The current study explored the course, risk and mortality salience of a specific disability (N=242). Four job candidates were presented with varying forms of that disability; yet the results indicated ratings of work-related variables changed depending upon perceived dimensions (course and risk) of the candidates’ disability. Furthermore, findings demonstrated a difference in perceived trainability and absenteeism when mortality was made salient. Implications reveal the potential importance of using a dimensional approach to studying individuals with a disability and relevant consequences for organizations when the course, risk or mortality of the disability is made salient.

INTRODUCTION

Despite several legislative attempts by the Department of Justice, such as the Americans with Disabilities Act (ADA), to assure equal access to and equality in the workplace for individuals with disabilities, significant disadvantages in employment opportunities are evident. The unemployment rate (13.4%) for individuals with a disability was nearly double the rate (7.9%) for individuals with no disability (Bureau of Labor Statistics, 2013). Furthermore, of the 23.1 million individuals with a disability, 80.5% reported their own disability as a barrier to employment (Bureau of Labor Statistics, 2013). Previous research exploring discrimination against individuals with disabilities has predominately looked at disabilities by examining disability type or broad disability categories. However, these studies cannot explain why two individuals with a particular disability might be treated differently. A transition in the literature has focused more on the features or dimensions of a disability which contribute to negative stereotypes towards persons with a disability. Stone and Colella (1996) proposed a model of six dimensions, which might influence the perceptions of persons with disabilities. Thomas (2001) followed with an empirical examination that found three dimensions underlying perceptions of individuals with disabilities. More recently, Santuzzi, Waltz, Finkelstein, and Rupp’s (2014) focal article sparked a debate regarding the influence of one specific disability dimension of note; visibility. Taken together, these studies/debates suggest disability dimensions may provide an informative platform to better understand why individuals with disabilities continue to face bias and discrimination.
Dimensions of the Disability and Perceived Closeness to Death

Stone, Stone, and Dipboye (1992) considered why one specific dimension of a disability might cause employers to form a negative opinion toward individuals with a disability. Their notion was that when certain disabilities are perceived as uncontrollable, an observer feels more vulnerable to death. Thomas (2001) noted the course of the disability is “best characterized as closeness to death” (p. 4). Similarly, Hahn (1988) also noted the formation of prejudicial attitudes might originate from the perception that individuals perceived to be closer to death violate cultural norms and values and this perceived violation leads to the idea that the threat of a permanent and debilitating disability makes death more salient. Implications are that the closer to death a person with a disability is perceived to be, the more negative the response toward the individual with the disability. Researchers (Hahn, 1988; Stone et al., 1992; Thomas, 2001) have noted the perception of certain disability dimensions may elicit a negative reaction toward individuals with a disability due to the perceived susceptibility to death. Though there is limited research looking at this relationship specifically for disabilities, there is considerable research on attitude formation when death is made salient.

Death Awareness

Death awareness is often referred to as mortality salience and operationalized as the realization that one is mortal (Stein & Cropanzano, 2011). The death awareness studies were born out of the terror management theory that describes an innate response for survival. Greenberg and Arndt (2012) explained that humans are armed with a fight-or-flight response and an awareness of the inevitability of death. These responses, in turn, lead humans to contemplate their own mortality and make them vulnerable to certain undesirable behaviors and attitudes when interacting with something or someone who causes mortality to become salient. Those undesirable behaviors include but are not limited to in-group bias (Fritsche, Jonas, and Frankhanel, 2008), adherence to norms (Gailliot, Stillman, Schmeichel, Maner, and Plant, 2008), increased use of stereotypes (Schimel et al., 1999), and negative attitudes towards individuals with a disability (Ben-Naim, Aviv, and Hirschberger, 2008).

Mortality salience increases our need to validate our cultural worldview by positively evaluating those who reinforce it and negatively evaluating those who threaten it. In doing so, we create a sense of an anxiety buffer which gives us meaning, order, and a stable conception of reality (Schimel et al., 1999). When confronted with others who share our worldview, our ideals are strengthened; and conversely, when confronted with others who do not share the same worldview, we perceive a threat (McGregor et al., 1998). Mortality salience may lead to prejudicial attitudes and behaviors against persons with disabilities due to the violation of our worldview because of the constant reminder of the fragility of our mortality.

Disability Dimensions Linked to Mortality Salience

As mentioned, there is limited research exploring the relationship between disability dimensions and mortality salience. However, researchers (Hahn, 1988; Stone et al., 1992; Thomas, 2001) have noted that certain disability dimensions may elicit a negative reaction toward individuals with a disability due to the perceived susceptibility to death. Sher, Wilson, Thomas, and Deuling (under review) used a modified policy capturing technique to identify which of the various nine disability dimensions from Stone and Colella (1996) and Thomas (2001) were most closely associated with death. Two dimensions most predictive of an association with death were course and risk. The course of a disability, originally identified by Stone and Colella (1996), refers to the progressive and irreversible nature of the disability. The more progressive or chronic the disability is the more negative the perception of that individual with the disability will be. Risk, originally identified by Thomas (2001), characterized the unknown aspect of the disability and encompasses the perceived peril, contagiousness, causality, and work longevity.

If dimensions of a disability are perceived to be close to death, and mortality is made salient, predictive behaviors and attitudes such as bias against out-groups, adherence to in-groups, use of stereotypes, and negative attitudes are evident (Ben-Naim et al., 2008; Fritsche et al., 2008; Gailliot et al., 2008; Schimel et al., 1999). By using the disability dimensions identified by Sher et al. (under review),
the current study sought to explore how mortality salience effects work-related variables such as initial salary compensation, hireability, dependability, trainability and predicted absenteeism.

Based on previous mortality salience research findings (Ben-Naim et al., 2008; Fritsche et al., 2008; Gailliot et al., 2008; Schimel et al., 1999), we predict that participants primed with thoughts of death would exhibit more bias towards candidates by assigning different initial salary compensation, and different ratings for hireability, trainability, dependability and absenteeism when compared to participants who were not primed with thoughts of death. Second, we predict that candidates disability dimension conditions, operationalized as either high or low course and high or low risk, would also effect evaluations resulting in assignment of different initial salary compensation, and different hireability, trainability, dependability and absenteeism ratings when compared to candidates whose disability dimension condition was perceived not close to death (e.g. course of that disability is perceived to be acute and curable and risk of that disability is perceived to be low). Third, we predict that a job perceived to be higher in mortality salience (e.g. hospice nurse) would result in different initial salary compensation, different hireability, trainability, dependability and absenteeism ratings when compared to a job perceived to be low in mortality salience (e.g. neonatal nurse).

METHOD

Participants

Participants (N=241) were recruited from Amazon’s Mechanical Turk master workers, and received $3.00 for their participation. Forty-four percent of the sample were men, the mean age of the participants was 35.0 (SD = 10.9), and the ethnicity of the participants was 76% White, 9% Asian/Pacific Islander, 8% Black, and 6% Hispanic/Latino. Education of the participants was as follows: 39% Bachelor’s degree, 26% had some college but no degree, 15% Associate degree, 11% high school diploma or the equivalent, 8% graduate degree.

Procedure

Participants completed a demographics questionnaire and were randomly assigned to either the control group or mortality salience group. They were informed that they were acting as a hiring official for a large hospital and asked to review four potential candidates for two open positions. Each participant was presented a resume and letter of recommendation for each of the candidates. They were subsequently presented two job descriptions and asked to assign an initial salary compensation, and assess the hireability, trainability, dependability, and concern of potential absenteeism for each candidate.

Measures

The hireability, trainability, dependability, and concern of absenteeism were measured with a Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). Initial salary compensation was manually typed in and ranged from $59,000 to $72,800 (range was derived from O*Net). Each of the candidates had the same resume template (GPA, work experience, interests, extracurricular activities, and awards) and an accompanying letter of recommendation which was written from simulated case workers from Cancer Treatment Centers of America. Each of the four job candidates had varying forms of breast cancer and the participants were told the candidates were patients of the Cancer Treatment Centers of America. This allowed us to present the disability without raising suspicion to the nature of the study as well as provide us with a platform to manipulate the disability dimensions. The letter of recommendation further contained a manipulation of the two disability dimensions, course and risk. Verbiage for course and risk were the same but counterbalanced so the participants would be exposed to each of the four different conditions: high course/high risk (HH), low course/high risk (LH), high course/low risk (HL), and low course/low risk (LL). The exact stimulus materials are available upon request from the first author.

The job descriptions also included a manipulation of mortality salience as one job was for a neonatal nurse (low mortality salience) and the second job was for a hospice nurse (high mortality salience). Each
of the two job descriptions were produced from the same template and only differed in the content of the job description.

Finally, the mortality salience manipulation was similar to the manipulations used in previous death awareness studies (Ben-Naim et al., 2008; Gailliot et al., 2008). Participants in the control group wrote a short essay about an experience they have had with dental pain, and participants in the mortality salience group wrote a short essay about the thoughts their own death evoked. Participants wrote their respective essays prior to evaluating the job descriptions and four job candidates (resumes/letters of recommendation).

**Design**

A 2 X 4 X 2 repeated measures, mixed design was used. The between-subjects factor was the mortality salience manipulation. The first within-subjects factors were the four conditions of the disability dimensions (course and risk), which were categorized as high course/high risk (HH), low course/high risk (LH), high course/low risk (HL), or low course/low risk (LL). The second within-subjects factors were the two jobs (neonatal nurse position and the hospice nurse position). There were five outcome variables: initial salary compensation, hireability, trainability, dependability, and absenteeism.

**RESULTS**

First, we predicted that participants in the mortality salience condition would exhibit the highest level of bias against the candidates when compared to the control group. Five 2 (MS vs. dental pain) X 4 (conditions of course and risk: high/high, low/high, high/low, and low/low) X 2 (job: hospice vs. neonatal) repeated measures ANOVAs were conducted (salary compensation, hireability, trainability, dependability, and absenteeism). There were no significant main effects for the mortality salience manipulation; however, there were significant interactions that will be discussed later.

Second, we predicted that participants would assign different initial salary compensations and different ratings of hireability, trainability, dependability, and absenteeism to candidates whose disability dimensions were perceived to be closer to death. There was a significant main effect for the disability dimension conditions on all of the dependent variables: initial salary compensation, \( F(3, 219) = 7.13, p < .01 \), hireability \( F(3, 244) = 33.77, p < .01 \), trainability \( F(3, 244) = 13.48, p < .01 \), dependability \( F(3, 224) = 115.34, p < .01 \), and absenteeism \( F(3, 224) = 69.17, p < .01 \). Generally speaking, the mean for the least stigmatizing condition, low course and low risk was higher than the mean for the most stigmatizing condition, high course and high risk, depicted in Figures 1-3. See Table 1 for all the means and standard deviations.
### TABLE 1
DESCRIPTIVE STATISTICS FOR OUTCOME MEASURES

<table>
<thead>
<tr>
<th>Outcome Measure</th>
<th>Hospice Position</th>
<th>Neonatal Position</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Course/Risk N</td>
<td>Mean SD</td>
</tr>
<tr>
<td>Initial Salary Compensation</td>
<td>HH 231 62,263  4,530</td>
<td>231 62,029  4,402</td>
</tr>
<tr>
<td></td>
<td>LH 232 63,145    3,518</td>
<td>231 62,733  3,528</td>
</tr>
<tr>
<td></td>
<td>HL 231 63,136    5,425</td>
<td>231 62,739  4,338</td>
</tr>
<tr>
<td></td>
<td>LL 231 63,699    3,889</td>
<td>232 63,241  3,899</td>
</tr>
<tr>
<td>Hireability Ratings</td>
<td>HH 232 4.93    1.40</td>
<td>232 4.63   1.56</td>
</tr>
<tr>
<td></td>
<td>LH 233 5.66     1.01</td>
<td>233 5.32   1.26</td>
</tr>
<tr>
<td></td>
<td>HL 231 5.35     1.33</td>
<td>231 4.93   1.48</td>
</tr>
<tr>
<td></td>
<td>LL 232 5.89     .93</td>
<td>232 5.47   1.19</td>
</tr>
<tr>
<td>Trainability Ratings</td>
<td>HH 232 5.72    1.20</td>
<td>232 5.49   1.20</td>
</tr>
<tr>
<td></td>
<td>LH 233 6.07     .95</td>
<td>233 5.87   1.04</td>
</tr>
<tr>
<td></td>
<td>HL 231 5.91     1.11</td>
<td>231 5.68   1.23</td>
</tr>
<tr>
<td></td>
<td>LL 232 6.17     .87</td>
<td>232 5.96   1.09</td>
</tr>
<tr>
<td>Dependability Ratings</td>
<td>HH 232 4.01    1.55</td>
<td>232 3.97   1.55</td>
</tr>
<tr>
<td></td>
<td>LH 233 5.12     1.35</td>
<td>233 5.05   1.39</td>
</tr>
<tr>
<td></td>
<td>HL 231 5.14     1.57</td>
<td>231 5.07   1.60</td>
</tr>
<tr>
<td></td>
<td>LL 232 6.01     .99</td>
<td>232 5.94   1.06</td>
</tr>
<tr>
<td>Absenteeism Ratings</td>
<td>HH 232 4.57    1.63</td>
<td>232 4.49   1.62</td>
</tr>
<tr>
<td></td>
<td>LH 233 3.67     1.64</td>
<td>233 3.70   1.68</td>
</tr>
<tr>
<td></td>
<td>HL 231 3.46     1.83</td>
<td>231 3.50   1.85</td>
</tr>
<tr>
<td></td>
<td>LL 232 2.56     1.67</td>
<td>232 2.56   1.63</td>
</tr>
</tbody>
</table>

The third hypothesis predicted that participants would assign different initial salary compensation, hireability, trainability, dependability, and absenteeism ratings for the job closest to death, or higher in mortality salience (hospice nurse) when compared to the neonatal nurse job. There was a significant main effect for job on initial salary compensation, hireability, trainability, and dependability ($F (1, 221) = 7.62, p<.01$, $F (1, 226) = 67.52, p<.01$, $F (1, 226) = 43.40, p<.01$, $F (1, 226) = 8.65, p<.01$). As you can see in Figures 1-3, the means for the Hospice position were higher than the means for the Neonatal position on each outcome variable. See Table 1 for all the means and standard deviations.
As previously mentioned, there was a significant interaction between the disability dimensions (course and risk) and the mortality salience manipulation on trainability \( (F (3, 224) = 13.48, p < .01) \), see Figure 4. Additionally, there was a significant three-way interaction between the disability dimensions (course and risk), the mortality salience manipulation, and the job on absenteeism \( (F (3, 224) = 2.68, p = .048) \), see Figures 5 and 6. Obviously, where there were significant interactions noted, the previously discussed main effects (and lack of main effects) are less important and the interactions should be interpreted instead.
FIGURE 4
DISABILITY DIMENSION AND MORTALITY SALIENCE INTERACTION ON TRAINABILITY

FIGURE 5
DISABILITY DIMENSION, MORTALITY SALIENCE, AND JOB INTERACTION ON ABSENTEEISM FOR CONTROL GROUP
DISCUSSION

Results of this study were largely consistent with previous mortality salience research that indicated that when thoughts of death were made salient, defensive reactions such as prejudicial ratings were exhibited (Ben-Naim et al., 2008; Hoyt, Simon, and Reid, 2009; Schimel et al., 1999). Additionally, the results may strengthen the argument for disability research to focus on underlying dimensions rather than the type of a disability (Hahn, 1988; Stone & Colella, 1996; Stone et al., 1992; Thomas, 2001). This is especially important considering evaluations of workplace variables, such as salary, who to hire or train, and perception of dependability and issues of absenteeism changed depending on the perception of underlying dimensions of that disability while disability was held constant. Previous researchers found evidence of prejudice and preference for certain disability types over other disability types (Drehmer & Bordieri, 1985; Nordstrom, Huffaker, & Williams, 1998); however, the question of why two individuals with the same disability type are evaluated differently remains unanswered. All of the job candidates in our study had the same disability type, namely breast cancer. With the manipulation of the underlying dimensions, we were able to examine how candidates with the same type of disability were evaluated differently. Just as Thomas (2001) found three distinct dimensions to be more predictive of workplace criteria than disability type, we have demonstrated the difference in work-related evaluations based on the underlying attributes or dimensions of a disability. The results of our study reveal a more informative platform from which bias against individuals with a disability can be studied.

Our first hypothesis, which posited that the assignment of an initial salary compensation as well as ratings of hireability, trainability, dependability, and absenteeism changed depending on whether the participant wrote about death or dental pain was partially supported. Participant’s ratings of how trainable they perceived the job candidates to be was significantly different in the mortality salience group compared to the control group, see Figure 4. As expected, those who were in the control group perceived
the candidates to be more trainable than the mortality salience group in all but one condition. These results are similar to Ben-Naim et al. (2008), who found that evaluations are more negative when mortality is made salient. Additionally, participants in the mortality salience group rated candidates high in course and high in risk the least trainable and candidates’ low in course and low in risk the most trainable, see Figure 4. This makes intuitive sense as the high course and high risk condition is the most stigmatizing and the low course and low risk condition is the least stigmatizing. Our results compliment Stone and Colella’s (1996) prediction that individuals with a progressive cancer (course of a disability) are more likely to be stereotyped as undesirable due to the possible perception of low energy and ability levels. It is possible this perception contributed to the lower trainability ratings in our study. Interestingly, participants who were in the control group rated the candidates in the high course and high risk as well as low course and high risk condition much lower than those in the other two conditions. This raises the question of whether the dimension of risk (as manipulated in this study) may be more influential than course (as manipulated in this study) for individuals with a disability. Further research is needed to explore this possibility.

Our first hypothesis was further supported in a significant three-way interaction between the mortality salience group, the different disability dimension conditions and the two jobs on absenteeism, refer to Figures 5 and 6. Though this interaction is difficult to interpret, a couple interesting patterns are of note. First, for both jobs and in both the mortality salience condition and the control group, high course and high risk was rated higher for absenteeism than the low course and low risk condition. Again, these results were expected given the high course and high risk condition was set up as the most stigmatizing condition and the low course and low risk condition the least stigmatizing condition. The second notable pattern was that the high risk condition, regardless of the course condition, was assigned higher absenteeism ratings than the low risk condition, regardless of the course condition for both the mortality salience and control group, see Figures 5 and 6. Again, this leads us to the possibility that the risk dimension was more influential than the course dimension (or at least as it was manipulated in our study).

Our second hypothesis posited that initial salary compensation, ratings of hireability, trainability, dependability, and absenteeism would differ depending on how close to death the different disability dimensions were perceived to be in the job candidates. This hypothesis was supported with significant main effects in all five analyses. The candidates in the high course and high risk condition were assigned a lower salary than the low course and low risk condition for both positions, see Figure 1. Additionally, participants assigned candidates a higher initial compensation for the hospice position than for the neonatal position. This finding was particularly surprising considering research has shown increased distancing from elderly persons when mortality was made salient (Martens, Greenberg, Schimel, and Landau, 2004). The anticipated effect was that the hospice job would receive lower salary compensation compared to the neonatal job since the former involved working directly with an elderly population on a day-to-day basis. Given the research findings for in-group bias (Fritsche et al., 2008), it is possible the participants assimilated the patients in the hospice job with the job applicants themselves. This finding is curious and warrants further research.

Participants also rated candidates more hireable for the hospice position than they did for the neonatal position, see Figure 2. Again, this may be the result of the participants perceiving similar attributes in the hospice position and the job candidates. Stein and Cropanzano (2011) noted that when mortality was made salient, managers may be more inclined to hire perceived in-group members and less likely to hire perceived out-group members. It is plausible that participants in our study rated job candidates more hireable for the hospice position because they perceived not only the job candidates themselves, but also the patients of the hospice position as out-group members. Furthermore, candidates were rated less hireable in high course conditions when compared to the low course conditions. In a similar pattern to the hireability ratings, participants rated candidates as more trainable for the hospice position and candidates in the high course conditions were rated less trainable than candidates in the low course condition, regardless of the accompanying risk condition. This differential effect for the dimension of course is surprising since the dimension of risk appeared to be more important to participants for both trainability and absenteeism. Again, further research is needed to examine the relative and combined effects of course
and risk. Finally, the hospice and neonatal positions were rated similarly for candidate dependability; however, high course/high risk conditions were rated less dependable than low course/low risk conditions, see Figure 3.

Our third and final hypothesis proposed an effect based on job. This hypothesis was supported for initial salary compensation, ratings of hireability, trainability, and dependability but not in ratings of absenteeism. As previously discussed, participants assigned a higher salary compensation, rated candidates more hireable, trainable, and dependable for the hospice position when compared to the neonatal position. Although these findings were surprising in that the hospice position received higher rating than the neonatal position, a possible explanation contends that the participants viewed similarities between the patients of the hospice position and the candidates themselves. A plausible explanation may be drawn from the results reported by Schimel et al. (1999), who found that when mortality was made salient, an increased use of stereotypes was evident as well as increased dislike for out-group members. Schimel et al. (1999) concluded that by increasing stereotypical thinking, individuals validate their conception of the social world and in doing so, create an anxiety buffer to the fear of mortality. It could be postulated that participants in our study viewed the job candidates and patients of the hospice position in the same category, thus assigning higher ratings for that position. In doing so, they may have been demonstrating stereotypical thinking by categorizing candidates with a disability and patients in hospice care together in the same out-group. To further support this notion, Pyszczynski, Greenberg, and Solomon (1999) proposed that as unconscious fears of death become more salient, humans are innately driven to cling to the symbolic protection provided in their cultural worldview. Categorizing members of a perceived out-group provides a means to reaffirm one’s sense of control over inevitable death. Fritsche et al. (2008) endorsed a similar sentiment, when confronted with one’s mortality, individuals identify with meaningful aspects of their in-group. An in-group provides more than just shared membership, it embodies ideals and provides a sense of strength against the thought of mortality.

CONCLUSION

An important step in regulating biased reactions towards individuals with a disability is the awareness of how perceptions of subtle cues can influence our attitudes and behaviors. Draper, Reid, and McMahon (2011) explained that in classifying individuals with a disability as dysfunctional and nonproductive is the result of assumptions formed in the unconscious. Stone et al. (1992) noted that neither existing laws nor social norms have served to adequately protect stigmatized individuals from discrimination because they are based on tangible aspects of an individual. We have attempted to show how underlying assumptions can be better understood by looking at the perceived dimensions of a disability rather than an individual’s disability type. We also attempted to demonstrate how a candidate with malignant breast cancer was rated more harshly than a candidate with a curable form of breast cancer. Perhaps by focusing on dimensions of a disability, future research will be better equipped to understand why two individuals with the same disability type are treated differently. Answering this question may get us one step closer to understanding why individuals with a disability face inequality in employment, yearly earnings, and discrimination once employed by examining those inequalities through a dimensional lens.

Although this study provided valuable insight and a possible lens through which we can answer part of the question as to why, over two decades post ADA, individuals with a disability have continued to face inequality and discrimination, our study was limited to two dimensions of a disability (course and risk). The dimensions, course and risk, were selected from four possible dimensions found to be most predictive of an association with death (Sher et al., under review) as well as for ease of manipulation in the job candidates’ letter of recommendation. Those dimensions were manipulated through candidates’ letter of recommendation. Future research should explore the effects of other dimensions of a disability as well as mortality salience as they relate to important work-related variables in addition to other options of manipulating dimensions of a disability. Although we found at least partial support for all three of our hypotheses, a limiting factor in our study was the use of paper job candidates. Despite using a sample of working adults, we admit the use of paper candidates may have limited the generalizability of our study.
Perhaps mock interviews would provide more useful data in future research studies. Additionally, we considered the possibility that despite counterbalancing the resumes used in the study, participants’ ratings may have been influenced by factors such as GPA. Despite the aforementioned limitations of the current study, we felt the results of the study strengthened the argument to explore discrimination against individuals with a disability by looking at the underlying dimensions of that disability rather than a disability type. Furthermore, the results of the current study indicated that mortality salience is a concept which future research should explore in a workplace context as an important variable which can potentially lead to discrimination against individuals with a disability.

Further research is needed to explore whichever dimensions of a disability evoke bias in ratings and which dimensions have stronger relevance in the workplace. Moreover, future research is also needed to explore the effect mortality salience has on antecedents of workplace behaviors. As this body of research is further investigated, we will be better equipped to inform HR specialists of this potential bias and be better informed on potential awareness of eliminating said bias.

REFERENCES


