from stigmatized individuals, such as physically disabled individuals (Kleck, 1969), HIV positive individuals (Mooney, Cohn, & Swift, 1992), obese individuals (Hebl & Mannix, 2002; King, Shapiro, Hebl, Singletary, & Turner, 2006), skinheads (Macrae, Bodenhausen, Milne, & Jetten, 1994) and homosexual individuals (Herek, 2004) than from nonstigmatized individuals.

Perceivers of stigmatized individuals often experience feelings of discomfort, anxiety, and threat during social interactions. Blascovich et al. (2002) used physiological measures to examine the extent to which perceivers feel anxiety and threat during interactions with stigmatized individuals. Participants interacted with individuals without or with a stigma, manipulated by using makeup to create a facial stigma, namely, a port-
wine stain. It was hypothesized that stigmas heighten perceivers’ evaluations of danger, uncertainty, and efforts to suppress automatically activated negative emotional states. Results showed that interacting with confederates with port-wine stains increased cardiovascular activity in perceivers.

A recent study using fMRI technology demonstrated that reactions to stigmatized individuals also heighten brain activity that indicates reactions of disgust and aversion (Krendl, Macrae, Kelley, Fugelsang, & Heatherton, 2006). Participants viewed pictures of faces with different stigmas (e.g., obesity, unattractiveness, facial piercing) and made judgments of disgust after viewing the faces. Brain regions that were activated included those that have been previously demonstrated to respond to disgust (amygdala and insula) and regions that are associated with inhibition and control (anterior cingulate and lateral prefrontal cortex).

Pryor et al. (2004) proposed a theoretical model of individual psychological reactions to perceived stigma, in which reactions to stigma involve a dual-process. The first process is an automatic, reflexive system in which reactions are instinctive or spontaneous that have developed through learning. This first process includes feelings of disgust and repulsion or other negative affect. The second process involves a reflective or thoughtful reaction and conscious adjustments of one’s affective reactions and overt behavior. This includes peoples’ thoughts of whether they should or should not avoid the stigmatized individual and whether their initial negative affective reaction is appropriate. Thus, this model assumes that there is a temporal component in which there is an initial reaction to a stigma and then adjustments as one puts more thought into their reaction.
The second phase that includes reflective adjustments can be influenced by attributions of the stigma. Weiner, Perry, and Magnusson’s (1988) attribution-emotion model of stigmatization suggests that different reactions to stigmas are derived from attributional analysis of stigma. That is, one considers if the stigma is controllable or not, and those that are perceived to be controllable elicit anger whereas stigmas perceived to be uncontrollable elicit pity. For example, individuals with AIDS can elicit more pity and less anger if they acquired it through a blood transfusion than if they acquired it through promiscuous sexual behavior; likewise more anger and less pity is elicited if they acquired it through promiscuous sexual behavior than through a blood transfusion. Thus, the models by Pryor et al. (2004) and Weiner et al. (1988) suggest that individuals engage in sophisticated assessments when confronted with a stigmatized individual that involve attributions, resulting emotions, and how to behave toward the target.

In an interview setting, interviewers faced with an applicant with a physical stigma (e.g., port-wine stain on face) might automatically react with disgust or other negative affect, but then make adjustments as they make attributions and think about why and how the applicant might have acquired the stigma. The foregoing discussion suggests three points that are central to the current research: a) stigmas arouse feelings of anxiety, anger, or disgust; b) the features of a stigma command attention as people make attributions and adjust their reactions; and c) the process of reacting to stigmas, making attributions, and making adjustments may be cognitively taxing for interviewers whose main task is to attend to what the applicant responds. It is important to note that these processes might only occur if they visually attend to the features of the stigma. But research has not considered the visual attention to visible stigmas, and how visual
attention might affect interview processes and outcomes. In an interview setting, are the features of a physical stigma distracting? Do they provoke a need to look away or do they instead command visual attention because they are aberrant and novel? The research on physical attractiveness and the research on visual attention and face perceptions provide a useful framework for answering such questions.

SEEING WHAT IS BEAUTIFUL: PERCEPTIONS OF ATTRACTIVENESS

The devaluing and anxiety that can result from interacting with physically stigmatized individuals may be the result of perceived unattractiveness. There is a great deal of research that suggests that appearance standards and norms have positive effects for attractive individuals (Dipboye, 2005), and that there is consensus in what is labeled attractive across a variety of individual differences – such as age, sex, race, and cultural backgrounds (Langlois, Kalalanis, Rubenstein, Larson, Hallam, & Smoot, 2000). Attractive individuals—those who do conform to the norms for physical attractiveness—tend to have advantages over the less unattractive in various life domains including occupational success (Langlois et al., 2000).

In a meta-analysis, Langlois et al. (2000) found that attractive individuals were more successful than unattractive individuals in the workplace (d = .76, p < .05). Attractiveness is also related to starting salaries (Frieze, Olson, & Russel, 1991). Managers’ ratings MBA students’ physical attractiveness who graduated between 1973 and 1982 significantly predicted starting salaries such that for every unit increase in attractiveness there was an increase of $2,350 in the MBAs’ salary.
Physical attractiveness also influences selection judgments. For example, in a field study, recruiters evaluated applicants (MBA graduates) on (a) traits (e.g., general knowledge, leadership ability), (b) overall employability, and (c) employability in their respective firm (Rynes & Gerhart, 1990). Independently, placement officials rated the physical attractiveness of the applicants. The results revealed that the attractiveness ratings were stronger predictors of recruiter evaluations of firm employability than were objective characteristics, such as GPA, business experience, and major. Diboye (2005) notes the possibility that attractive individuals might have higher objective qualifications or greater social skills which can be a limitation of such field research. However, experimental research, which controls for objective qualifications, shows the same bias against unattractive individuals among college students and organizational recruiters (Dipboye, 2005; Hosoda, Stone-Romero, & Coats, 2003).

Thus, there is consistent evidence that there is bias in favor of attractive individuals, supporting the "what is beautiful is good" stereotype. In a seminal study, Dion, Berscheid, and Walster (1972) demonstrated that physical attractiveness leads to halo effects, which occur when one positive characteristic of an individual dominates the way that individual is viewed by others. As a result, for example, attractive individuals also are perceived to be talented, kind, honest, and intelligent.

Research also supports a bias against unattractive individuals, namely, "what is ugly is bad" (Griffin & Langlois, 2006). In two experiments, Griffin and Langlois (2006) showed that both children and adults perceived unattractive individuals to be significantly less sociable, less altruistic, and less intelligent than both medium and attractive faces. The authors demonstrated that unattractive faces elicit greater physiological arousal and
neural activation than that elicited by attractive faces; unattractive faces elicit the same physiological and neural responses as expressions of negative emotion; and/or unattractive faces take longer to categorize because they do not conform to typical or normal faces, generating strong physiological and cognitive reactions.

But how does physical attractiveness affect visual attention? Research suggests that negative stimuli tend to produce stronger reactions than do positive stimuli (Peeters, 2002). Negative events indicate more pressing concerns for well-being and therefore produce stronger affective, physiological, and behavioral activity than positive or neutral events. This phenomenon, referred to as the asymmetry effect, suggests that greater weight is given to negative events than positive events (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Peeters, 2002).

Cacioppo and his colleagues (Cacioppo, Larsen, Smith, & Berntson, 2004; Ito, Larsen, Smith, & Cacioppo, 1998; Smith, Cacioppo, Larsen, & Chartrand, 2003) have linked this negativity bias to brain activity and suggest that the negativity bias is automatic, occurring at the earliest stage of the brain's information processing. Using electrical activity in the brain's cerebral cortex that reflects the magnitude of information processing taking place, their results show that the brain reacts more strongly to negative stimuli (e.g., picture of mutilated face) than to positive stimuli (e.g., picture of ice cream). According to Ito et al. (1998), “as a consequence of the negativity bias, attitudinal and behavioral expressions should be more strongly influenced by negative input than positive input” (p. 896). Thus, this line of research suggests that the features of a stigma on a face might draw visual focus because individuals tend to place greater weight to negative stimuli.
VISUAL ATTENTION TOWARD NEGATIVE STIMULI

A primary function of visual attention is the detection and analysis of objects appearing in the environment (Wolfe, 2000). While looking for a specific object in a complex scene, people direct their attention or eyes to relevant regions in a scene (e.g., on the road searching for a street name). The ability to interpret complex visual scenes is accomplished through the high resolution sight of the small area of the retina (i.e., fovea centralis), which disables people from processing an entire scene at once. Instead, saccades or series of rapid eye movements are responsible for processing an entire scene (Henderson, Falk, Minut, Dyer, & Mahadevan, 2001). There are two types of visual attention – bottom-up attention, which directs the gaze to salient regions (i.e., something captures visual attention), and top-down attention, which enables goal-directed visual search (i.e., attention is given to something being searched).

Research in social cognition, cognitive, and clinical psychology suggests that people tend to attend to negative or negative stimuli when presented with both positive and negative stimuli (Fox, Russo, Bowles, & Dutton, 2001; Hermans, Vansteenwegen, & Elen, 1999; Ohman, Flykt, & Esteves, 2001; Rinck & Becker, 2006). Some researchers have argued from an evolutionary perspective that at an early stage of information processing, visual attention is particularly sensitive to biologically relevant stimuli, which automatically commands visual attention (Fox et al., 2001; Ohman et al., 2001; Rinck & Becker, 2006). Thus, negative stimuli may be particularly salient regions that capture visual attention.
Evaluation of stimuli as either good or negative is a basic aspect of responding to the environment (Pratto & John, 1991). Theories of emotions suggest that the emotions a person feels depend on a primary appraisal of whether a stimulus is good or bad (e.g., Lazarus, 1982; Watson & Tellegen, 1985). Accordingly, negative stimuli (e.g., unhappy faces, negative words), which threaten psychological well-being, commands visual attention more readily than neutral or positive stimuli (e.g., happy faces; Fox et al., 2001; Nummenmaa, Hyona, & Calvo, 2006). Cognitive theories of anxiety suggest that attention is captured by negative stimuli (e.g., spiders, snakes, negative words), which influences anxiety in people (Hermans et al., 1999; Mogg, McNamara, Powys, Rawlinson, Seiffert, & Bradley, 2000; Rinck & Becker, 2006). Empirical evidence suggests that anxiety is characterized by a hyper-vigilant mode in which people scan the environment for negative stimuli, which captures visual attention (Mogg et al., 2000; Bradley, Mogg, Falla, & Hamilton, 1998).

Models by Mathews and Mackintosh (1998), Mogg et al. (2000), Ohman et al. (2001), and Rinck and Becker (2006) suggest that that there are two phases in attending negative stimuli. The first phase is automatic in that people tend to quickly and automatically attend to negative stimuli. The second phase is a slower, cognitively controlled process that involves evaluating the significance of the stimuli, which often leads to coping behaviors. These coping behaviors include keeping the focus of attention on the negative stimuli, disengaging visual attention sooner or later, or quickly avoiding the negative stimuli (Fox et al., 2001; Hermans et al., 1999; Rinck & Becker, et al. 2006).

Research shows that such coping behaviors depend on level of anxiety and/or phobias. For example, Hermans et al. (1999) demonstrated that once negative stimuli
(e.g., spiders) command visual attention a person might keep their focus of attention on
the negative stimuli, but spider anxious participants eventually disengage visual attention
from the spiders. Participants were people who either scored high on a self-report
measure of fear of spiders or those who scored low. Stimulus material consisted of two
sets of 48 slides of pictures that were spiders or flowers or a combination of both a spider
and a flower. Eye movements were recorded with an eye tracker. Results showed that
both control and spider anxious participants looked at the spiders more often than at the
flowers. However, as time progressed spider anxious participants shifted their gaze away
from the spiders, while the control participants continually looked at spiders more than at
flowers. Thus, there is a vigilance-avoidance pattern of visual attention toward negative
stimuli for highly anxious individuals as threats command attention and then a need to
look away. This pattern was not present for the control group.

The level of threat of stimuli also influences the pattern of visual attention, as well
as trait anxiety. Mogg et al. (2000) manipulated the level of threat by showing 20 high
threat (e.g., mutilated bodies) and 20 mild threat (e.g., soldier with gun) pictures with
nonthreat pictures (e.g., person playing piano) to participants using the dot probe task
paradigm.\(^1\) Results showed greater attentional bias scores for high threat than mild threat
scenes indicating that high threat scenes command visual attention (i.e., vigilance).
Furthermore, high trait anxious individuals were more vigilant for threat scenes (relative
to non-threat scenes) than were low trait anxious individuals.\(^2\)

These models of visual attention toward negative stimuli seem to overlap with
models of reactions toward stigmas. In fact, the model proposed and tested by Pryor et al.
(2004) also suggests a dual-process in which the first phase is also automatic (i.e., an
instinctive or spontaneous negative reaction) and the second phase is also a controlled reaction in which people reflect on whether they should or should not avoid the stigmatized individual. Thus, these theories suggest that when individuals are confronted with a stigmatized individual (e.g., a birthmark on their face), individuals might be more likely to focus their visual attention to the features of the stigma, but then also try to control (i.e., cope, reflect) their visual attention, which could occupy cognitive resources (i.e., memory; Engle, 2002; Schmeichel, 2007; Turner & Engle, 1989).

**Attention and Cognitive Interference in Interviews**

The employment interview can be cognitively taxing in that it requires interviewers to assess applicants, gain information about applicants, sell their organization and make important decisions (Posthuma et al., 2002). Because interviews usually involve visual information, interviewers might also be concerned with how they appear to applicants, especially in situations in which the applicant has a physical stigma (e.g., port-wine stain). Stigmatized individuals cause perceivers to feel discomfort, anxiety, and threat (Blascovich et al., 2002). Furthermore, the features of a stigma command attention as people make attributions (e.g., why does he/she have that?) and adjust their reactions (Pryor et al., 2004). This may be cognitively taxing for interviewers whose main task is to attend to what the applicant responds.

Thus, the stigma models (Pryor et al., 2004; Weiner et al., 1988) and the visual attention models (Mathews & Mackintosh, 1998; Mogg et al., 2000; Ohman et al., 2001; Rinck & Becker, 2006) suggest that a stigma of an applicant can affect the cognitive resources of interviewers as they try to control their focus on applicants’ responses, but at
the same time control their reaction to the stigma. Controlling reactions to stigmas includes the phase in which people reflect on whether they should or should not avoid the stigmatized individual (Pryor et al., 2004) as well coping behaviors, such as keeping their focus of attention, disengaging, and/or quickly avoiding them (Fox et al., 2001; Hermans et al., 1999; Rinck & Becker, et al. 2006). Therefore, this research examines the effects of attention to a stigma on memory in an interview context.

According to Baddeley’s and Hitch’s model (Baddeley & Hitch, 1974), working memory is the ability to direct and control attention. The working memory system has three parts. The most essential part is the central executive, which controls cognitive resources and monitors information processing. Sternberg (1985) characterized executive functioning as the planning, monitoring, and revision of information processing. Thus, executive functioning is vital in the operation of working memory.³

Furthermore, there is evidence to suggest that working memory is finite (Engle, 2002; Schmeichel, 2007; Schmeichel, Vohs, and Baumeister, 2003; Turner & Engle, 1989). That is, the operation of working memory is influenced by simultaneous cognitive activity. Divided attention leads to weaker performance on one task. For example, memory for the details of a movie is impaired if the viewer attends and suppresses their emotional reactions while watching the movie (Richards & Gross, 2000). Memory is impaired when attention or the central executive is divided, such as listening to a game on the radio and driving a car (Engle, 2002).

Related to divided attention is the control of allocating attention, namely self-control, which is a limited resource (Muraven & Baumeister, 2000). “Self-control is the exertion of control over the self by the self and self-control occurs when a person
attempts to change the way he or she would otherwise think, feel, or behave and involves overriding or inhibiting competing urges, behaviors, or desires” (p. 248; Muraven & Baumeister, 2000).

According to the limited resource model, the same resource is used for an array of self-regulatory tasks, such as regulating thoughts, controlling emotions, inhibiting impulses, and sustaining physical stamina. More importantly, this limited resource is also used for other executive functioning, such as logical reasoning, sustained attention, reading comprehension, choice making, and initiative. Thus, because the same resource is used for self-regulation and other acts of executive functioning, its use in one task undermines the immediate performance of a concurrent task (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Muraven & Baumeister, 2000; Schmeichel et al., 2003). For example, interviewers might engage in self-control by avoiding attention to the features of the stigma, but such effortful control might also interfere with the task of allocating aural attention (i.e., verbal information) and therefore affecting memory.

Therefore, according to the working memory model and divided attention literature (Engle, 2002; Turner & Engle, 1989), interviewers’ memory can be impaired when engaging with an applicant with a stigma. For instance, the features of the stigma draw attention, but the interviewer must listen to the information the interviewee provides. This might be the case because the features of a physical stigma can be distracting, commanding attention because they are aberrant and socially devalued provoking attributional analyses (e.g., why does he/she have that?) and coping strategies (e.g. trying to look away or keeping their gaze on it; Mathews & Mackintosh, 1998; Mogg et al., 2000; Ohman et al., 2001; Pryor et al., 2004; Rinck & Becker; 2006).
THE CURRENT STUDY AND HYPOTHESES

In this research, participants looked at a picture of a hypothetical stigmatized applicant in mock interviews using eye tracking methodology, which measures the amount of time looking at the stigma. The pictured applicant was either male or female and did or did not have a stigma (port-wine stain or scar). The applicant either acknowledged or did not acknowledge the stigma during the interview. Participants’ task was to listen and recall the information the hypothetical applicant provides while looking at the applicants’ picture on a computer in a study of computer-mediated interviews. Participants made ratings of the applicant (in terms of how effective the applicant is) based on the interview and recalled information about the applicant by completing a multiple choice test. The purpose of this research was to examine both the processes in which stigma affects interview outcomes and methods that individuals might use as remediation strategies.

Research on working memory and divided attention (Engle, 2002; Turner & Engle, 1989) suggests that memory is impaired when attention is divided (e.g., listening to the radio and driving a car; Engle, 2002) and when one tries to control or allocate their resources between multiple tasks (Schmeichel, 2007; Schmeichel et al., 2003). Therefore, divided attention produces an immediate effect on memory – you have less attentional capacity if you are engaging on another task. The more cognitive resources directed toward the stigma, the less that will be available to be directed toward the applicant’s performance in the interview (i.e., memory of what is said), therefore, affecting interview outcomes (i.e., ratings of the candidate). More formally:
Hypothesis 1: Time of visual attention to the features of a visible stigma will be negatively correlated with the memory (i.e., recall) of interviewers.

One of the main goals of the interview is to gain information about the applicant, and therefore intaking and recalling information about the applicant is imperative in the evaluation process (Posthuma et al., 2002). Guion’s (1998) review of the employment interview suggests that interviewers seek information to make decisions about the favorability of an applicant. Research indicates that the less favorable information an interviewer recalls, the less favorable an applicant is rated by interviewers (Dipboye, Stramler, & Fontenelle, 1984; Middendorf & Macan, 2002). Interviewers’ recall of favorable information is therefore important to the ratings of an applicant. The more favorable information an interviewer recalls, the more favorable the ratings of the applicant. This, of course, depends on the quality of the candidate and information. So, the recall of favorable information will be positively related with the applicant ratings. Formally:

Hypothesis 2: The recall of favorable information from the interview (i.e., memory) will be positively related with applicant ratings.

Physical Attractiveness and Gender

Although research suggests that physical stigmas will influence visual attention, the gender of the target might influence the visual attention of physical stigmas. There is evidence to suggest that the effect of physical attractiveness is stronger for female targets and than for male targets. In a study of gender and attractiveness biases in hiring decision (Marlowe, Schneider, & Nelson, 1996), managers rated four equivalent resumes with
pictures that varied on gender (male/female) and attractiveness (highly/marginally attractive). The results showed a main effect of attractiveness such that highly attractive applicants were rated more favorably than marginally attractive applicants. The results, however, also revealed a significant interaction with gender. Managers rated marginally attractive women less favorably than attractive women, attractive men, and marginally attractive men. A similar pattern emerged for ranking decisions – highly attractive women were ranked higher than marginally attractive women, whereas there were no significant differences between the rankings of highly and marginally attractive men.

Research also suggests a gender-attractiveness difference in wage earnings. For example, in a study of physical attractiveness and earnings, women with above average attractiveness had about 8% higher earnings relative to women with below average attractiveness (French, 2002). In contrast, there were no significant differences between above and below average attractive men. In a study of physical attributes on wages, physical attributes such as height and weight significantly affected the wages of women but not of men (Mitra, 2001). In particular, taller women earned more earnings and overweight women experienced significant wage penalties. Height and weight did not have a significant effect on wages for men.

Furthermore, research suggests a double standard of aging (Sprecher, 2004; Teuscher & Teuscher, 2006). Physical attractiveness tends to decline with age, and the effect of age and physical attractiveness tends to be more salient for women than for men (Deutsch, Zalenski, & Clark, 1986). In particular, older and college-aged subjects rated photographs of both sexes at three different ages. The data showed that the attractiveness of both men and women were perceived to decline with age, but the decline was stronger
for women than for men. In addition, women’s ratings of femininity declined with age, but men’s ratings of masculinity did not decrease with age.

Such results support the notion that attractiveness is more important for women than for men. One reason behind this gender difference in targets is that attractiveness is related to femininity but not masculinity, and therefore attractiveness is more salient when rating women than when rating men (Gillen, 1981). Also suggested is that idea that women, compared to men, rate physical attractiveness as more important to them, and that men also perceive attractiveness to be important for women (Feingold, 1990; Pines, 1998). Therefore, both men and women perceive attractiveness to be more important for women than for men.

Although research suggests that perceptions of physical attractiveness are more salient for female targets than for male targets, the literature also suggests that there are no gender differences for the perceiver/rater of attractiveness (Eagly, Ashmore, Makhijani, & Longo, 1991; Langlois et al., 2000; Marcus & Miller, 2003). For instance, Marcus and Miller (2003) found that people tend to agree about others’ attractiveness and that there are no effects of the sex of the perceiver. That is, men and women make similar ratings of others’ physical attractiveness.

The literature on physical attractiveness suggests that both men and women raters tend to hold women to a higher standard for physical attractiveness. The negativity that can result from interacting with a physically stigmatized individual may be the result because such individuals do not conform to the norms of physical attractiveness. Because physical attractiveness tends to be more important for female targets than for male targets, stigmatizing features on a face might draw more attention when the target is a
woman than when the target is a man – regardless of the gender of the rater. Therefore, I expected:

Hypothesis 3: Time of visual attention to the features of a visible stigma will be longer for the stigmatized female applicant than for stigmatized male applicant.

Acknowledgment of Stigmas

While there are empirical and theoretical reasons to hypothesize that stigmas will have a negative effect in interview contexts, there is research that shows that stigmatized individuals can proactively remediate potential negative reactions from perceivers. In fact, Goffman (1963) noted that stigmatized individuals tend to engage in stigma management. One such strategy is controlling the potential negative reaction from perceivers by disclosing or acknowledging (i.e., act of directly referring to one’s stigma during an interaction).

Evidence suggests that interactions with stigmatized individuals can be uncomfortable and negative for non-stigmatized individuals (Blascovich et al., 2002; Hebl, Tickle, & Heatherton, 2000; Krendl et al., 2006). Acknowledgment can be an effective strategy because it may reduce the preoccupation with the fear of saying something inappropriate about the target. For example, acknowledgment may release the perceivers from a state of anxiety, threat, thought suppression or other self-regulatory behaviors, which would otherwise use limited resources (Devine, 1998; Macrae, Bodenhausen, Milne, & Jetten, 1994; Monteith, Sherman, & Devine, 1998).

Acknowledgment can also reduce negative feelings towards stigmatized individuals. In one of the earliest known studies on acknowledgment, Davis (1961) found
that when an individual made explicit statements about his or her physical disability, non-stigmatized individuals were less likely to view the disabled individual with disdain, pity, and contempt.

More recent research demonstrated that the positive effect of acknowledgment depends on a number of factors (Hebl & Kleck, 2002; Hebl & Skorinko, 2004). For instance, Hebl and Kleck (2002) found that perceived controllability moderated the effect of acknowledgment on ratings of an applicant. In the first study, participants responded to a videotaped interview involving an obese or physically disabled job applicant who either did or did not acknowledge a stigma. In the second study, participants responded to scenarios that manipulated type of stigma, controllability of its onset, and acknowledgment. Results across both experiments reveal that applicants who did not acknowledge their stigma in an employment context were viewed and rated similarly. However, if applicants did acknowledge, the perceived controllability of the stigmas strongly influenced how they would be perceived by the participants in that perceived controllability was related to lower ratings.

Similarly, research demonstrates a temporal effect of acknowledgment (Hebl & Skorinko, 2004). Participants responded to a videotaped interview of a disabled applicant who made no acknowledgment about the disability or who acknowledged the disability at the beginning, middle, or end of a job interview. Applicants who did not acknowledge or who acknowledged at the end of the interview were rated less favorably than were those who disclosed earlier in the interview. Furthermore, the results showed that happy/well-adjusted perceptions mediated the effect. Thus, stigmatized individuals might positively control the impression-formation process by acknowledging early in an interaction.
I expect that acknowledgment might be beneficial if it draws focus on the feature but then it makes it less novel by providing an explanation. One possibility is that acknowledgment releases interviewers from the potential anxiety and threat of viewing an anomaly. Another possible mechanism is that without acknowledgment, interviewers might focus more on the feature as they think about why and how the stigma occurred, giving less attention to what is being said in the interview. Regardless of the mechanism, acknowledgment will draw more attention to the stigma features but then lead to less attention as it becomes less novel. Therefore, there is an important time course of acknowledgment (see Figure 1).

Acknowledgment will initially direct more attention to the features of the stigma than in a situation in which the target does not acknowledge. By acknowledging the stigma, visual attention is drawn, but acknowledgment provides an explanation (i.e., birthmark), which influences the reactions towards stigmatized individuals. According to models of stigmatization (Pryor et al., 2004; Weiner et al., 1988), individuals engage in sophisticated assessments when confronted with a stigmatized individual that involve adjustments, such as what to feel, how to behave toward the target, and attributions of controllability, contagion, and onset. By interrupting such assessments of stigmatized individuals, acknowledgment will lead to less visual attention as time progresses. In the absence of acknowledgment, the features of the stigma will continue to draw attention as individuals engage in assessments of the target. Thus, I expected more visual attention during the time of acknowledgment but then a decrease of attention in the following time points, whereas there will be a slower decrease in the amount of visual attention in the absence of acknowledgment. That is, attention to the stigma will decrease with time as
Figure 1. Effect of acknowledgment on attention as a function of time.
the stigma on the face becomes less novel, but this decrease will be significantly more after acknowledgment than in the absence of acknowledgment. More formally:

Hypothesis 4: For the acknowledgment condition, there will be more visual attention during the time of acknowledgment but then a decrease of attention in the following time points, whereas there will be a slower decrease in the amount of visual attention in the condition without acknowledgment.

According to the limited resource model (Muraven & Baumeister, 2000), the operation of self-control is analogous to exercising a muscle in that when a muscle becomes fatigued, the level of exertion that it can undertake declines. Similarly, the self-control is viewed as having a limited resource that can be depleted like a muscle. Depletion of self-regulatory resources can occur if cognitive resources are directed toward the stigma and interviewers try to control their focus on the applicant’s responses. Evidence for the limited resource model takes the form of regulatory depletion effects as a function of prior use. In these studies, participants are instructed to engage in an act of self-regulation, such as controlling their emotions, controlling their visual attention, or exposure to stress. Subsequent performance on self-regulatory tasks (e.g., emotion control or task persistence) is then assessed. In general, performance on the second task is impaired as a result of the initial self-regulatory behavior. The result is a regulatory depletion effect – both acts require some common resource that was depleted by the initial act (Baumeister et al., 1998; Muraven, Tice, & Baumeister, 1998; Schmeichel et al., 2003; Vohs & Heatherton, 2000). Thus, self-regulation has a lasting effect over time on self-regulatory resources (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Beal et al., 2005; Muraven & Baumeister, 2000).
The features of a physical stigma can be distracting and might lead to attributional assessments— that is, the interviewer might not only work at focusing on the responses by also try to figure out why the applicant has the stigma and engaging in self-control (e.g., trying to look away or keeping their gaze on it; Mathews & Mackintosh, 1998; Mogg et al., 2000; Ohman et al., 2001; Pryor et al., 2004; Rinck & Becker, 2006). Thus, I expect that acknowledgment might be beneficial if it releases interviewers from the potential self-regulation that is involved in interactions with stigmatized targets. Without acknowledgment, interviewers might focus more on the feature as they think about why and how the stigma occurred, depleting self-regulatory resources. More formally:

Hypothesis 5: Interviewers with a stigmatized applicant that acknowledge their stigma will show less depletion of self-regulatory resources than interviewers with a stigmatized applicant that does not acknowledge (see Figure 2).

**Individual Differences in Reacting to Stigmas**

*Disgust Sensitivity.* While research demonstrates that stigmas tend to elicit negative reactions from non-stigmatized people, there are also individual differences in how people react to stigmas. Disgust is an important emotion in daily life as it alerts us of threats. Rozin and Fallon (1987) have suggested that disgust is an emotional response to the threat of contamination or disease transmission. From an evolutionary perspective, disgust may have arisen originally to protect individuals from the ingestion of toxins and other food-based contaminants, and the mechanisms involved in feeling disgust might have evolved as a defense against parasitic infection. Thus, disgust is triggered by the visual perception of skin lesions, runny noses, poor hygiene, “inappropriate” sexuality,
Figure 2. Hypothesized effect of acknowledgment on regulatory depletion.
violations of the normal body (e.g., deformity), and other obvious symptoms of parasitic infection (Haidt, Koller, & Diaz, 1993).

Disgust can also be a learned response in the form of sympathetic magical thinking – the cognitive appraisal of contagion when actual contagion is unlikely (Rozin, Millman & Nemeroff, 1986). That is, responses to disgusting entities are so strong that disgust often transfers to objects that are not inherently disgusting, but look like disgusting entities. For example, people feel disgust toward objects that look like feces made of plastic or chocolate, which illustrates the contagion of disgust to other objects (e.g., if it looks like dog feces, then it is dog feces). Therefore, disgust motivates behavioral avoidance from people with stigmas, because there is the fear that we might be contaminated (Crocker et al., 1998; Goffman, 1963).

The level of disgust a stigma might elicit depends on the disgust sensitivity of an individual; that is, the degree to which individuals feel disgust toward certain objects or entities (Rozin, Haidt, McCauley, Dunlop, & Ashmore, 1999). Sensitivity to disgust and fear of disease are highly variable from person to person (Haidt, McCauley, & Rozin, 1994). For example, some may find a deformity more disgusting than other people and therefore, the same stigma might elicit different levels of disgust. Park, Faulkner, and Schaller (2003) reported a pair of studies that showed individual differences in sensitivity in disgust and disease contagion toward individuals who are physically disabled. The results indicated that individuals who score highly on measure of "perceived vulnerability to disease" (PVD) were more likely to report having less contact with people (i.e., friends or acquaintances) with disabilities. In addition, Park et al. (2003) reported a study employing the implicit association test (IAT), which measures reaction time, to assess the
extent to which disabled individuals (compared to “normal” individuals) were implicitly linked to semantic information connoting disease. Results revealed that disabled individuals were more likely than non-disabled individuals to be associated with disease and this link between disability and disease was stronger among perceivers who scored more highly on a measure assessing sensitivity to disgust.

Thus, a greater sensitivity to disgust is expected to elicit a response that is similar to responses to phobias. This pattern, seeing a phobic entity, is characterized by a vigilance-avoidance pattern of visual attention – as threats command attention and then elicit a need to look quickly away (Fox et al., 2001; Hermans et al., 1999; Rinck & Becker, 2006). Results from studies that examine the visual attention of phobic individuals suggest that phobic individuals look at the phobic objects (e.g., spiders, snakes) more often than at the neutral objects (e.g., flowers). However, as time progresses phobic individuals shift their gaze away from the phobic objects, while the control participants continually look at the phobic objects more often than at the neutral objects. This pattern is a coping behavior, which is cognitively controlled process that is a deliberate and purposeful coping reaction. Therefore, interviewers that have high levels of disgust sensitivity will look less at the features of the stigma, indicative of the vigilance-avoidance pattern. The effort to avoid the features of the stigma might also affect the cognitive resources of the interviewers as controlling one’s behavior and processing the information form the applicant both use cognitive resources. Thus, I expect:
Hypothesis 6: Disgust sensitivity will be negatively related to attention to the features of the stigma, such that interviewers high on disgust sensitivity will gaze less at the features of the stigma than those who score lower on disgust sensitivity.

Hypothesis 7: Disgust sensitivity will be negatively related to memory of the interview, such that interviewers high on disgust sensitivity will remember less information about what the interviewer said than those who score lower on disgust sensitivity.

*Empathy*. There is a growing interest in the role that empathy plays in attitudes and behaviors towards stigmatized individuals (e.g., Dovidio et al., 2004; Galinsky & Ku, 2004; Galinsky & Moskowitz, 2000). Empathy is other-oriented feelings congruent with the perceived welfare of another individual that include sympathy, compassion, tenderness, and concern (Batson, Batson, Todd, Brummett, Shaw, & Aldeguer, 1995). Empathy is considered to be the product of perceiving a person to be in need of help and/or taking the perspective of another person (i.e., imagining how one would feel in another person’s situation). Therefore, empathy can be thought of as two types: cognitive empathy, which is perspective-taking and emotional empathy, which is the tendency to experience the feelings of concern for others. Research demonstrates that empathy (both emotional and cognitive) leads to enhanced attitudes towards Black individuals (Dovidio et al., 2004), convicted murderers (Batson et al., 1997), people with AIDS (Batson et al., 1997), the elderly (Galinsky & Ku, 2004), drug addicts (Batson, Chang, Orr, & Rowland, 2002), and the homeless (Batson et al., 1997). Furthermore, empathy leads to helping and other pro-social behaviors (Batson, Chang, Orr, & Rowland, 2002).
For example, the standard paradigm involves having people read about a person in need and are given an opportunity to assist the person in need. When people read about the plight of others under instructions to engage in emotional empathy (i.e., they are told what the target is feeling), they subsequently offer more help than those who read about the plight of others that do not indicate their feelings. The increase in helping that have been found in these studies is due to the arousal of emotional empathy (i.e., concern, compassion and sympathy) in the readers (Batson, Sager et al., 1997). The perspective-taking paradigm involves instructing participants to see themselves in the shoes of others (stigmatized individuals). Such instructions lead to a merging of the self and the other, creating a sense of commonality or shared identities, which increases empathy for stigmatized individuals.

Following this line of research, I hypothesized that interviewers’ empathy towards the stigmatized applicant will affect their evaluations of the applicant. Empathy will moderate the relationship between memory of the interview and ratings of the applicant, such that, interviewers low on empathy will rate the applicant more positively the more memory they have of the interview than when they have less memory of the interview; whereas, interviewers high on empathy will rate the applicant more positively than those who score lower on empathy, regardless of the level of memory (i.e., high vs. low memory).

Hypothesis 8: Empathy will moderate the relationship between memory of the interview and ratings of the applicant.
METHOD

Participants

One-hundred and eighty undergraduate students participated in exchange for experimental credit. Because the eye tracker did not work properly for nine participants, the final sample consists of 171 (60 male and 111 female) participants. Eighty-one reported as Caucasian, 45 Asian, 21 Hispanic, 15 Black, and 9 reported as “other.” The average age was 19.5 (SD = 1.4)

Stimuli

Images of hypothetical applicants’ faces were taken from the AR-face database (Martinez & Benavente, 1998). This database consists of over 300 color images of faces of 126 participants (i.e., 26 different images for each participant). All images were taken by the same camera under tightly controlled conditions of illumination and viewpoint. Only full frontal images showing the complete face with a neutral or slightly smiling expression of people rated to be of similar age will be used in this study (see Figure 3 for an example).

Each image in the database has a resolution of 896 x 592 pixels. The images were imported into Adobe Photoshop to adjust any discrepancies in luminance and contrast. The images were cropped to achieve a consistent face size and position, and to assure that the face and hair fill out most of the image. Each image was scaled to the same size (18 X 18 cm). Images were displayed on a computer monitor and participants’ eyes were positioned about 16 inches in front of the monitor. The images were subtended at about 7-8 degrees horizontally and 10-11 degrees vertically, which is similar to the visual
Figure 3. Example of picture.
angle subtended when viewing a real face at normal conversational distances of around 1 meter or about 3 feet (Henderson, Williams, & Falk, 2005; Henderson et al., 2001).

**Apparatus**

I used the ISCAN RK726/RK520 HighRes/CR tracker with a Polhemus FASTRACK head tracker. Head-mounted optics and a sampling rate of 60Hz are used. The working principles are the following: Imperceptible to the participant, the tracker shines an infrared light on one of the eyes of the participant, which then takes a video image of the eye. Part of this is reflected by the cornea, and another part is reflected through the pupil by the retina, which allows taking the vector between the pupil center and the point on the cornea closest to the camera. This vector corresponds to a specific position of the eye when it fixates at a particular position on the screen. As the eye orients to other positions, the vector also changes, allowing computing visual point of regard (POR). That is, the tracker provides a reliable video of the subject’s eye movements, which are converted into POR information. The tracker produces a real-time video image showing the central portion of the participant's field of view and allows determining the amount of time a participant looks at points of interests, such as the eyes, mouth, nose, and a stigma (e.g., birthmark). The head-mounted imaging system move when the participant's head moves, therefore, the head does not have to be immobilized during operation. POR information is typically accurate to within one-half degree of visual angle and is recorded approximately every 16.7 ms by the software. I displayed the images of the hypothetical applicants on an Apple computer screen.
Design and Procedure

The design was a 2 (acknowledge: yes or no) x 2 (target gender: male or female) with two additional control cells: no stigma male and no stigma female. Thus, I have four cells in which a stigmatized male or female interviewee acknowledges or not; with the addition of a cell in which a man does not have a stigma and a woman does not have a stigma – no acknowledgment (see Table 1).

Participants completed measures of empathy and disgust sensitivity before the experiment, at the time of signing up for the experiment. They completed these measures after receiving an email with a link to an online questionnaire a day before they arrive for the actual experiment. The sessions for the experiment lasted about 30 minutes. I provided participants with information and instructions about the experiments. After reading and signing the consent form, I informed participants with written and verbal information that they would be involved in a study examining “computer-mediated interviews,” in which we are interested in how people react to computer-mediated interviews and how the lighting and positioning of the computer screen can affect such interviews. I informed participants that they would be playing the role of an interviewer and that they would complete a computer-mediated interview in which they view a picture of an applicant on a computer screen while listening to an interview in which the applicant details his/her work experience. Participants were also informed that they would have to recall the information from the applicant.

I positioned the participants in front of the computer that displayed the pictures. I placed the head-mounted optics on the participants and explained that they must look only at the picture of the applicant while they listen to the information, and that the
Table 1. Distribution of participants by condition

<table>
<thead>
<tr>
<th>Condition</th>
<th>N</th>
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<tbody>
<tr>
<td>Female/Stigma Acknowledge</td>
<td>28</td>
</tr>
<tr>
<td>Female/Stigma No Acknowledge</td>
<td>29</td>
</tr>
<tr>
<td>Male/Stigma Acknowledge</td>
<td>28</td>
</tr>
<tr>
<td>Male/Stigma No Acknowledge</td>
<td>27</td>
</tr>
<tr>
<td>Female/No Stigma No Acknowledge</td>
<td>31</td>
</tr>
<tr>
<td>Male/No Stigma No Acknowledge</td>
<td>28</td>
</tr>
</tbody>
</table>

Total N = 171
process would take approximately 15 minutes. As a cover story, they were informed that the head-mounted optics will record their visual reactions because we are also interested in how fixation and the lighting of the computer screen can affect the computer-mediated interview, so it is imperative that they look only at the screen.

I used one picture of a man and one of a woman with similar facial features and dimension as the “applicants,” in which two pictures were a control (male with no stigma and female with no stigma) and four pictures with a facial stigma placed on their right cheek. To control for idiosyncrasies of different types of facial stigmas, I used two types of blemishes: a port-wine stain and a scar (see Figure 4). Thus, there were a total of six pictures. These pictures counter-balanced as I present them to the participants.

Acknowledgment was manipulated by including a statement in which the applicant acknowledges or not when asked to describe a challenge they have faced. In the stigma condition, he will state “I have this scar on my face since birth, but I don’t let it get in the way…” For the non-stigmatized condition, this sentence will not be included (see Appendix A for the interview transcript).

As a measure of self-regulation depletion, participant completed a color-Stroop task, in which individuals read the words for a color (e.g., “green”) that is in its color (i.e., green) or of another color (e.g., blue).

After completing the color-Stroop task, I asked participants to recall information about the applicants by answering questions about the interview (twenty-one multiple choice tests). Next, participants completed manipulation checks about the stigma, acknowledgment and their meta-perceptions during the task. More specifically, they reported the extent to which the applicant had a blemish and if the applicant...
Figure 4. Male and female applicants with scar.
acknowledged a physical blemish. Participants also indicated whether they were trying to look at a “blemish” or not, and whether they believed they did or did not look at the blemish. All participants were also asked to report the extent to which the stigma they perceived the blemish was disgusting and distracting. Next, they reported the attractiveness of the applicant. Lastly, they were debriefed about the experiment.

Measures

Participants completed several scales throughout the experiment. Scales were presented via Survey Monkey prior to the experiment or on paper in the laboratory.

*Visual Attention*

Eye-movement data for participants was used by creating a measure of the percent of time looking at points of interests. These included the eyes, mouth, nose, and the cheek (the area where the stigma was placed; see Figure 5). The average percent of time spent gazing at these areas were 16.9% ($SD = .12$) for the left eye, 15.6% ($SD = .09$) for the right eye, 14.1% ($SD = .08$) for the nose, 8.1% ($SD = .08$) for the mouth, and 7.5% ($SD = .05$) for cheek.

*Memory*

I tested participants’ memory with a multiple choice test on facts about the applicant. Twenty-one questions were developed and were based on information the applicant said during the interview, such as the name of the applicant, their degrees and names of their schools, and information about the internships. The number of correct items were summed and used as the measure of memory. The average score was 13.3 ($SD = 2.8$); the test had an alpha coefficient of .72. See Appendix E for the test.
Figure 5. Points of interest on the face: eyes, nose, mouth, and cheek.
Depletion

The Stroop task requires individuals to read words of color (e.g., the word green) that is in its color (i.e., green) or of another color (e.g., blue). This task assesses the ability to read words more quickly and automatically than the ability to name colors. If a word is printed or displayed in a color different from the color it actually names; for example, if the word "green" is written in blue ink we will say the word "green" more readily than we can name the color in which it is displayed, which in this case is "blue." Scores will be the time of incongruent matches. Incongruent matches are when the word and color do not match, which often takes longer to name the color. The depletion score is the total amount of incongruent match time.

The cognitive mechanism involved in this task is called directed attention, one must manage their attention, inhibit or stop one response in order to say or do something else (MacLeod, 1991). The Stroop task provides insight into cognitive effects that are experienced as a result of self-regulatory depletion. Self-regulation is a limited resource that becomes fatigued. After engaging in an act of self-regulation, such as controlling visual attention, subsequent performance on self regulatory tasks (e.g., color Stroop task) is impaired as a result of the initial self-regulatory behavior.

Participants performed one block of 20 trials as practice. They then performed a two blocks of 25 trials that were used as the measure of depletion. The scores were based on the average time the participants took to match the colors. The average scores were 1.1 seconds for congruent color-name trials ($SD = .18$) and 1.3 seconds for incongruent color-name trials ($SD = .21$). Although only the incongruent time was used for the analyses, I did use the incongruent time for exploratory reasons.
Disgust Sensitivity

I used Haidt et al.’s (1994) 18-item disgust sensitivity scale, based on a 5-point Likert scale anchored by (1) = “strongly disagree” and (5) = “strongly agree.” Example items are “I am comfortable sharing a water bottle with a friend,” “It really bothers me when people sneeze without covering their mouths,” and “I prefer to wash my hands pretty soon after shaking someone’s hand.” See Appendix B for full list.

In a study of convergent and discriminant validity, Haidt, McCauley, and Rozin (1994) collected data from four samples, including student and non-student respondents (N = 524). Respondents completed the disgust sensitivity scale, Eysenck Personality Questionnaire (EPQ) Neuroticism scale, Boyar Fear of Death scale, Zuckerman Sensation Seeking scale, a 4-item emotionality scale, Snyder’s Self-Monitoring Scale, Eysenck Lie Scale, the EPQ Psychoticism and Extraversion scales. As hypothesized, the disgust sensitivity scale correlated with sensation seeking ($r = .23$), fear of death ($r = .39$), neuroticism ($r = .23$), and psychoticism ($r = -.25$), providing evidence of convergent validity. Also, disgust sensitivity scale did not correlate with Snyder’s Self-Monitoring Scale, Eysenck Lie Scale, the EPQ Psychoticism and Extraversion scales providing evidence of convergent validity. The results also showed Cronbach’s alphas that ranged from .80 to .87 across the four samples, and .84 for the combined sample, demonstrating adequate reliability.

Using a college sample of 68 students, Rozin et al. (1999) found a Cronbach’s alpha of .91 for the disgust sensitivity. The results also demonstrated that the disgust sensitivity was related to 32 hands-on disgust-related tasks (e.g., looking at a cockroach, touching freshly killed pig’s head, picking up cremated ashes). As expected, the disgust
scale was related with the disgust-related tasks scores concurrently \( r = .71 \) and months before the task assessments \( r = .58 \). Thus, both studies provide adequate reliability and validity for Haidt et al.’s (1994) 19-item disgust sensitivity scale.

For the current study, I conducted A Principal Components Factor Analysis because past research has not established the dimensionality of this scale. The results revealed five eigenvalues over one, but a parallel analysis (Hayton, Allen, & Scarpello, 2004) indicated two meaningful factors. The first factor explained 25% of the variance and consisted of eight items with a coefficient alpha of .87. The second factor explained 15% of the variance and consisted of ten items with a coefficient alpha of .71. See Table 2 for items and factor loadings.

Empathy

I used a 14-item scale of empathy from the International Personality Item Pool (IPIP) to assess the participants’ trait empathy (Goldberg et al., 2006). The scale is based on a 5-point Likert scale anchored by (1) = “strongly disagree” and (5) = “strongly agree.” Example items are “I am concerned about others,” “I feel sympathy for those who are worse off than myself,” “I believe the poor deserve our sympathy,” and “I am deeply moved by others’ misfortunes.” See Appendix B for full list.

A Principal Components Factor Analysis revealed four factors based on eigenvalues over one. However, using parallel analysis (Hayton, Allen, & Scarpello, 2004), two meaningful factors emerged. After computing a two-factor Principal Components Factor Analysis with Promax rotation, one meaningful factor emerged. Two items loaded low on the first factor and high on the second factor, which were dropped (i.e., “I listen to my brain rather than my heart” and “I believe people should fend for
Table 2. Disgust Sensitivity Scale Factors

<table>
<thead>
<tr>
<th>Factor 1 (alpha = .87)</th>
<th>Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>“My past experiences make me believe I am not likely to get sick even when my friends are sick.”</td>
<td>.86</td>
</tr>
<tr>
<td>“If an illness is 'going around', I will get it.”</td>
<td>.78</td>
</tr>
<tr>
<td>“In general, I am very susceptible to colds, flu, and other infectious diseases.”</td>
<td>.77</td>
</tr>
<tr>
<td>“I am more likely than the people around me to catch an infectious disease.”</td>
<td>.75</td>
</tr>
<tr>
<td>“I am unlikely to catch a cold, flu, or other illness, even if it is going around.”</td>
<td>.73</td>
</tr>
<tr>
<td>“My immune system protects me from most illnesses that other people get.”</td>
<td>.69</td>
</tr>
<tr>
<td>“I have a history of susceptibility to infectious diseases.”</td>
<td>.66</td>
</tr>
<tr>
<td>“I suffer quite intense symptoms when I do get sick.”</td>
<td>.50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Factor 2 (alpha = .71)</th>
<th>Factors</th>
</tr>
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<tbody>
<tr>
<td>“I am comfortable sharing a water bottle with a friend.”</td>
<td>.06</td>
</tr>
<tr>
<td>“It really bothers me when people sneeze without covering their mouths.”</td>
<td>.12</td>
</tr>
<tr>
<td>“I don't like to write with a pencil someone else has obviously chewed on.”</td>
<td>.03</td>
</tr>
<tr>
<td>“I prefer to wash my hands pretty soon after shaking someone's hand.”</td>
<td>.21</td>
</tr>
<tr>
<td>“I dislike wearing used clothes because you don’t know what the past person who wore it was like.”</td>
<td>.17</td>
</tr>
<tr>
<td>“I don't worry about contamination if I touch an animal.”</td>
<td>.25</td>
</tr>
<tr>
<td>“I think day care centers are breeding grounds for bacteria and germs.”</td>
<td>.16</td>
</tr>
<tr>
<td>“My hands do not feel dirty after touching money.”</td>
<td>.02</td>
</tr>
<tr>
<td>“It does not make me anxious to be around sick people.”</td>
<td>.02</td>
</tr>
<tr>
<td>“I avoid using public telephones because of the risk that I may catch something from the previous user.”</td>
<td>.01</td>
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</tbody>
</table>

themselves”). Thus, the final scale is composed of 12 items, with a factor that explained 35% of the variance. The coefficient alpha for the scale was .83, indicating adequate inter-item reliability.

**Applicant Rating**

This measure will be comprised of nine items constructed for this study, using a scale based on a 5-point Likert scale anchored by (1) = “strongly disagree” and (5) = “strongly agree.” These items are “this applicant has strong qualifications,” “this applicant has impressive experiences,” “this applicant would make a good employee,” “this applicant will receive many job offers,” “I am not impressed by this applicant (R),” “I feel that this applicant will have a hard time finding a job (R),” “I don’t think this applicant has enough job experiences (R),” “this applicant seems smart,” and “this applicant is suitable for a low-level entry position (R).” See appendix C.

A Principal Components Factor Analysis revealed two factors. The first factor explained 50% of the variance and includes the first eight items. The last factor explained 12% of variance and includes the last item: “this applicant is suitable for a low-level entry position (R).” Because a single item cannot be a factor, item nine was not used in the composite score for empathy; therefore items one through eight were averaged. The coefficient alpha for the scale was .87, indicating adequate inter-item reliability.

**Manipulation Checks**

This measure will be comprised of four items constructed for this study to examine participants’ meta-perceptions during the interview. These items are “I was thinking about not looking at the blemish on the face but I did look at it,” “I was thinking about not looking at the blemish on the face and I did not look at it,” “I was thinking
about looking at the blemish on the face but I did not look at it,” “I was thinking about looking at the blemish on the face and I did look at it.” The participants used a 5-point Likert scale anchored by (1) = “strongly disagree” and (5) = “strongly agree.”

The manipulation checks also include questions about whether or not the applicant had a blemish on the face and if the applicant acknowledged the blemish. The applicants also answered if the blemish was distracting, disgusting, and about the attractiveness of the applicant. Participants used a 5-point Likert scale anchored by (1) = “strongly disagree” and (5) = “strongly agree.” Example items are, “There was a blemish on the face,” “The blemish on the face was disgusting,” and “The applicant was attractive” (see Appendix D for the complete list).

A Principal Components Factor Analysis revealed three factors. The first factor explained 40% of the variance and includes the two items on distraction (α = .90). The second factor explained 26% of the variance and includes the two items on disgust (α = .75). The third factor explained 18% of the variance and included the two items on attractiveness (α = .85).

RESULTS

The results section is organized in five parts: 1) tests of the manipulation checks, 2) descriptive statistics and correlations of the study variables, 3) tests of the hypotheses, 4) additional exploratory analyses to examine non-hypothesized main effects and interaction effects, and 5) patterns of visual attention to the five points of interest on the face (i.e., the left eye, right eye, nose, mouth, and cheek).
Manipulation Checks

First, I examined the stigma manipulation. I conducted an ANOVA with applicant stigma as the independent variable and the response to the statement “there was a blemish on the face” as the dependent variable. The results showed a significant effect of the stigma manipulation such that participant who viewed an applicant with a stigma ($M = 4.7, SD = .62, N = 112$) agreed more to the statement than participants who viewed an applicant without a stigma ($M = 1.8, SD = .97, N = 58$), $F(1, 169) = 55.1, p < .05$.

Second, I examined the acknowledgment manipulation (i.e., the statement “the applicant acknowledged a scar”). The results showed a significant effect of the acknowledgment manipulation such that participants rated this higher when an applicant acknowledged a stigma ($M = 4.6, SD = .76, N = 56$) than when an applicant did not acknowledge a stigma ($M = 1.3, SD = .86, N = 56$), $F(1, 111) = 65.1, p < .05$.

Third, I examined the extent to which participants that the blemish they perceived was distracting and disgusting, and the extent to which participants reported the applicant to be attractive. In the absence of the manipulated stigma, participants reported a blemish (e.g., a freckle); therefore, all participants completed these items. Table 3 reveals that stigma was significantly positively correlated with the ratings of stigma distraction ($r = .33$) and stigma disgust ($r = .22$), but negatively correlated with ratings of applicant attractiveness ($r = -.18$). The means, however, were low on the three measures: distraction ($M = 1.7, SD = .94$), disgusting ($M = 1.3, SD = .41$), and attractiveness ($M = 2.1, SD = .69$). These rating were completed using a five-point scale (1 = strongly not agree, 5 = strongly agree).
Table 3. Means, standard deviations, and correlations of the independent variables, meta-perceptions, and dependent variables.

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<tr>
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<td>M</td>
<td>SD</td>
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<tr>
<td>1. Stigma</td>
<td>1.7</td>
<td>.47</td>
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<tr>
<td>2. Gender of applicant</td>
<td>1.5</td>
<td>.50</td>
<td>.02</td>
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<tr>
<td>3. Not look but did</td>
<td>2.4</td>
<td>1.3</td>
<td>.48*</td>
<td>-.01</td>
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<tr>
<td>4. Not look and did not</td>
<td>2.3</td>
<td>1.3</td>
<td>.01</td>
<td>.04</td>
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<tr>
<td>5. Look but did not look</td>
<td>1.6</td>
<td>.95</td>
<td>.36*</td>
<td>.14</td>
<td>.05</td>
<td>.08</td>
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<tr>
<td>6. Look and did look</td>
<td>2.2</td>
<td>1.4</td>
<td>.43*</td>
<td>.13</td>
<td>.18*</td>
<td>.27*</td>
<td>.32*</td>
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<tr>
<td>7. Stroop incongruent time</td>
<td>1.3</td>
<td>.21</td>
<td>.31*</td>
<td>.10</td>
<td>.21*</td>
<td>-.07</td>
<td>.17*</td>
<td>.09</td>
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<tr>
<td>8. Visual attention (cheek)</td>
<td>.08</td>
<td>.05</td>
<td>.65*</td>
<td>.02</td>
<td>.35*</td>
<td>.01</td>
<td>.19*</td>
<td>.22*</td>
<td>.23*</td>
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<tr>
<td>9. Memory</td>
<td>13.2</td>
<td>2.8</td>
<td>-.48*</td>
<td>-.07</td>
<td>-.35*</td>
<td>.03</td>
<td>-.15*</td>
<td>-.11</td>
<td>-.19*</td>
<td>-.42*</td>
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<tr>
<td>10. Applicant rating</td>
<td>3.9</td>
<td>.63</td>
<td>.19*</td>
<td>.14</td>
<td>-.01</td>
<td>.01</td>
<td>.13</td>
<td>-.16*</td>
<td>.07</td>
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*Note. N = 171. Applicant gender was coded: male = 1, female = 2. Applicant stigma was coded: 1 = no, 2 = yes. Applicant acknowledgment was not included because it was not fully crossed with applicant stigma. * p < .05.
I also examined the effect of applicant stigma, applicant gender, and acknowledgment on the measure of applicant attractiveness. The results showed a significant effect of stigma, $F(1, 164) = 5.34, p < .05, \eta^2 = .04$. The applicant without a stigma was rated as more attractive ($M = 2.5$, SD = .84) than was the applicant with a stigma ($M = 2.1$, SD = .69).

Fourth, using a MANOVA, I also examined the effect of applicant gender and acknowledgment on the measures of distraction, disgust, and attractiveness for exploratory reasons. I did not have a priori hypotheses for acknowledgment and applicant gender, but I did examine these manipulation checks because I had hypotheses that acknowledgment and applicant stigma would affect the amount of percent time looking at the stigma. Using Wilks' multivariate criterion, the combined dependent variables were not significantly affected by applicant gender ($\lambda = .95, F(3, 106) = 1.7, p > .10; \eta^2 = .05$), acknowledgment ($\lambda = .96; F(3, 106) = 1.2, p > .05; \eta^2 = .03$), and by their interaction ($\lambda = .96; F(3, 106) = 1.4, p > .05; \eta^2 = .04$). Thus, ratings of distraction, disgust, and attractiveness were neither influenced by applicant gender nor acknowledgment of the stigma.

Fifth and last, I examined the effect of stigma type (i.e., scar and port-wine stain) on the measures of distraction, disgust, and attractiveness. As expected, the results from a MANOVA did not show a significant effect of type of stigma. In particular, using Wilks' multivariate criterion, the combined dependent variables were not significantly affected by the type of stigma ($\lambda = .96, F(6, 107) = .72, p > .10; \eta^2 = .02$). Thus, ratings of distraction, disgust, and attractiveness were not influenced by applicant gender and acknowledgment of the stigma.
Overall, the results showed that, as expected, participants that viewed an applicant with a stigma reported a stigma on the face, reported more distraction, more disgust, and rated the applicant as less attractive than participants in the control condition.

**Meta-perceptions of Regulation**

I also examined the four items that assessed participants’ meta-perceptions of regulating their thoughts during the interview. I conducted a repeated-measures ANOVA with the four meta-perception items as the repeated measures. The items were: 1) “I was thinking about *not* looking at the blemish on the face but I *did* look at it,” 2) “I was thinking about *not* looking at the blemish on the face and I *did not* look at it,” 3) “I was thinking about looking at the blemish on the face but I *did not* look at it,” and 4) “I was thinking about looking at the blemish on the face and I *did* look at it.”

According to Wilks' multivariate criterion, the combined dependent variables were significant ($\lambda = .69, p < .05; \eta^2 = .30$). The results of the within-subjects effects showed mean differences among the four meta-perceptions, $F(2, 275) = 12.1, p < .05, \eta^2 = .09$.

The tests of within-subjects contrasts showed that the item “I was thinking about *not* looking at the blemish on the face but I *did* look at it” ($M = 2.8, SD = 1.3$) was rated significantly higher than the item “I was thinking about *not* looking at the blemish on the face and I *did not* look at it” ($M = 2.3, SD = 1.2$), $F(1, 111) = 11.1, p < .05, \eta^2 = .09$.

The tests of within-subjects contrasts showed that the item “I was thinking about *not* looking at the blemish on the face and I *did not* look at it” ($M = 2.3, SD = 1.2$) was rated significantly higher than the item “I was thinking about looking at the blemish on the face but I *did not* look at it” ($M = 1.8, SD = 1.1$), $F(1, 111) = 8.5, p < .05, \eta^2 = .07$. 
The tests of within-subjects contrasts also showed that the item “I was thinking about looking at the blemish on the face but I did not look at it” \((M = 1.8, SD = 1.1)\) was rated significantly lower than the item “I was thinking about looking at the blemish on the face and I did look at it,” \((M = 2.6, SD = 1.4), F(1, 111) = 26.3, p < .05, \eta^2 = .19.\)

To examine if the two highest means were significantly different, I conducted a paired-samples t-test. The analysis did not reveal a significant difference between the two highest means: “I was thinking about not looking at the blemish on the face but I did look at it” \((M = 2.8, SD = 1.3)\) and “I was thinking about looking at the blemish on the face and I did look at it,” \((M = 2.6, SD = 1.4), t(111) = 1.1, p > .10.\)

These results potentially reveal two processes that occur when participants view an applicant with a stigma. First, participants that viewed applicants with stigmas were thinking about a strategy (i.e., to not look) but doing the opposite (i.e., did look), which suggests they might have been regulating their thoughts and behaviors, as shown in the first contrast. Second, participants are potentially dividing their attention to the stigma because they report thinking about looking at the stigma and they do look at the stigma, as shown in contrast three. Table 4 shows a summary of the results.

Table 3 shows the correlations between the meta-perception items with the independent variables (i.e., applicant stigma, gender, and acknowledgment) and dependent variables (i.e., Stroop time, visual attention, interview memory, and applicant ratings) for all participants. All participants completed the items; even in the absence of the manipulated stigma, participants reported a blemish (e.g., a freckle). An interesting pattern emerged; the items “I was thinking about not looking at the blemish on the face but I did look at it” and “I was thinking about looking at the blemish on the face but I did
Table 4. Inferential and descriptive statistics for the meta-perception item contrasts.

<table>
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<th></th>
<th>F</th>
<th>$\eta^2$</th>
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</tr>
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<td>Item 2</td>
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<tr>
<td>Contrast 1 (Item 2 vs Item 3)</td>
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<td>2.3</td>
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<td>Item 3</td>
<td></td>
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<td>1.1</td>
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<td>Contrast 1 (Item 3 vs Item 4)</td>
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<td>Item 4</td>
<td></td>
<td></td>
<td>2.6</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Note. *p < .05

Item 1: I was thinking about *not* looking at the blemish on the face but I *did* look at it.
Item 2: I was thinking about *not* looking at the blemish on the face and I *did not* look at it.
Item 3: I was thinking about **looking** at the blemish on the face but I *did not* look at it.
Item 4: I was thinking about **looking** at the blemish on the face and I *did* look at it.
not look at it" were both positively related to more depletion (i.e., Stroop time), positively related to more visual attention to the stigma, and negatively related to interview memory. These items were also positively related to applicant stigma. These results reveal that participants that viewed applicants with stigmas were thinking about a strategy (i.e., to not look or look) but doing the opposite. It potentially reveals that participants were regulating their thoughts, but having difficulty controlling their visual attention, leading to greater depletion. The item “I was thinking about not looking at the blemish on the face and I did not look at it” was not related to any of the variables. The item “I was thinking about looking at the blemish on the face and I did look at it” was positively related to visual attention to the stigma area and negatively related to applicant ratings; suggesting that participant might have divided their attention to the stigma while listening to the to interview. Table 5 shows these correlations for participants that viewed an applicant with a stigma only (i.e., no control group).

**Preliminary and Descriptive Statistics**

Table 6 presents the means, standard deviations, and correlations of the independent variables (i.e., stigma, applicant gender, and acknowledgment), the dependent variables (i.e., visual attention to the cheek, stroop time, memory of the interview, and applicant ratings), and individual differences (i.e., disgust sensitivity and participant empathy). Applicant stigma was correlated with the Stroop incongruent time, applicant ratings, memory, and visual attention. In particular, having a stigma was related to lower ratings and memory of the interview, but more visual attention to the cheek (i.e., where the stigma was placed) and depletion of regulatory resources. The type of stigma
Table 5. Means, standard deviations, and correlations of the independent variables, meta-perceptions, and dependent variables for the stigma condition.

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<td>.09</td>
<td>.17</td>
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Note. N = 112. Applicant gender was coded: male = 1, female = 2. Applicant acknowledgment was coded: 1 = no, 2 = yes. * p < .05.
Table 6. Means, standard deviations, and correlations of the independent, dependent, and individual differences variables.

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<th>Variable</th>
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<td>.09</td>
<td>.04</td>
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Note. N = 110 for type of stigma; N = 171 for all other variables. Applicant gender was coded: male = 1, female = 2. Applicant stigma was coded: 1 = no, 2 = yes. Applicant acknowledgment was coded: 1 = no, 2 = yes. Type of stigma was coded: 1 = scar, 2 = stain. *p < .05.
(i.e., scar or port-wine stain) was not related to any of the variables, indicating that having a stigma on the face, regardless of the type, can influence visual attention, regulatory resources, memory, and applicant ratings.

However, these correlations might be inflated because stigma was not fully crossed with acknowledgment. That is, only applicants with a stigma acknowledged a stigma, and therefore a more appropriate test is to examine applicant with a stigma that do not acknowledge versus applicants without a stigma (no acknowledgment). The three contrast tests showed a significant effect of stigma on visual attention on the cheek, $t(165) = 9.9, p < .05$; memory of the interview, $t(165) = 6.23, p < .05$; and the ratings of the applicant, $t(165) = 1.99, p < .05$. In particular, the results showed that an applicant with a stigma resulted in more visual attention to the cheek, more regulatory depletion, less memory of the interview, and lower ratings of the applicants. See Table 7 for a summary of the results.7

A surprising result is that gender of the applicant was not related to the variables; although, there was a marginally significant relationship with ratings ($r = .14, p = .06$). Applicant acknowledgment was correlated with less memory and more visual attention to the cheek. Because acknowledgment was not fully crossed with stigma condition, I examined the correlation of applicant acknowledgment with memory and visual attention for only the conditions in which the applicant had a stigma. The results showed that applicant acknowledgment was neither related to memory ($r = .04, p > .01$) nor visual attention to the cheek ($r = .06, p > .01$). I also examined contrast tests of applicants with a stigma that do not acknowledge versus applicants with a stigma and does acknowledge (i.e., no control condition). The two contrast tests did not show a significant effect of
Table 7. Contrast tests of condition on visual attention on the cheek, memory of the interview, and ratings of the applicant.

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<th>Male/Stigma Acknowledge</th>
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<td>.21</td>
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<td>6.23</td>
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<td>2.08</td>
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stigma acknowledgment on visual attention to the cheek, \( t(165) = 1.07, p > .10 \) and memory of the interview, \( t(165) = .35, p > .10 \).

**Test of Hypotheses**

**Hypothesis 1**

The results showed a negative correlation between the number of correct items from the recall test and the amount of time participants looked at the stigma \( (r = -.20, p < .05) \), supporting the first hypothesis that time of visual attention to the features of a visible stigma would be negatively correlated with the memory of interviewers.

A repeated-measures ANOVA with the sixteen time points of percent of time gazing at the stigma during the interview as the repeated measures showed a significant effect of time \( F(10, 1088) = 7.97, p < .05, \eta^2 = .07 \), suggesting that participants' percent of time looking at the stigma changed with time. As shown in Figure 6, the greatest amount percent of time spent gazing at the stigma occurred in first two time points (i.e., the first minute). To further examine where the differences between the time points were across the time points, I examined the within-subjects contrasts; that is, the differences in ascending order of time (e.g., 1 vs. 2, 2 vs. 3, 3 vs. 4). There was only one significant difference between two time points; time three was significantly different from time four, \( t(111) = 2.16, p < .05 \). The results also showed that time one and two were significantly different from all other time points. Thus, the data suggests that the most percent of time spent gazing at the stigma occurred in first two time points (i.e., first minute).

Therefore, I averaged the times points with the corresponding memory questions. That is, the recall information in the first minute was averaged and compared to the
Figure 6. Looking at the stigma across time of the interview.
remaining questions. The result of a paired t-test revealed that participants recalled less information in the first minute (i.e., during the highest gaze time percent) than the information from the remaining minutes, \( t(111) = 6.79, p < .05 \) (\( M = .53, SD = .16 \) and \( M = .68, SD = .19 \), respectively). The result of a paired t-test revealed for the control group (i.e., no stigma) did not show significant effects of time of the memory items, \( t(58) = 1.22, p > .05 \) (\( M = .75, SD = .14 \) and \( M = .70, SD = .15 \), respectively).

Furthermore, bivariate correlations for the stigma condition only, showed that the correlation between the amount of time participants looked at the stigma and the number of correct items from the recall test was significant for the first minute was significant (\( r = -.23, p < .05 \)) but not for the recall items in the remaining minutes (\( r = -.14, p > .10 \)). Thus, the highest amount of gazing at the stigma occurred in the first minute, which is also the time in which memory recall was lowest. This pattern did not emerge for the control group (i.e., no stigma); that is the correlation between visual attention to the cheek and the number of correct items from the first minute (\( r = -.07, p > .10 \)) and the number of correct items from the remaining minute (\( r = .10, p > .10 \)).

**Hypothesis 2**

The results showed a significant relationship between the participants’ ratings of the applicant and memory of the interview (\( r = .29, p < .05 \)), supporting Hypothesis 2 that the recall of the interview (i.e., memory) would be positively related with applicant ratings. Memory of the interviews was not related to the assigned salary (\( r = -.06, p > .05 \)).
Because visual attention was negatively correlated with the memory of participants ($r = -.42, p < .05$) and attention was negatively correlated with ratings ($r = -.17, p < .05$), I examined a mediational relationship of attention-memory-ratings. That is, attention may affect one’s memory in that they recall less information the more you attend to the face, which then affects your ratings of the applicant. Thus, the effect of attention on ratings was through memory (see Figure 7).

I examined mediation using the criteria outlined by Baron and Kenny (1986). First, the distal predictor must be related to the outcome measure of interest; attention was negatively related to ratings ($\beta = -.17, p < .05$). Second, the distal predictor must be related to the mediator; attention was negatively related to memory ($\beta = -.42, p < .05$). Third, the mediator must be related to the outcome measure after the effect of the distal predictor has been accounted for; memory, the mediator, was positively related to ratings ($\beta = .27, p < .05$) and the relation of attention to ratings was reduced to non-significance ($\beta = -.06, p > .05$). Fourth, the Sobel test indicated a significant reduction in the path from attention to applicant ratings, $Z = 2.95, p < .05$ (Baron & Kenny, 1986). Thus, the relationship between visual attention to the stigma and applicant ratings is fully mediated by memory of the interview.

I also explored the role of acknowledgment as a moderator of the visual attention and memory relationship. First, following the steps recommended by Edwards and Lambert (2007), I examined acknowledgment as a moderator of the visual attention—memory path (i.e., first stage moderation model). The results of the moderated regression are shown in Table 8 and are depicted in Figure 8. In particular, the interaction of acknowledgment and visual attention on memory was significant ($\beta = .15, p < .05$) after
Figure 7. Path model of memory as the mediator of visual attention on applicant rating as the criterion.

Note. *p < .05. Regression weight in parenthesis is with the mediator in the first step.
Table 8. Summary of moderated regression analysis for acknowledgment as the moderator of the relationship of visual attention and interview memory.

<table>
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<th>Step and Variable</th>
<th>B</th>
<th>SE$_B$</th>
<th>$\beta$</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
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<tr>
<td>Step 1:</td>
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<td>Visual attention (IV)</td>
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<td>.20</td>
<td>-.38*</td>
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<td>.19</td>
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<td>.20</td>
<td>-.15*</td>
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<td>Step 2: Interaction</td>
<td>.43</td>
<td>.20</td>
<td>.15*</td>
<td>.21</td>
<td>.02*</td>
</tr>
</tbody>
</table>

*Note. N = 171, * $p < .05$*
Figure 8. Acknowledgment as the moderator of the relationship of visual attention and interview memory.
entering the main effects of visual attention ($\beta = -.38, p < .05$) and acknowledgment ($\beta = .15, p < .05$). The results revealed that there was no difference of visual attention (low and high) when the applicant acknowledges. There was a difference of visual attention (low and high) when the applicant did not acknowledge; low visual attention to the stigma was related to more memory than high visual attention to the stigma. Figure 9 shows the moderated paths.

Second, I examined the total effect moderation model with visual attention as the distal predictor, memory as the mediator, applicant ratings as the outcome variable and applicant acknowledgment as the moderator of visual attention and memory (Edwards & Lambert, 2007). The results showed a significant regression model, $F(5, 160) = 2.3, p < .05, R^2 = .06$. The results did not show a significant effect of visual attention on applicant ratings ($\beta = -.07, p > .10$). However, memory of the interview was a significant predictor of applicant ratings ($\beta = .18, p < .05$). The effect of visual attention in this model was not significant ($\beta = -.07, p > .10$). The acknowledgment and visual attention interaction term was also not significant ($\beta = -.06, p > .05$). However, when examining the coefficients for the overall model, Edwards and Lambert (2007) suggest to apply the coefficients from the first stage moderation model (i.e., with memory as the criterion) to the distal predictor (i.e., visual attention), the distal-mediator path (i.e., attention-memory) path and to the moderator. See Figure 10 for the moderated mediation model.

Lastly, I examined applicant stigma as the distal predictor of applicant ratings with an indirect effects through visual attention and memory. I examined a model that included applicant stigma using path modeling (AMOS 6 Arbuckle, 2005), because this model includes two mediators I could not use the steps outlined by Baron and Kenny
Figure 9. First stage moderation path model.

Note. *p < .05. Beta weight in parenthesis is the direct effect.
Figure 10. Total effects moderation path model.

Note. *$p < .05$
(1986). I tested a direct path from applicant stigma to visual attention because it was expected that participants viewing an applicant with a stigma would attend more to the stigma area (i.e., the cheek).

I also tested a path from applicant stigma to memory of the interview because stigma can directly affect memory through self-regulatory processes. That is, participants might not look at the stigma, but the effort to control their attention away from the stigma could interfere with attention to what is being said in the interview. Because applicant stigma was not fully crossed with acknowledgment of the stigma, acknowledgment was not included in the model.

To determine the adequacy of model fit I used four fit indices: (a) the $\chi^2$ and degrees of freedom (b) the comparative fit index (CFI), (c) the incremental index of fit (IFI), and (d) the root-mean-square error of approximation (RMSEA). Good fit indices for CFI and IFI are greater than .90, and for RMSEA, less than .08 (Byrne, B. M., 2001; Steiger, 1990; Vandenberg & Lance, 2000). The results showed adequate fit: $\chi^2 = .51, p > .10$; CFI = .99; IFI = .99; and RMSEA = .001.

Applicant stigma was negatively related to memory ($\beta = -.36, p < .05$) and positively related to visual attention ($\beta = .64, p < .05$). Visual attention was negatively related to interview memory ($\beta = -.20, p < .05$). Interview memory was positively related to applicant ratings ($\beta = .27, p < .05$), and the path from visual attention to applicant ratings was fully mediated by interview memory. A direct path from stigma to applicant ratings was not significant ($\beta = -.07, p < .05$) and resulted in a poor fit. See Figure 11 for the path model.
Figure 11. Applicant stigma, visual attention, memory, and applicant rating path model.

Note. *p < .05. Beta weight in parenthesis is the direct effect.
Hypothesis 3

The results from an ANOVA with gender as the independent variable and time looking at the stigma as the dependent variable did not reveal a significant effect of applicant gender, $F(1, 110) = .11, p > .05$ ($M_{male} = .10, SD = .06$ and $M_{female} = .10, SD = .05$). Thus, hypothesis 3, which predicted that time of visual attention to the features of a visible stigma would be longer for the stigmatized female applicant than for stigmatized male applicant, was not supported.

Hypothesis 4

Hypothesis 4 stated that when applicants have stigmas, in the acknowledgment condition, there would be a high level of visual attention during the time of acknowledgment but then a decrease of attention in the following time points, whereas there will be a slower decrease in the amount of visual attention in the condition without acknowledgment. To test the hypothesis I ran a mixed-design ANOVA with the sixteen time points of percent of time gazing at the stigma during the interview as the repeated measures and acknowledgment as the between-subjects variables. According to Wilks' multivariate criterion, the combined dependent variables were significantly affected by time ($\lambda = .56; p < .05; \eta^2 = .44$), and the interaction between time and acknowledgment ($\lambda = .26; p < .05; \eta^2 = .26$).

The results revealed an overall effect of time, $F(10, 1070) = 8.03, p < .05, \eta^2 = .07$, suggesting that participants percent of time looking at the stigma changed with time. The results did not reveal a significant main effect of acknowledgment on visual attention to the stigma, $F(1, 107) = 1.22, p > .01$ ($M_{acknowledge} = .09, SD = .01$ and $M_{no} = .11, SD = .01$).
.01). However, the interaction between time and acknowledgment was significant, $F(10, 1070) = 1.84, p < .05, \eta^2 = .02$, suggesting that the change in looking at the stigma was different as function of acknowledgment. Therefore, the data suggests that effect of acknowledgment on attention to the stigma was qualified by the time course. Figure 12 shows the percent of time gazing at the stigma across the 16 time points by acknowledgment.

Results from a repeated-measures ANOVA for the acknowledgment condition revealed that the effect of time was quadratic, $F(1, 55) = 12.56, p < .05$. The results for the non-acknowledgment condition revealed that the effect of time was cubic, $F(1, 52) = 7.84, p < .05$. As shown in Figure 12 the trend for the acknowledgment condition is a gradual decrease of percent of time gazing at the stigma, whereas the trend for the non-acknowledgment condition is a decrease and increase cycle. The data suggests that in the absence of the acknowledgment, participants’ attention returns to the stigma after a decrease of gaze.

The results of a repeated-measures ANOVA further revealed that for the control condition (i.e., no stigma), time was not a significant effect on the percent of time gaze at the cheek where the stigma was placed for the stigmatized condition, $F(4, 202) = 2.02, p > .10$. Figure 13 shows the percent of gaze for the control condition with the acknowledge and non-acknowledge stigma conditions.

To examine at which time points the acknowledge and non-acknowledge conditions are significantly different I conducted a MANOVA with the 16 time points as the dependent variables and acknowledge as the independent variable. Using Wilks' multivariate criterion, the combined dependent variables were significantly affected by
Figure 13. Looking at the stigma across time of the interview by acknowledgment with control condition.
acknowledgment ($\lambda = .72$; $F(16, 92) = 2.1, p < .05; \eta^2 = .28$). The results of the univariate tests revealed a significant effect of acknowledgment for time point four, $F(1, 107) = 4.28, p < .05$ ($M_{\text{acknowledge}} = .13$, $SD = .13$ and $M_{\text{no}} = .09$, $SD = .09$); time point five, $F(1, 107) = 5.58, p < .05$ ($M_{\text{acknowledge}} = .11$, $SD = .09$ and $M_{\text{no}} = .07$, $SD = .08$); time point seven, $F(1, 107) = 5.58, p < .05$ ($M_{\text{acknowledge}} = .09$, $SD = .07$ and $M_{\text{no}} = .15$, $SD = .14$); time point thirteen, $F(1, 107) = 4.18, p < .05$ ($M_{\text{acknowledge}} = .08$, $SD = .11$ and $M_{\text{no}} = .13$, $SD = .14$).

Thus, the data suggests that participants’ gaze to the stigma were equally highest for the acknowledge and non-acknowledge conditions. Approximately 30 seconds after the acknowledgment, participants looked more at the applicants’ stigma when the applicants acknowledged their stigma than when the applicants did not acknowledge their stigma. Approximately after another 30 seconds, the pattern reverses; participants looked more at the stigma when the applicants did not acknowledge their stigma than the applicants that viewed an applicant that did acknowledge their stigma. Approximately after six minutes into the interview, participants looked more at the stigma when the applicants did not acknowledge their stigma than when the applicants that did acknowledge their stigma.

Therefore, I summed the memory questions that corresponded with the following respective times points: four and five, seven, and thirteen. I conducted a MANOVA with acknowledgment as the independent variable and the memory questions as the dependent variables. Wilks' multivariate criterion revealed that the combined dependent variables were significantly affected by acknowledgment ($\lambda = .91$; $F(3, 107) = 3.4, p < .05; \eta^2 = .09$).
The results from the univariate tests did not show a significant effect of acknowledgment on the memory questions at time four and five $F(1, 109) = .33, p > .10, \eta^2 = .002$ ($M_{\text{acknowledge}} = 17.3, SD = 1.13$ and $M_{\text{no}} = 17.2, SD = 1.2$). The results showed a marginal significant effect of acknowledgment on the memory questions at time seven $F(1, 109) = 3.69, p = .056, \eta^2 = .03$. Participants that viewed an applicant that acknowledged the stigma ($M = .73, SD = .45$) recalled more memory questions at time seven than participants that viewed an applicant that did not acknowledge the stigma ($M = .55, SD = .50$). The results also showed a significant effect of acknowledgment on the memory questions at time thirteen $F(1, 109) = 7.44, p < .05, \eta^2 = .06$. Participants that viewed an applicant that acknowledged the stigma ($M = 1.4, SD = .59$) recalled more memory questions at time thirteen than participants that viewed an applicant that did not acknowledge the stigma ($M = 1.1, SD = .67$). Thus, more attention to the stigma led to less recall of the interview, which was qualified by acknowledgment.

**Hypothesis 5**

The results from an ANOVA with acknowledgment as the independent variable and incongruent match time on the color-Stroop task as the dependent variable showed a non-significant effect of acknowledgment, $F(1, 113) = .69, p > .05$ ($M_{\text{acknowledge}} = 1.37, SD = .19$ and $M_{\text{no}} = 1.35, SD = .19$). To control for a baseline of the color-Stroop task, I conducted a repeated-measures ANOVA with the congruent-color time and incongruent-color time as the repeated measures and acknowledgment as the independent variable. There was no effect of acknowledgment on the Stroop repeated-measures, $F(1, 110) = .04, p > .10$. Thus, not supporting the hypothesis that interviewers with a stigmatized
applicant that acknowledge their stigma would show less depletion of self-regulatory resources than interviewers with a stigmatized applicant that does not acknowledge.

However, an ANOVA showed a significant effect of stigma on depletion of self-regulatory resources, \( F(1, 169) = 17.45, p < .05, \eta^2 = .09 \). Participants with a stigmatized applicant showed more depletion \( (M = 1.36, SD = .19) \) than participants in the control group \( (M = 1.23, SD = .21) \). To control for a baseline of the color-Stroop task, I conducted a repeated-measures ANOVA with the congruent-color time and incongruent-color time as the repeated measures and stigma as the independent variable. There was an effect of acknowledgment on the Stroop repeated-measures, \( F(1, 169) = 40.89, p < .10, \eta^2 = .19 \). This finding is consistent with the results from the manipulation check that suggested that participants that viewed applicants with stigmas regulated their thoughts, but had difficulty controlling their visual attention, leading to greater depletion.

**Hypothesis 6 and 7**

The results did not show significant relationships between the two factors of disgust sensitivity and attention to the features of the stigma \( (r = -.09, p > .10 \) and \( r = .11, p > .10 \), respectively), not supporting hypothesis 6 that interviewers high on disgust sensitivity will gaze less at the features of the stigma than those who score lower on disgust sensitivity.

The results did not show significant relationships between the two factors of disgust sensitivity and memory of the interview \( (r = -.09, p > .10 \) and \( r = -.01, p > .10 \), respectively), not supporting hypothesis 7 that interviewers high on disgust sensitivity
will remember less information about what the interviewer said than those who score lower on disgust sensitivity.

**Hypothesis 8**

Hypothesis 8 stated that empathy would moderate the relationship between memory of the interview and ratings of the applicant. The results of a moderated regression showed that empathy ($\beta = .21, p < .05$) and memory ($\beta = .23, p < .05$) significantly predicted the ratings of the applicant in the first step, but the interaction of empathy and memory was not significant ($\beta = -.04, p > .10$). The change in $R^2$ associated with entering the interaction in step 2 of the model was non-significant ($p > .05$). Thus, Hypothesis 8 was not significant.

Additional analyses, however, revealed that the correlation between empathy and applicant ratings was significant for applicants with a stigma ($r = .22, p < .05$) but not for applicants without a stigma ($r = .17, p > .10$). This could be the case because of the smaller sample size for the control group ($n = 59$) as compared to the stigmatized condition group ($n = 112$). Following this possibility I conducted a moderated regression to test the possibility that the effect of empathy on applicant ratings is more pronounced for applicants with stigmas than for applicants without stigmas. In the first step, the effect of stigma ($\beta = -.19, p < .05$) and for participant empathy ($\beta = .20, p < .05$) were significant. The adjusted $R^2$ for this set of variables was also significant ($R^2 = .07, p < .05$). However, the interaction and change in $R^2$ for stigma x participant empathy was not significant ($\beta = .02, p > .05$; $\Delta R^2 = .001, p > .05$).
Exploratory Analyses

To examine other effects that were not hypothesized, I conducted a MANOVA with applicant stigma, applicant gender, and applicant acknowledgment as the independent variables and Stroop incongruent time, applicant ratings, memory, and visual attention to the cheek as the dependent variables. The multivariate tests revealed that applicant stigma ($\lambda = .56; F(4, 162) = 31.5, p < .05; \eta^2 = .44$), applicant gender ($\lambda = .94; F(4, 162) = 2.5, p < .05; \eta^2 = .06$), and the stigma x applicant gender interaction ($\lambda = .93; F(4, 162) = 2.9, p < .05; \eta^2 = .07$) affected the combined dependent variables. The multivariate test for acknowledgment was non-significant ($\lambda = .98; F(4, 162) = .64, p > .10; \eta^2 = .01$).

Consistent with the hypotheses testing, the results showed a main effect of applicant stigma on Stroop incongruent time, $F(1, 164) = 10.3, p < .05, \eta^2 = .06$ ($M_{\text{stigma}} = 1.4, SD = .19$ and $M_{\text{control}} = 1.2, SD = .20$); applicant ratings, $F(1, 164) = 3.9, p < .05, \eta^2 = .02$ ($M_{\text{stigma}} = 3.9, SD = .61$ and $M_{\text{control}} = 4.1, SD = .63$); memory, $F(1, 164) = 39.1, p < .05, \eta^2 = .19$ ($M_{\text{stigma}} = 8.2, SD = 2.6$ and $M_{\text{control}} = 11.1, SD = 2.2$); and visual attention to the cheek, $F(1, 164) = 19.8, p < .05, \eta^2 = .48$ ($M_{\text{stigma}} = .10, SD = .05$ and $M_{\text{control}} = .02, SD = .03$). Thus, participants that viewed an applicant with a stigma showed more depletion of self-regulatory resources, rated the applicant lower, recalled less information about the interview, and attended more the stigma area (i.e., the cheek) than participants that viewed an applicant with no stigma.

Applicant gender had an effect on applicant ratings applicant ratings, $F(1, 164) = 5.7, p < .05, \eta^2 = .03$; the male applicant ($M = 4.1, SD = .61$) was rated higher than the female applicant ($M = 3.8, SD = .63$). This effect was qualified by a stigma x gender
interaction; $F(1, 164) = 5.3, p < .05, \eta^2 = .03$. Figure 14 shows that the male applicant with no stigma ($M = 4.3, SD = .49$) was rated higher than the male applicant with a stigma ($M = 3.8, SD = .61$), female applicant with stigma ($M = 3.8, SD = .62$), and female applicant with no stigma ($M = 3.9, SD = .66$). A contrast analysis confirmed this interpretation, $t(165) = 3.8, p < .05$. I also examined a second contrast with a Bonferroni correction because it might be more appropriate to examine the no stigma condition with the stigma and no acknowledgment condition, because acknowledgment was not fully crossed with no stigma. The second contrast analysis was also significant, $t(165) = 3.4, p < .025$, suggesting that regardless of acknowledgment, the male applicant with no stigma was rated highest.

Applicant gender did not have a significant effect on Stroop incongruent time, memory, and visual attention to the cheek. Applicants’ acknowledgment did not have a significant effect on Stroop incongruent time, memory, applicant ratings and visual attention to the cheek. There were neither additional significant applicant gender x applicant stigma interaction effects nor applicant gender x applicant acknowledgment interaction effects. Because applicant acknowledgment and applicant stigma were not fully crossed, their interaction nor the three-way interaction was testable.

Thus, an appropriate analysis to conduct was a MANOVA with condition as the independent variable and Stroop incongruent time, applicant ratings, memory, and visual attention to the cheek as the dependent variables. There were six conditions: 1) male applicant with stigma who acknowledges, 2) a female applicant with stigma that acknowledges, 3) a male applicant with stigma that does not acknowledge, 4) a female with stigma that does not acknowledge, 5) a male applicant with no stigma that does not
Figure 14. Stigma x gender interaction on applicant ratings.
acknowledge, and 6) a female applicant with no stigma that does not acknowledge.

Using Wilks' multivariate criterion, the combined dependent variables were significantly affected by condition ($\lambda = .44; F(20, 538) = 7.5, p < .05; \eta^2 = .19$). All four univariate tests were significant.

First, the results showed a main effect of condition on Stroop incongruent time, $F(5, 164) = 4.1, p < .05, \eta^2 = .11$. A Tukey HSD post-hoc analysis showed that the lowest means were for the male and female applicants with no stigmas. A follow-up contrast test confirmed this pattern, $t(165) = 4.17, p < .05$ (see Figure 15).

Second, the results showed a main effect of condition on applicant ratings, $F(5, 164) = 3.1, p < .05, \eta^2 = .09$. A Tukey HSD post-hoc analysis showed that the highest mean was for the male applicant with no stigma. A contrast analysis confirmed this interpretation, $t(165) = 3.8, p < .05$ (see Figure 16).

Third, the results showed a main effect of condition on memory, $F(5, 164) = 10.7, p < .05, \eta^2 = .25$. A Tukey HSD post-hoc analysis showed that the highest means was for the male and female applicants with no stigma. A contrast analysis confirmed this interpretation, $t(165) = 7.1, p < .05$ (see Figure 17).

Fourth and last, the results showed a main effect of condition on visual attention to the cheek, $F(5, 164) = 24.8, p < .05, \eta^2 = .43$. A Tukey HSD post-hoc analysis showed that the lowest means were for the male and female applicants with no stigma. A contrast analysis confirmed this pattern, $t(165) = 10.9, p < .05$ (see Figure 18). These analyses were consistent with the results from the hypotheses testing. Participants that viewed an applicant with a stigma depleted more regulatory resources, rated the applicant lower, recalled less, and attended more to the stigma area than the control group.
Figure 15. Main effect of condition on Stroop time.
Figure 16. Main effect of condition on applicant rating.
Figure 17. Main effect of condition on interview memory.
Figure 18. Main effect of condition on visual attention to the cheek.
Attention to the Face

There is very little research on face perception that includes a blemish or stigma on the face; therefore, I examined the patterns of gazing at the different points of regards on the face. I conducted a MANOVA with applicant stigma, applicant gender, and applicant acknowledgment as the independent variables and percent of time gazing at the left eye, right eye, nose, mouth, and cheek as the dependent variables. Wilks’ multivariate criterion revealed that the combined dependent variables were significantly affected by applicant gender ($\lambda = .90; F(5, 161) = 3.0, p < .05; \eta^2 = .08$), applicant stigma ($\lambda = .59; F(5, 161) = 21.7, p < .05; \eta^2 = .40$), and acknowledgment ($\lambda = .89; F(5, 161) = 2.7, p < .05; \eta^2 = .09$). The multivariate tests for the applicant gender x stigma and the applicant gender x acknowledgment interactions were not significant ($\lambda = .96; F(5, 161) = 1.3, p > .10; \eta^2 = .03$ and $\lambda = .98; F(5, 161) = .51, p > .10; \eta^2 = .02$, respectively).

The results showed that applicant gender had a significant effect on the percent of time gazing at the left eye, $F(1, 165) = 12.1, p < .05, \eta^2 = .07$; participants viewed the left eye of the female applicant ($M = .21, SD = .12$) more than the male applicant ($M = .14, SD = .10$).

Applicant stigma had a significant effect on the percent of time gazing at the right eye, $F(1, 165) = 6.39, p < .05, \eta^2 = .04$; participants viewed the right eye of the applicant with a stigma ($M = .17, SD = .07$) more than the applicant without a stigma ($M = .14, SD = .13$). Applicant stigma had a significant effect on the percent of time gazing at the nose, $F(1, 165) = 4.43, p < .05, \eta^2 = .03$; participants viewed the nose of the applicant with a stigma ($M = .13, SD = .07$) less than the applicant without a stigma ($M = .16, SD = .10$). Applicant stigma had a significant effect on the percent of time gazing at the mouth, $F(1,
165) = 8.55, \( p < .05 \), \( \eta^2 = .05 \); participants viewed the mouth of the applicant with a stigma \( (M = .07 \ SD = .06) \) less than the applicant without a stigma \( (M = .10 \ SD = .06) \). Applicant stigma had a significant effect on the percent of time gazing at the cheek, \( F(1, 165) = 99.8, \ p < .05, \ \eta^2 = .37 \); participants viewed the cheek of the applicant with a stigma \( (M = .10 \ SD = .05) \) more than the applicant without a stigma \( (M = .02 \ SD = .02) \). Thus, applicant stigma had an effect on four of the five points of interest (see Figure 19).

Applicant acknowledgment had a significant effect on the percent of time gazing at the right eye, \( F(1, 165) = 5.2, \ p < .05, \ \eta^2 = .03 \); participants viewed the right eye of the applicant that acknowledged a stigma \( (M = .14 \ SD = .06) \) less than the applicant that did not acknowledge \( (M = .16, \ SD = .11) \). Applicant acknowledgment had a significant effect on the percent of time gazing at the mouth, \( F(1, 165) = 4.1, \ p < .05, \ \eta^2 = .02 \); participants viewed the mouth of the applicant that acknowledged a stigma \( (M = .14 \ SD = .06) \) less than the applicant that did not acknowledge \( (M = .16, \ SD = .11) \). A summary of the results is shown in Table 9.

There were no significant applicant gender x applicant stigma interaction effects, nor applicant gender x applicant acknowledgment interaction effects. Because applicant acknowledgment and applicant stigma were not fully crossed, neither their interaction nor the three-way interaction were testable. Thus, I conducted a MANOVA with condition as the independent variable and percent of time gazing at the left eye, right eye, nose, mouth, and cheek as the dependent variables. There were six conditions: 1) male applicant with stigma who acknowledges, 2) a female applicant with stigma that acknowledges, 3) a male applicant with stigma that does not acknowledge, 4) a female applicant with stigma that does not acknowledge, 5) a male applicant with no stigma that
Figure 19. Main effect of participant stigma on time gaze at left eye, right eye, nose, mouth, and cheek.
Table 9. Inferential and descriptive statistics for the gender x stigma x acknowledge MANOVA results for the face points of interests.

<table>
<thead>
<tr>
<th></th>
<th>Left eye</th>
<th></th>
<th>Right eye</th>
<th></th>
<th>Nose</th>
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<tr>
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<td>.002</td>
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<td>.04</td>
<td>4.43*</td>
<td>.03</td>
<td>8.55*</td>
<td>.05</td>
<td>99.8*</td>
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<td>.58</td>
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*Note.* Standard deviations are in parentheses. *$p < .05$*
does not acknowledge, and 6) a female applicant with no stigma that does not acknowledge. Using Wilks' multivariate criterion, the combined dependent variables were significantly affected by condition ($\lambda = .46; F(25, 599) = 5.6, p < .05; \eta^2 = .14$).

The results revealed an effect of condition on percent of gaze time on the left eye, $F(5, 165) = 3.5, p < .05, \eta^2 = .09$. A Tukey HSD post-hoc analysis showed that the highest mean was for the male with stigma that does not acknowledge; a follow-up contrast test with Bonferroni corrections confirmed this effect, $t(165) = 3.2, p < .01$. A Tukey HSD post-hoc analysis showed that the lowest means were for the female applicant with a stigma that acknowledges and does not acknowledge and a follow-up contrast test with Bonferroni corrections confirmed this finding, $t(165) = 2.9, p < .01$ (see Figure 20).

The results showed an effect of condition on percent of gaze time on the mouth, $F(5, 165) = 3.2, p < .05, \eta^2 = .09$. A Tukey HSD post-hoc analysis showed that the highest mean was for the male with no stigma and for the female with stigma that does acknowledge; a follow-up contrast test with Bonferroni corrections confirmed this effect, $t(165) = 3.7, p < .01$.

There was also an effect of condition on percent of gaze time on the cheek, $F(5, 165) = 24.82, p < .05, \eta^2 = .43$. A Tukey HSD post-hoc analysis showed that the control conditions (i.e., male and female with no stigma and acknowledge) had the lowest means of gaze time; a follow-up contrast test with Bonferroni corrections confirmed this effect, $t(165) = 2.2, p < .01$. There were no significant effects of condition on gaze at right eye, $F(5, 165) = 1.84, p > .10$ and nose, $F(5, 165) = 1.13, p > .10$. 

Figure 20. Main effect of condition on time gaze at left eye, right eye, nose, mouth, and cheek.
Internal and External Regions of the Face

Research on face perception shows that people tend to fixate more on the internal region of the face – the eyes, nose, and mouth – than at external features, such as the hair, ears, and chin (Mertens, Siegmund, & Grusser, 1993; Rayner, 1998; Stacey, Walker, & Underwood, 2005). To examine the effect of stigma on the time gaze at internal features, using only the stigma conditions, I conducted a repeated-measures ANOVA with the percent of time gazing at the face features – left eye, right eye, nose, mouth, and cheek – as repeated variables. The results showed a main effect of face features, $F(4, 432) = 29.4$, $p < .05$, $\eta^2 = .21$, suggesting that participants percent of time looking at the different face features were significantly different.

Figure 21 shows that the greatest amount of time gaze was for the left and right eye followed by the nose. However, the percent of time gazing at the cheek was higher than the gaze at the mouth. To examine the significance of these differences, I ran multiple paired sample $t$-tests with Bonferroni corrections.

Paired samples $t$-tests showed that percent of gaze time for the cheek ($M = .10$, $SD = .05$) was significantly higher than the gaze for the mouth ($M = .07$, $SD = .06$), $t(111) = 3.9, p < .01$. The percent of gaze time for the cheek was significantly lower than the gaze at the nose ($M = .13$, $SD = .08$), $t(111) = 3.9, p < .01$; the gaze at the left eye ($M = .17$, $SD = .12$), $t(111) = 3.9, p < .01$; and the right eye ($M = .16$, $SD = .07$), $t(111) = 3.9, p < .01$.

I conducted the same analyses for the control sample (i.e., no stigma). The results showed a main effect of face features, $F(4, 232) = 17.14, p < .05$, $\eta^2 = .21$, suggesting that participants percent of time looking at the different face features were significantly different. Figure 22, however, shows that the lowest amount of time gaze was for the
Figure 21. Percent of gaze time on the features on of the face with a stigma.
Figure 22. Percent of gaze time on the features on of the face without a stigma.
cheek. To examine the significance of these differences, I ran multiple paired sample $t$-tests with Bonferroni corrections.

Paired samples $t$-tests showed that percent of gaze time for the cheek ($M = .02$, $SD = .03$) was significantly lower than the gaze for the mouth ($M = .09$, $SD = .11$), $t(58) = 5.1$, $p < .01$; the nose ($M = .15$, $SD = .10$), $t(111) = 10.1$, $p < .01$; the left eye ($M = .17$, $SD = .13$), $t(111) = 8.2$, $p < .01$; and the right eye ($M = .14$, $SD = .12$), $t(111) = 6.9$, $p < .01$. Thus, the pattern of face perception was different for the participants that viewed an applicant with a stigma than an applicant without a stigma.

DISCUSSION

Drawing from theory and research on perceived stigma (Pryor, Reeder, Yeadon, & McInnis, 2004), attentional processes (Rinck & Becker, 2006), working memory (Baddeley & Hitch, 1974; Engle, 2002) and regulatory resources (Muraven & Baumeister, 2000), this study investigated the processes in which a stigma on the face affects interview outcomes and methods that interviewees might use as remediation strategies.

Overall, participants that viewed an applicant with stigma attended more to the stigma and rated the applicant lower than participants that viewed an applicant without a stigma. The results of this study showed that the relationship between stigma and applicant ratings was mediated by visual attention to the stigma and memory of the interview. Acknowledgment from applicants did not have main effects on visual attention; instead, acknowledgment interacted with time of visual attention. In the acknowledgment condition, visual attention to the stigma decreases with time, but in non-acknowledgment condition, visual attention decreases, but then increases with time.
The Effect of Stigma

Applicant stigma was correlated with the Stroop incongruent time, applicant ratings, memory, and visual attention. The data showed that having a stigma was related to lower ratings and less memory of the interview, but more visual attention to the cheek (i.e., where the stigma was placed) and depletion of regulatory resources. Results from a path analysis revealed that viewing an applicant with a stigma on the face led to more visual attention to the stigma, which led to less memory of the interview, and subsequently lower ratings than viewing an applicant without a stigma. This is consistent with the findings from the stigma literature that suggests that stigmas draw attention from perceivers and leads to negative reactions (Pryor et al., 2004). But drawing attention to the stigma and away from the content of the interview (i.e., what is being said) interferes with memory, and memory was positively related to applicant ratings.

The results showed that the greatest amount percent of time spent gazing at the stigma occurred in first minute, and that participants recalled less information in the first minute (i.e., during the highest gaze time percent) than the information from the remaining minutes. Thus, looking at the stigma interferes with attention to the verbal information.

This finding is consistent with the cognitive literature in that attention is limited (Engle, 2002; Schmeichel, 2007). Thus, when individuals are confronted with a stigmatized individual (e.g., a birth mark on his/her face), individuals might be likely to focus their attention to the features of the stigma, which could interfere with attention to
the task at hand, which is to attend to the information from the interview (Engle, 2002; Schmeichel, 2007).

Applicant stigma also had an effect on depletion of self-regulatory resources, such that participants with a stigmatized applicant showed more depletion than participants in the control group in a color-Stroop task. Participants that viewed an applicant that had a stigma were also more likely to report that they regulated their attention and thoughts. That is, they thought about not looking at the stigma, but they reported they did look. This conflict of attention is what might have led to depletion of self-regulation.

Models of attention (Mathews & Mackintosh, 1998; Mogg et al., 2000), suggest that visual attention is allocated to negative stimuli, but that individuals also think about the negative stimuli that is being looked at. Pryor et al. (2004) suggest that when confronted with stigmatized targets, perceivers attend to the stigma, but also control their reaction. Thus, these theories suggest that when individuals are confronted with a stigmatized individual (e.g., a birth mark on their face), individuals might be more likely to focus their visual attention to the features of the stigma, but then also try to control (i.e., look away) their visual attention. This control of attention can lead to two important outcomes: depletion of self-regulatory resources and cognitive interference with memory.

Controlling attention can lead to a depletion of self-regulation (Schmeichel, 2007), because self-regulation is a limited resource. The same resource is used for an array of self-regulatory tasks, such as regulating thoughts and inhibiting impulses, and this limited resource is also used for other executive functioning. According to Baddeley and Hitch’s model (Baddeley & Hitch, 1974), the central executive is the component of working memory that controls cognitive resources and monitors information processing.
By regulating visual attention and thoughts, individuals are using working memory, but working memory is finite (Engle, 2002; Schmeichel, 2007; Schmeichel, Vohs, and Baumeister, 2003; Turner & Engle, 1989). That is, the operation of working memory is influenced by simultaneous cognitive activity -- its use in one task undermines the immediate performance of a concurrent task (Baumeister et al., 1998; Muraven & Baumeister, 2000; Schmeichel et al., 2003).

Thus, stigma can affect memory through self-regulation (i.e., using resources that can be allocated to the contents of the interview), but stigma can also affect memory without regulatory efforts. Rather, individuals might attend to the stigma, without caring to not look, but the stigma is a distraction that divides attention. Memory is impaired when attention or the central executive is divided (Engle, 2002), such as listening to an interview, but also looking at a stigma on a face.

**The Effect of Gender**

The hypothesis that time of visual attention to the features of a visible stigma would be longer for the stigmatized female applicant than for stigmatized male applicant was not supported. This hypothesis was based on the literature that suggests that perceptions of physical attractiveness are more salient for female targets than for male targets (Eagly et al., 1991; Langlois et al., 2000; Marcus & Miller, 2003).

However, the results on the effect of stigma and gender are also consistent with the general literature on stigma. Stigma is an attribute that is a devalued social identity that can lead to stereotypes, rejection, discrimination, and disadvantages (Crocker et al., 1998). In the current research, the applicants with a stigma were rated lower than
applicants without a stigma. In addition, gender can be a stigma for women in the workplace. The results of the current study showed that applicant gender also had a significant effect on applicant ratings; the male applicant was rated higher than the female applicant, consistent with the literature on gender discrimination in organizations (for a review see Cleveland, Vescio, & Barnes-Farrell, 2005). The effect of applicant gender on applicant ratings was qualified by a stigma and gender interaction – the male applicant with no stigma was rated higher than the male applicant with a stigma, female applicant with stigma, and female applicant with no stigma.

A reason that gender might not have had an effect on time of visual attention on the stigma was that applicant gender did not have significant effects on the extent of distraction of the stigma and on ratings of applicant attractiveness. Another reason is that the applicant pictures were pre-tested to be equally rated as attractive. Perhaps because the pictures were equated before the experiment, the effects of gender might have been minimized.

The Effect of Acknowledgment

I hypothesized that in the acknowledgment condition, there would be more visual attention during the time of acknowledgment but then a decrease of attention in the following time points, whereas there would be a slower decrease in the amount of visual attention in the condition without acknowledgment. The results showed that the percent of time looking at the stigma changed with time, and that the change in looking at the stigma differed as function of acknowledgment. The trends of looking at the stigma for the acknowledge and non-acknowledgment conditions were non-linear. The effect of
time was quadratic for the acknowledgment condition. In particular, participants’ gaze at the stigma was high for the first minute but it gradually decreased until it reaching a plateau. The data suggests that acknowledgment can draw attention to the stigma features but then lead to less attention as it becomes less novel. The effect of time was cubic for the non-acknowledgment condition. Participants’ gaze at the stigma was high for the first minute, but then gaze at the stigma decreased followed by an increase and then another decrease and increase in a cyclical trend. This suggests that participants’ attention returns to the stigma after a decrease of gaze and that it was difficult for participants to ignore the stigma.

The results showed that the effect of acknowledgment on visual attention also affected memory. In particular, memory was lower in the time points in which visual attention on the stigma increased for the non-acknowledgment condition than for the acknowledgment condition.

Acknowledgment, however, did not abate the depletion of self-regulation. I theorized that the features of a physical stigma could be distracting and might lead to attributional assessments – that is, the interviewer might not only work at focusing on the responses by also try to figure out why the applicant has the stigma and engaging in self-control (Mathews & Mackintosh, 1998; Mogg et al., 2000; Ohman et al., 2001; Pryor et al., 2004; Rinck & Becker; 2006). Therefore, acknowledgment might be beneficial if it releases interviewers from the potential self-regulation that is involved in interactions with stigmatized targets.

The results, however, did not show this effect of acknowledgment on self-regulation. Instead, stigma had a main effect on regulatory depletion, suggesting that
acknowledgment did not reduce regulation of attention. One reason might be that regardless of acknowledgment, percent of time gazing at the stigma would gradually decrease, presumably because the stigma becomes less novel over time.

Figure 13 shows that for the non-acknowledgment condition, participants' gaze at the stigma would return to it after a decrease in a cyclical trend, but the increase of gaze did not return to the same level of gaze in the first minute. That is, despite the decreases and increases of gaze, total amount of gaze was gradually decreasing. For the acknowledgment condition, gaze at the stigma gradually decreased until it reaching a plateau, which was at the same level of gaze for the non-acknowledgment condition. Furthermore, the results also revealed that the percent of time gazing at the cheek (i.e., stigma area) in the acknowledge and non-acknowledge conditions were higher than the control group. Therefore, there is evidence to suggest that participants in both conditions regulated, because looked at the stigma but also had to attend to the verbal information.

However, the effect of acknowledgment on self-regulation might be different for the acknowledge and non-acknowledge conditions at different time points; but, self-regulation might have been the same across time. That is, it could be similar to the results of acknowledgment on memory – across all time points, there was no main effect of acknowledgment on memory, but there were differences of acknowledgment on memory at time points in which the non-acknowledgment participants gazed more at the stigma. Because there were no measures of self-regulation at each time point, it is not possible to examine the effect of acknowledgment on self-regulation at the different time points of the interview. Future research might examine self-regulation at different time points of the interviews to examine the effect of acknowledgment on self-regulation across time.
The Effect of Individual Differences

There were two individual differences that I measured in the current study: disgust sensitivity and empathy. These individual differences were hypothesized to be related to how people react to stigmas. First, disgust is an important emotion in daily life as it alerts us of threats, particularly threats of contamination or disease transmission (Rozin & Fallon, 1987). Accordingly, disgust is triggered by the visual perception of anomalies on the body, such as skin lesions, runny noses, poor hygiene, deformity, and obvious symptoms of parasitic infection (Haidt, Koller, & Diaz, 1993). It was expected that disgust sensitivity would elicit a response that is similar to responses to phobias – characterized by a vigilance-avoidance pattern of visual attention (Fox et al., 2001; Hermans et al., 1999; Rinck & Becker, 2006). The results of the current study, however, did not show significant relationships between disgust sensitivity and attention to the features of the stigma and memory of the interview.

One reason for the lack of findings is that the scar and port-wine stain were not disgusting enough to elicit the hypothesized responses. In fact, the results from the manipulation checks showed that the average participants’ ratings of stigma disgust was 1.3 on a five-point scale (1 = “strongly disagree”). Future research might use stigmas or pictures that are more disgusting to elicit disgust responses. Another possibility for future research is to use live interactions. In as study by Blascovich et al. (2002), participants that interacted with individuals with a stigma – manipulated by using makeup to create a port-wine stain – resulted in increased cardiovascular activity, a measure of anxiety. However, the eye tracker cannot be used with live interactions.
Second, empathy is related to sympathy, compassion, tenderness, and concern for others (Batson et al., 1995), and past research suggests that empathy plays a positive role in attitudes and behaviors towards stigmatized individuals (e.g., Dovidio et al., 2004; Galinsky & Ku, 2004; Galinsky & Moskowitz, 2000). For example, empathy leads to enhanced attitudes towards Black individuals (Dovidio et al., 2004), convicted murderers (Batson et al., 1997), people with AIDS (Batson et al., 1997), and the elderly (Galinsky & Ku, 2004). In the current study, participants’ empathy was related to applicant ratings. In particular, the correlation between empathy and applicant ratings was significant for applicants with a stigma but not for applicants without a stigma. Thus, the data from the current study suggests that trait-level empathy positively influenced ratings of the stigmatized applicants.

Attention to the Face

When examining faces, people tend to fixate on the internal region of the face—the eyes, nose, and mouth (Mertens et al., 1993; Rayner, 1998; Stacey et al., 2005). Stacey et al. (2005) found that individuals spend more time looking at the internal features than at external features (e.g., hair, ears, and chin), and that the tendency to focus on internal features is stronger when processing familiar faces than unfamiliar faces. There is also evidence of a left-right asymmetry in that gaze times tend to be longer for the left half of the face than for the right half (Mertens et al., 1993). Thus, individuals use features of the face, such as the eyes, nose, and mouth, when processing faces.

This study is the first known to examine face perception with anomalies on the face. The results of the current study showed that the greatest amount of time gaze was
for eyes and nose. The results also showed that the percent of time gazing at the cheek was higher than the gaze at the mouth. That is, this finding deviates from past research that internal features – the eyes, nose, and mouth are gazed at the most. The percent of time gazing at the stigma was higher than the gaze at the mouth. Thus, the data suggest that when there is an anomaly on the face, individuals tend to deviate from the internal features to gaze at the anomaly.

**Implications**

These data suggest that understanding how stigmas affect the interview process is complex. When individuals view an applicant with a stigma, they are more likely to gaze at the stigma, they are less likely to remember information about the interview, and as a consequence, they are more likely to give lower ratings to the applicant.

Theoretically, these results can be understood within the working memory and divided attention framework. The data suggests that participants engaged in more self-regulation and recalled less information about the applicant when the applicant had a stigma than when the applicant did not. Models of reactions to stigmas (Pryor et al., 2004) and negative stimuli (Fox et al., 2001; Hermans et al., 1999; Rinck & Becker, et al. 2006) suggest that individuals tend to think about the stigma and regulate their reactions (i.e., to look or not to look). However, controlling reactions to stigmas can be cognitively tasking. In particular, the data suggest that controlling attention can lead to depletion of self-regulatory resources and cognitive interference that affects memory.

First, controlling attention can lead to a depletion of self-regulatory resources, which are limited ((Baumeister et al., 1998; Muraven & Baumeister, 2000; Schmeichel,
Therefore, wanting or thinking about looking at a stigma, but trying not to look can lead to depletion. Second, looking at a stigma during an interview can lead to divided attention, because if the goal in interview is attend to the information from the applicant, the stigma can be a distraction. Because working memory is finite (Engle, 2002; Schmeichel, 2007; Schmeichel et al., 2003; Turner & Engle, 1989), allocating attention to the stigma can interfere with the information of the interview. Third, because the central executive is used for self-regulation and other acts, such as processing information, its use in one task undermines the immediate performance of a concurrent task (Baumeister et al., 1998; Muraven & Baumeister, 2000; Schmeichel et al., 2003). Therefore, self-regulation can also lead to divided attention because the act of self-regulation can divide attention.

It is through these aforementioned processes that physical stigmas can affect interview outcomes. Another goal of the current study was to examine a method of remediation, namely, acknowledging the stigma. However, no evidence was found in this study for effectiveness of acknowledgment on self-regulation, memory, and ratings of the applicants. Acknowledgment did affect the time course of gazing at the stigma – in the absence of acknowledgment, participants’ gaze would return to the stigma after a decrease of gaze.

The current study also contributes to the literature on visual attention and more specifically, attention to negative stimuli. A primary function of visual attention is the detection, analysis, and ability to synthesize objects appearing in the environment (Wolfe, 2000). The ability to synthesize visual scenes is accomplished through the use of saccades or series of rapid eye movements that are responsible for processing an entire
scene (Henderson, Falk, Minut, Dyer, & Mahadevan, 2001). Seeing a person with a stigma during an interview affects both 1) bottom-up attention, which directs the gaze to salient regions (i.e., something captures visual attention), such as a scar on a face, and 2) top-down attention, which enables goal-directed visual search (i.e., attention is given to something being searched), such as the verbal information from the applicant during the interview.

Research in social cognition, cognitive, and clinical psychology suggests that negative stimuli may be particularly salient regions that capture visual attention (Fox et al., 2001; Hermans et al., 1999; Ohman et al., 2001; Rinck & Becker, 2006). The results of the current study suggest that when viewing a face with a stigma, more attention is drawn away from internal regions of the face than when the face does not have a stigma. In fact, when a stigma is present, more visual attention was allocated to the stigma than the mouth, which is consistently found to be an important region of face perception (Mertens et al., 1993; Rayner, 1998; Stacey et al., 2005). Research not only shows that negative stimuli capture attention but negative stimuli also tend to produce stronger reactions than do positive stimuli (Peeters, 2002). That is, greater weight is given to negative events than positive events (Baumeister et al., 2001; Peeters, 2002). The brain reacts more strongly to negative stimuli (e.g., picture of mutilated face) than to positive stimuli (e.g., picture of ice cream), and therefore, the features of a stigma on a face can draw visual focus because individuals tend to place greater weight to negative stimuli (Cacioppo et al., 2004; Ito et al., 1998; Smith et al., 2003). As suggested by the current study, physical imperfections can be a distraction, which affects memory
The results of the current study revealed that the applicants without a stigma of physical imperfection were rated higher on physical attractiveness than the applicants with the stigma of a physical imperfection (i.e., scar and portwine stain), suggesting that physical attractiveness plays a role in the dynamics of stigmas in the interview. There is a rich body of literature that points to the importance of physical attractiveness for individuals in the workplace (Dipboye, 2005; Langlois et al., 2000; Frieze et al., 1991; Griffin & Langlois, 2006; Hosoda et al., 2003). Individuals who are physically attractive are more successful in the workplace (e.g., higher ratings, higher starting salaries, and more promotions) than individuals who are not physically attractive. Additionally, attractive individuals are perceived to be talented, kind, honest, and intelligent (Dion et al., 1972). Furthermore, research shows that there is consensus in who is labeled attractive, regardless of perceivers age, sex, race, and cultural backgrounds (Langlois et al., 2000). Attractive individuals—those who do conform to the norms for physical attractiveness—tend to have advantages over the less unattractive in various life domains including occupational success (Langlois et al., 2000).

In addition to the theoretical implications, these results have practical implications for human resource practitioners and methods of interviews. The current study demonstrates the stigma of physical imperfections on the face. The applicants with the stigma were rated as less attractive and received lower ratings from the participants. The effect of stigma might be stronger in face-to-face interactions. Not only might it be stronger, but there are also implications for the target (i.e., the stigmatized individual) because the target might be aware that perceiver is looking at their stigma (Hebl & Dovidio, 2005; Kleck & Strenta, 1980). Hebl and Dovidio (2005) argue that interactive,
face-to-face studies are needed that examine ongoing social interactions between perceivers and targets. Such research would lead to a better understanding of the reactions and behaviors of both the perceiver and the stigmatized target. A possible outcome is that the perceiver might be more motivated to not look at the stigma in fear that the stigmatized target is aware of the perceivers’ gaze. In response, the stigmatized target might feel discomfort, anxiety, or other emotions in response to the perceivers’ reactions (Kleck & Strenta, 1980; Shelton & Richeson, 2005).

A possible strategy to abate the effects of physical stigmas is the use of structure. Research has demonstrated that structuring employment interviews reduces bias, because using predetermined questions for every applicant produces an assessment of job candidates that is less open to interviewer bias (Campion et al., 1997). By using the same questions for all applicants the interviewer can gain the same the information from all applicants. Using structure might also draw attention to the content of interview and away from the applicants’ face. By drawing attention away from the applicant’s stigma, the interviewer might experience less regulation and divided attention.

Another implication is for the use of note taking, because the results point to the importance of interview memory. The relationship between stigma and ratings and visual attention and ratings were fully mediated by interview memory. The more information participants recalled, the more favorable the ratings. Therefore, methods to improve the recall of information might be successful in attenuating the biasing effects of stigmas, and research shows that note taking leads to more accurate recognition of information from interviews (Huffcutt & Woehr, 1999; Macan & Dipboye, 1994; Middendorf & Macan, 2002; Milia & Gorodecki, 1997). For example, in a study of note-taking on recall of
information and decisions, participants took notes and then recalled the information from videotaped employment interviews. The results showed that note-taking increased recall accuracy and the content of the notes also showed the benefits of recording notes using the key-points style.

Lastly, the data suggests that the stigma of physical imperfections might be a useful topic to cover in diversity training programs. Diversity training has become a common training program in many organizations as a means to effectively manage a diverse workforce. A recent survey found that up to 79% of organizations indicated that they use diversity training (Galvin, 2003). Research shows that when conducted properly, diversity training can succeed in enhancing communication, morale, productivity, and general organizational conditions (e.g., Bendick, Egan, & Lofhjelm, 2001; Chrobot-Mason & Quinones, 2002; Ellis & Sonnenfeld, 1992). Therefore, using diversity training to abate the effects of physical stigmas in the interview might be an effective method for organizations.

For stigmatized individuals, an implication is that acknowledging the stigma might be beneficial. The results showed that acknowledgment affected the pattern of visual attention to the stigma and consequently, affected memory. In particular, memory was lower in the time points in which visual attention on the stigma increased for the non-acknowledgment condition than for the acknowledgment condition. Thus, there are costs to perceivers’ memory when a stigmatized applicant does not acknowledge. The results showed that participants that viewed an applicant with a stigma that did not acknowledge could not stop looking at the stigma. Their visual attention would return to the stigma after looking away. The participants that viewed an applicant with a stigma
that did acknowledge decreased their visual attention to the stigma as time progressed. This finding is consistent with research that demonstrates the beneficial effects of acknowledgment (Hebl & Kleck, 2002; Hebl & Skorinko, 2004).

Thus, the results of the study showed that looking at an applicant with a physical imperfection during an interview led to less memory and lower ratings of the applicant. Therefore, organizations might attenuate the effects of facial stigmas by 1) employing structure in the interview process; 2) using note-taking during the interview; 3) including the stigma of physical imperfections in diversity training.

**Potential Limitations and Suggestions for Future Research**

This study used a novel method in industrial/organizational psychology by using eye tracking methodology, used experimental methods to draw cause and effect conclusions, used two types of facial stigmas (port-wine stain and scars) to examine idiosyncratic differences, and investigated individual differences to examine the effects of stigmas on the interview processes and outcomes. Furthermore, a strength and novel procedure of the current study was the use of an eye-tracker to examine stigmas in interactions. Although participants did not actively interact with the applicant, the procedures used were a first attempt to bring eye-tracking methodology into the social interaction paradigm; more specifically, how one is influenced by a stigmatized individual. Thus, this study goes beyond the typical face recognition paradigm used in eye-tracking studies (Mertens et al., 1993; Rayner, 1998; Stacey et al., 2005). While the current research makes meaningful contributions to understanding how stigmas affect
interview processes and outcomes, there are a few potential limitations that are important to acknowledge.

First, the use of students may be a limitation as this sample may have little experience in conducting interviews. Second, related to the first limitation is that the participant did not interact with the applicant, but rather listened to an interview while looking at a picture of an applicant. The reason for this procedure was because eye trackers cannot be used on actual, live people. Rather, the use of pictures was imperative to measure visual attention. Future research might examine physical stigmas in the interviews using live interactions and use videos to record facial reactions (although it would not be able to record visual attention). In addition to using videos, participants playing the role of the applicant might also complete self-reports of visual contact. Future studies could also target a community sample that is employed and has experience in the employment interview.

Third, this study found no evidence for the importance disgust sensitivity and empathy. Future research could test other potentially important individual differences. For example, another individual difference that has been used in the past studying disgust is perceived vulnerability to disease. Perceived vulnerability has beenliked to negative attitudes and beliefs toward individual with disabilities (Park et al., 2003).

Fourth, the stigma acknowledgment manipulation was not fully crossed with stigma manipulation. That is, the 2 (stigma: yes vs no) x 2 (acknowledgment: yes vs no) interaction was not testable. One cannot acknowledge a non-stigma, therefore, this cell was not used and tested. Perhaps future research might incorporate a design in which the type of stigma (i.e., controllable vs non-controllable) could be acknowledged or not, to
test why acknowledgment might abate the effect of stigma. Furthermore, future research might also be manipulated such that different information is acknowledged. This is important considering that individual who have stigma that are perceived to not be controllable are less likely to be stigmatized than those with controllable stigmas (Crocker et al., 1998). In addition, acknowledging that the stigma is not controllable is particularly effective in decreasing negativity toward stigmatized individuals (Hebl & Kleck, 2002).

Fifth and final, the use of one type of stigma might be a potential limitation. That is, although there are common characteristics of stigmas, not all stigmas are the same. As such, the process in which stigma affects the interview process might depend on the type of stigma. For example, race and gender are stigmas in which stereotypes might come into play and negatively affect the interview process. In the current study there were no effects of applicant gender on visual attention, but the female applicants were rated lower than male applicants, suggesting that stereotypes or attitudes might have played a role. However, I did not measure individual differences in attitudes toward women. The data of the current study also suggest that the stigma of physical imperfections (e.g., scar on face) might influence the interview at a visual level – that is, physical characteristics play a role in that they might be distracting to the interviewer, which was found in the current study.

In particular, the results suggest that participants’ attention was drawn to the stigma and it was difficult to ignore the stigma. Even under the acknowledgment condition, participants’ gaze at the cheek (where the stigma was placed) was higher than the control condition. Future research might also included measures of attitudes and
stereotypes of the stigma of physical imperfections, because there was a direct effect of stigma on memory as indirectly through visual attention. This suggests that attention does not fully mediate the stigma—memory relationship. Self-regulation plays a role in that viewing an applicant with a stigma leads to more regulation, however, because altitudinal or stereotype measures were not included, it is difficult to determine what roles attitudes and stereotypes might play. Future research might also included measures of attitudes and stereotypes of the stigma of physical imperfections. Future research might also examine if interactions with stigmatized individuals based on race, for example, also lead to more self-regulation, less information recall, and subsequently lower ratings.

Conclusions

Although the employment interview is one of the most widely used and researched methods for selecting employees, interview are not free from biases, and in fact, research shows that individuals who have stigmas often face discrimination in the employment interview (Dipboye, 1997; Dipboye & Colella, 2005). The purpose of the current study was to examine the process in which stigmas affect interview outcomes.

The results showed that participants that viewed an applicant with a stigma attended more to the stigma area and that visual attention to the stigma was related to more self-regulatory depletion and less memory recall. The data suggests that participants looking at applicants with a stigma during an interview regulated and experienced more divided attention than participants looking at applicants without a stigma. Furthermore, participants that looked at an applicant with stigma rated the applicant lower than participants that viewed an applicant without a stigma. The results also showed that the
relationship between stigma and applicant ratings was mediated by visual attention and memory of the interview. Acknowledgment from applicants interacted with time of visual attention affecting attention allocated to the stigma at different time points.

Taken together, the results of the current study suggest that understanding how the stigma of physical imperfections can affect interview outcomes is a dynamic process that includes self-regulation, divided attention, and memory. The results have clear implications for conducting interviews: 1) employing structure in the interview process; 2) using note-taking during the interview; and 3) including the stigma of physical imperfections in diversity training could abate the effects of physical stigmas in the interview.
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Appendix A

Transcript of Interview

[Instructions for participants: You are going to view a picture of an applicant that was interviewed by a recruiter. This interview was done via a computer-mediated interview. We are interested in how people react to computer-mediated interviews and how fixation, the lighting, and positioning of the computer screen can affect such interviews. You are going to view a picture of the applicant on the computer screen while listening to information from the applicant detailing their work experience. You will then have to recall the information from the interview.]

Interview Transcript

**Recruiter** -

“Hi, my name is Dan and I am the recruiter that will interview you. I am going to ask you a series of questions about such topics as situations, past behaviors, and your background and knowledge. Please tell me your name.”

**Applicant** -

“My name is (Michael or Michelle) Worth. I am an MBA student at the Jones School of Management at Rice University. I am in my second year; my concentration is in marketing.”

**Recruiter** -

“Now tell me a little bit about yourself. For example, tell me about a challenge you have faced.”
Applicant -

Stigma condition:

“I’ve had this scar on my face since birth, but I don’t let it get in my way. I have accepted it and it doesn’t impede me from doing a good job at whatever task I have at hand. I would also say that I didn’t go to a super great undergraduate institution; I mean it certainly wasn’t on par with Rice, and probably as a function my first year grades were not the top of the class, but I am certainly on track now and I am a hard worker and that’s what matters.”

No stigma condition:

“I would say that I didn’t go to a super great undergraduate institution; I mean it certainly wasn’t on par with Rice, and probably as a function my first year grades were not the top of the class, but I am certainly on track now and I am a hard worker and that’s what matters.”

Recruiter –

“Okay, thank you. Now tell me about marketing and why it is important.”

Applicant -

“Simply stated, marketing is everything you do to place your product or service in the hands of potential customers. It includes diverse disciplines like sales, public relations, pricing, packaging, and distribution.

Marketing is your strategy for allocating resources – that is, time and money – in order to achieve your objectives. Yet the most brilliant strategy will not help you earn a profit or achieve your wildest dreams if it isn't built around your potential customers. Though it
may feel counter-intuitive, marketing doesn't begin with a great idea or a unique product but with customers -- those people who want or need your product and will actually buy it.”

**Recruiter**

“I will now ask you a Situational Question: Suppose you were giving a sales presentation and a difficult technical question arose that you could not answer. What would you do?”

**Applicant** –

“If I didn’t know the answer I would remain calm and simply state that I do not have the answer at hand, however that it wouldn’t be a problem to find out. I would emphasize that I am proactive and that I would figure it out.”

**Recruiter** –

“Okay, great. I will now ask you a Past Behavioral Question: Can you provide an example of a specific instance where you developed a sales presentation that was highly effective?”

**Applicant** –

“I was an intern for Alexandria Consulting – which is a marketing consulting firm based in Virginia. My duty was to present an advertising sales presentation for the director of advertising. This presentation was for a shopping mall that was out in the suburbs beyond Lafayette. There were three problems that we had to resolve: The shopping mall was new, but it had a bad location because it was outside of major residential areas. The marketing budget was low. The people leasing the spaces at the mall didn’t believe that advertising would work. So, to resolve these problems I came up with a way to do an effective but an inexpensive way to advertise for the mall. First, I proposed that all the
stores contribute an equal percentage of money for advertising based on their earnings – so the bigger, more lucrative stores contributed more money. I was able to get the stores to contribute a low-risk amount of money. Second, I proposed that we put a map in the middle of the advertisement so that potential customers would know where to go and realize that the new shopping mall wasn’t as far away as they thought it was. All the stores leasing the spaces were satisfied. They invested a low-risk amount and got a lot in return. In the end, the advertising worked. This advertising campaign was successful and brought in more customers.

**Recruiter –**

“I will now ask you a Background Question: What work experiences, training, or other qualification do you have for working in a teamwork environment?”

**Applicant -**

“Well, within the MBA program I am in, everyone works within teams. We don’t just form a single team - instead I am part of multiple teams for different projects and classes. So in my formal education, I have been involved with teams. As a current intern for the Texans I work within teams as well. For example, our duties include organizing autograph sessions. We also organize the pre-game and post-game shows. These duties require the use of team – not individuals. So, for example, the half-time shows usually involve 200 to 300 people, and we have to synchronize the timing so that they can all go out at the same time. That type of duty requires a team not a single individual.”

**Recruiter –**

“Okay, thank you. Now I am going to ask you about your Job Knowledge: What factors should you consider when developing a television advertising campaign?
Applicant -

"The most important factor is to communicate the benefits of the product and the mission and value of the brand and the firm. However, most advertisers don’t do this. You must consider the benefits of the product you are trying to sell. You must integrate this with the image of the firm. For example, Volvo is associated with safety, which is their most important benefit. So every time people think of Volvo, they also think of safety. You must take all of this into consideration to create the association. There are three Ps that you must always consider: Product, Price, and People. You must match the product to the people but you must also set a price that those people will like. If the price is too high people will not buy it but if it’s too low, people will think it’s a poor product; you have to set a price that is a happy medium between the two. It all comes down to integrating the product, price, and people to have a successful campaign."

Recruiter –

"Ok, I have a few more questions. How has this MBA program prepared you for a job in marketing?"

Applicant -

"As I mentioned before, we work in teams for class projects. Working in teams has helped me refine my interpersonal skills and my communication skills. The MBA program provides a challenging environment with multiple class projects and teams. I have to coordinate my time with my team members’ time. I also have to learn to balance my school time with the time I spend at work. On any given day, I have to meet with two teams, prepare a study case, and attend class. After this I go to work where I meet with more team members, prepare a technical case, and organize an autograph session. So this
MBA program keeps me very busy. My current internship with the Texans also keeps me busy and has provided me with a lot of experience.”

**Recruiter –**

“I see that in your resume you indicate that you are seeking marketing as a career. Why did you choose marketing as a career?”

**Applicant -**

“I have always been interested in advertising and how companies try to persuade others to buy their products. I always look out for new and innovative TV commercials. I also try to figure out their marketing plan by just looking at TV commercials or magazine ads. For example, my favorite commercials are from Coca Cola – they use a lot of celebrities for their commercials to persuade people to buy their product. They do a great job of using celebrities to target a wide range of customers. They also do ads in Spanish with Latin celebrities from Latin American countries like Penelope Cruz and Salma Hayek. They do this because they know they have to compete with Pepsi – who also uses celebrities, like Britney Spears & Missy Eliot. Marketing is also a type of job where you can interact with other people and not just sit behind a desk. Marketing involves a lot of teamwork.”

**Recruiter –**

“Okay, Michael. Thank you for your time. You did a fine job.”

**Applicant -**

Thank you.
Appendix B

Disgust Sensitivity Scale: Items 1 through 18

Empathy Scale: Items 19 through 32

<table>
<thead>
<tr>
<th>Please indicate the extent to which you agree or disagree with the following statements by marking over the number to the right.</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am comfortable sharing a water bottle with a friend.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. I suffer quite intense symptoms when I do get sick.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. It really bothers me when people sneeze without covering their mouths.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I don't like to write with a pencil someone else has obviously chewed on.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. My past experiences make me believe I am not likely to get sick even when my friends are sick.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. I prefer to wash my hands pretty soon after shaking someone's hand.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. I dislike wearing used clothes because you don't know what the past person who wore it was like.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. If an illness is 'going around', I will get it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. I don't worry about contamination if I touch an animal.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. In general, I am very susceptible to colds, flu, and other infectious diseases.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. I think day care centers are breeding grounds for bacteria and germs.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. I am more likely than the people around me to catch an infectious disease.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. My hands do not feel dirty after touching money.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. I am unlikely to catch a cold, flu, or other illness, even if it is going around.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. It does not make me anxious to be around sick people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. My immune system protects me from most illnesses that other people get.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17. I avoid using public telephones because of the risk.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
that I may catch something from the previous user.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>18. I have a history of susceptibility to infectious diseases.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19. I am concerned about others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20. I feel sympathy for those who are worse off than myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>21. I sympathize with the homeless.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>22. I believe that criminal should receive help rather than punishment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>23. I believe the poor deserve our sympathy.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>24. I am deeply moved by others’ misfortunes.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>25. I feel little concern for others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>26. I have no sympathy for criminals.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>27. I look down on weakness.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>28. I don’t like to get involved in other people’s problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>29. I have little sympathy for the unemployed.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>30. I don’t fall for sad-stories.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>31. I listen to my brain rather than my heart.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>32. I believe people should fend for themselves.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

33. What is your gender? (Please circle)

   (1) Male   (2) Female

34. What is your ethnicity? (Please circle)

   (1) White   (2) Black   (3) Hispanic   (4) Asian   (5) Other

35. What is your age? __________
Appendix C

Rating Scale of Applicant

<table>
<thead>
<tr>
<th>Please indicate the extent to which you agree or disagree with the following statements about applicant from the interview.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. This applicant has impressive experiences.</td>
<td><strong>Strongly Disagree</strong> (1)</td>
<td><strong>Disagree</strong> (2)</td>
<td><strong>Neither Agree nor Disagree</strong> (3)</td>
<td><strong>Agree</strong> (4)</td>
<td><strong>Strongly Agree</strong> (5)</td>
</tr>
<tr>
<td>2. This applicant would make a good employee.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. This applicant will receive many job offers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I am not impressed by this applicant.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. I feel that this applicant will have a hard time finding a job.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. I don’t think this applicant has enough job experiences.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. This applicant seems smart.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. This applicant is suitable for a low-level entry position.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Appendix D
Manipulation Check and Meta-Perception Scale

Please indicate the extent to which you agree or disagree with the following statements about picture by circling the number to the right.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. &quot;I was thinking about NOT looking at the blemish on the face but I did look at it&quot;</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>B. &quot;I was thinking about NOT looking at the blemish on the face and I did NOT look at it&quot;</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>C. &quot;I was thinking about looking at the blemish on the face but I did NOT look at it&quot;</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>D. &quot;I was thinking about looking at the blemish on the face and I did look at it&quot;</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Please indicate the extent to which you agree or disagree with the following statements about picture by circling the number to the right.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. There was a blemish on the face.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. The applicant acknowledged a blemish.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. I couldn’t concentrate to the information because of the scar on the face.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I feel that I missed some of the information because of the scar on the face.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. The scar on the face was disgusting.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. The scar on the face made feel gross.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. The applicant was attractive.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. The applicant was “good looking.”</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>INSTRUCTIONS: We are interested to see how much you can recall about the interview. Please answer the following questions about the interview.</td>
<td></td>
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</tr>
<tr>
<td><strong>1.</strong> What was the name of the interviewer? (Please circle)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Michael   (b) Dean   (c) Michelle   (d) Dan   (e) Mike   (f) Dana</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(g) Don</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>2.</strong> What was the last name of the interviewer? (Please circle)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>(a) Worthom   (b) Wilth   (c) Worth   (d) Walsh   (e) Welsh   (f) Worley</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(g) Did not say</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>3.</strong> What was the name of the applicant? (Please circle)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Michael   (b) Dean   (c) Michelle   (d) Dan   (e) Mike   (f) Dana</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(g) Don</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>4.</strong> What was the last name of the applicant? (Please circle)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Worthom   (b) Wilth   (c) Worth   (d) Walsh   (e) Welsh   (f) Worley</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(g) Did not say</td>
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<tr>
<td><strong>5.</strong> What degree is the applicant seeking? (Please circle)</td>
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<tr>
<td>(a) MS   (b) MCE   (c) MA   (d) DMA   (e) MBA   (f) MCAM   (g) MSE</td>
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<tr>
<td>(h) Did not say</td>
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<tr>
<td><strong>6.</strong> What is the applicant’s school? (Please circle)</td>
<td></td>
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<tr>
<td>(a) Texas A&amp;M   (b) University of Houston   (c) Rice University</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d) Tulane University   (e) UT-Austin   (f) University of St. Thomas</td>
<td></td>
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<td></td>
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<td></td>
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<tr>
<td>(g) Did not say</td>
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<tr>
<td><strong>7.</strong> Where did the applicant go as an undergraduate? (Please circle)</td>
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<tr>
<td>(a) Texas A&amp;M   (b) University of Houston   (c) Rice University</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d) Tulane University   (e) UT-Austin   (f) University of St. Thomas</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(g) Did not say</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>8.</strong> How many questions did the interviewer ask the applicant? (Please circle)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>(a) Five   (b) Six   (c) Seven   (d) Eight   (e) Nine   (f) Ten   (g) Eleven</td>
<td></td>
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<td></td>
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<tr>
<td><strong>9.</strong> All of the following “types” of questions were asked except for one; which type was not asked?</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>(a) Situational question   (b) Past Behavioral question   (c) Background question</td>
<td></td>
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<tr>
<td>(d) Job Knowledge question   (e) Future Behavioral question   (f) none of the</td>
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</tbody>
</table>
| 10. | In what city did the applicant complete an internship that dealt with a shopping mall?  
(a) Houston  
(b) San Antonio  
(c) New Orleans  
(d) Lafayette  
(e) Coldspring  
(f) Lake Charles |
| 11. | In which state is the consulting firm based?  
(a) Virginia  
(b) Texas  
(c) Louisiana  
(d) Illinois  
(e) Vermont  
(f) Alabama |
| 12. | What was the name of the consulting company that the applicant worked for as intern?  
(a) Avery  
(b) Arlington  
(c) Alexandria  
(d) Argyle  
(e) Afton  
(f) Alton |
| 13. | When giving an answer to a question, the applicant mentioned that as part of an internship the applicant gave a presentation about a shopping mall - who did the applicant present to? (Please circle)  
(a) Director of Marketing  
(b) Director of Sales  
(c) Director of Finance  
(d) Director of Business  
(e) Director of Community Sales  
(f) Director of Advertising  
(g) Director of Regional Sales |
| 14. | When giving a presentation about a shopping mall – the applicant said there was what problem with the shopping mall?  
(a) Old mall and bad promotion  
(b) Old mall but good location  
(c) New mall but bad financing  
(d) Old mall but good promotion  
(e) New mall but bad location  
(f) Old mall and bad location  
(g) New mall but bad promotion  
(h) Old mall and bad financing |
| 15. | When asked why marketing is important, the applicant responded that marketing begins with what?  
(a) “customers”  
(b) “a unique product”  
(c) “a great idea”  
(d) “a plan”  
(e) “a budget”  
(f) “a simple product”  
(g) “money” |
| 16. | When asked what is marketing, the applicant responded that marketing includes all of the following business disciplines except for  
(a) sales  
(b) public relations  
(c) pricing  
(d) packaging  
(e) distribution  
(f) communication  
(g) none of the above |
<p>| 17. | When asked about developing a television advertisement, the applicant gave an |</p>
<table>
<thead>
<tr>
<th>Example of what product? (Please circle)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Pepsi  (b) Coca Cola  (c) Sprite  (d) Volvo  (e) Ford  (f) Honda</td>
</tr>
<tr>
<td>(g) All of the above</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>18. According to the applicant, what are the “three Ps”?</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Product, Price, and People  (b) Product, Price, and Place</td>
</tr>
<tr>
<td>(c) Product, Place, and People  (d) Price, Promotion, and People</td>
</tr>
<tr>
<td>(e) Product, Promotion, and Place  (f) Product, Price, and Promotion</td>
</tr>
<tr>
<td>(g) People, Product, and Promotion</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>19. According to the applicant, working in teams has helped refine the applicant’s:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) interpersonal and leadership skills  (b) interpersonal and communication skills</td>
</tr>
<tr>
<td>(c) interpersonal and team skills  (d) social and interpersonal skills</td>
</tr>
<tr>
<td>(e) leadership and communication skills  (f) team and communication skills</td>
</tr>
<tr>
<td>(g) social and team skills</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>20. The applicant is a current intern for what professional sports team?</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Houston Astros-Baseball  (b) Houston Aeros-Hockey  (c) Houston Rockets-Basketball</td>
</tr>
<tr>
<td>(d) Houston Dynamo-Soccer  (e) Houston Texans-Football  (f) none of the above</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>21. When describing TV commercials, which two celebrities did the applicant mention?</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Jessica Simpson &amp; Penelope Cruz  (b) Mandy Moore &amp; Missy Eliot</td>
</tr>
<tr>
<td>(c) Britney Spears &amp; Jessica Simpson  (d) Jessica Simpson &amp; Missy Eliot</td>
</tr>
<tr>
<td>(e) Mandy Moore &amp; Penelope Cruz  (f) Britney Spears &amp; Missy Eliot</td>
</tr>
</tbody>
</table>
Footnotes

1 In a visual probe detection task, participants are shown a pair of stimuli for a short time at two different spatial locations on a screen. One of the stimuli is negative, the other stimulus is neutral. After the offset of these stimuli, a dot probe emerges at the location of the negative stimulus (congruent presentation) or at the location of the neutral stimulus (incongruent presentation). The allocation of attention is measured by the time needed to respond to the dot probe. It is reasoned that responding to the probe will be faster when attention is already allocated to the spatial location where the probe appears. Most probe detection studies found indeed that anxious individuals respond faster to congruent trials than to incongruent trials (congruency effect). This finding is interpreted as vigilance for threat.

2 Bias scores were calculating by subtracting the mean response time (RT) when probes were in the same location as the threat scenes, from the mean RTs when they were in the opposite location.

3 Sternberg (1985) characterized executive functioning as the planning, monitoring, and revision of information processing. Baddeley’s (1986, 1996; Baddeley & Hitch, 1974) working memory (WM) model is also a major contribution to theories of active cognitive control. The WM system has three parts. The most essential part is the central executive, which controls cognitive resources and monitors information processing. The central executive is served by two slave systems, the visuospatial sketchpad and the phonological loop; the former deals with visuospatial information and mental images, and the latter stores and rehearses verbal information. Crucially, the slave systems require little
guidance and can operate automatically, whereas the central executive requires controlled processes and is resource dependent. Hence, some forms of thought, specifically higher order cognitive processes, require executive functioning and active self-regulation.

4 I pretested the transcript of the applicant’s job experience to assure the candidate is rated as a “good” candidate for the job.

5 I pretested the acknowledgment manipulation so that the acknowledgment is perceived to present the job candidate as well adjusted and that the stigma is uncontrollable (i.e., birthmark).

6 The visual angle in degrees is the size of an image on the retina.

7 An alternative approach would be to do an MANOVA with stigma the independent variable and visual attention, Stroop time, memory, and applicant ratings as the dependent variables for the sub-sample of stigma-no acknowledge and the control group. Using Wilks’ multivariate criterion, the combined dependent variables were significantly affected by stigma ($\lambda = .42; p < .05; \eta^2 = .58$). The univariate results showed a main effect of stigma on visual attention, $F(1, 113) = 131.7, p < .05, \eta^2 = .58$; interview memory, $F(1, 113) = 43.2, p < .05, \eta^2 = .28$; on applicant ratings, $F(1, 113) = 3.9, p < .05, \eta^2 = .04$; and interview memory, $F(1, 113) = 9.8, p < .05, \eta^2 = .08$. The means were the same as the means for the contrast analyses.

8 I used an average rather than the sum to control for the difference in the number of items.

9 The ANOVA was based on the participants that has an applicant with a stigma, $N = 57$ for female and $N = 55$ for male participants. The pattern of results remains the same if the control group (i.e., no stigma) is included.