RESEARCH REPORT

Selection BIAS: Stereotypes and Discrimination Related to Having a History of Cancer

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Although great strides have been made in increasing equality and inclusion in organizations, a number of stigmatized groups are overlooked by diversity initiatives, including people with a history of cancer. To examine the workplace experiences of these individuals in selection contexts, we conducted 3 complementary studies that assess the extent to which cancer is disclosed, the stereotypes associated with cancer in the workplace, and discrimination resulting from these stereotypes. In a pilot study, we surveyed 196 individuals with a history of cancer (across 2 samples) about their workplace disclosure habits. In Study 1, we explored stereotypes related to employees with a history of cancer using the framework outlined by the stereotype content model. In Study 2, we used a field study to assess the experiences of job applicants who indicated they were “cancer survivors” (vs. not) with both formal and interpersonal forms of discrimination. This research shows that cancer is disclosed at relatively high rates (pilot study), those with a history of cancer are stereotyped as being higher in warmth than competence (Study 1), and the stereotypes associated with those who have had cancer result in actual discrimination toward them (Study 2). We discuss the theory behind these findings and aim to inform both science and practice with respect to this growing workplace population.

Keywords: cancer survivorship, stereotype content model, occupational health, discrimination, selection
place contexts. Moreover, within the SCM framework, we anticipate that perceptions of relatively higher warmth than competence will lead to specific behaviors, including passive harm. Third, the existing SCM research relies upon correlational studies or experiments in which hypothetical scenarios or target groups are utilized. The present research extends this work by utilizing an experimental field research design in which individuals apply for actual jobs and interact with actual hiring personnel. As a whole, the present research addresses a growing problem of potential workplace discrimination as a result of a history of cancer and advances knowledge about the SCM in organizational settings.

The SCM and Individuals With a History of Cancer

The SCM (Fiske et al., 2002; Fiske, Xu, Cuddy, & Glick, 1999) articulates two important orthogonal dimensions of stereotypes—perceptions of warmth and competence—which account for the majority of variance in global impressions of others (Wojciszke, Abele, & Baryla, 2009). In general, groups with goals that are incompatible with one another represent threats to resources and thus are stereotyped as being relatively low in warmth (Caprariello, Cuddy, & Fiske, 2009). The warmth dimension captures perceptions of a target’s benevolent intentions and tends to be measured by traits such as morality, trustworthiness, sincerity, kindness, and friendliness. The competence dimension captures perceptions of a target’s ability to carry out benevolent (or lack thereof) intentions and is measured by traits such as efficacy, skill, creativity, confidence, and intelligence. Groups that are stereotyped as being relatively high in status are assumed to be more competent than those that are relatively low in status, because of the link between status and power to control resources (Caprariello et al., 2009) and the (often erroneous) assumption that status is incompatible with one another represent threats to resources (Caprariello, Cuddy, & Fiske, 2009). The warmth dimension captures perceptions of a target’s benevolent intentions and tends to be measured by traits such as morality, trustworthiness, sincerity, kindness, and friendliness. The competence dimension captures perceptions of a target’s ability to carry out benevolent (or lack thereof) intentions and is measured by traits such as efficacy, skill, creativity, confidence, and intelligence. Groups that are stereotyped as being relatively high in warmth (and thus are more warm); and elicit paternalistic, protective attitudes toward individuals with a history of cancer suggests that these stereotypes are likely to be perceived to be higher in warmth than in competence.

In summary, the limited research on stereotypes related specifically to individuals with a history of cancer suggests that these stereotypes include perceptions that they are less healthy (and thus less competent); experience a greater appreciation for interpersonal relationships and paternalistic attitudes are further evidence that individuals with a history of cancer are likely to be perceived to be higher in warmth than in competence. Thus, we predict the following:

Hypothesis 1: Cancer survivors will be rated higher in perceived warmth than in perceived competence.

Linking the SCM to Discriminatory Behavior Toward Individuals With a History of Cancer

In day-to-day interactions, judgments of warmth tend to be prioritized over judgments of competence because warmth—the benevolent or malevolent intentions of others—is more critical to interpersonal interactions (Cuddy et al., 2007, 2008). However, Cuddy, Glick, and Benigeri (2011) argue that judgments of competence are likely prioritized over warmth in organizational contexts because the primary goal of most organizations is to recruit, select, and maintain a highly competent workforce. Thus, in organizational contexts, perceptions of competence, and not warmth, should more strongly dictate behavioral responses toward outgroups. The Behaviors from Intergroup Affect and Stereotypes (BIAS) Map (Cuddy et al., 2007) is an extension of the SCM that links warmth and competence stereotypes to specific behaviors. The BIAS Map predicts that perceptions of competence predict passive (e.g., covert, less intense, avoidant) rather than active (e.g., direct, explicit, overt) behaviors (Cuddy et al., 2007, 2008). The level of perceived competence will predict whether these passive behaviors are harmful or facilitative. Harmful behaviors include...
those that lead to detrimental outcomes for outgroups, whereas facilitative behaviors include those that lead to favorable outcomes for outgroups (Cuddy et al., 2007).

Given that stereotypes linked to a history of cancer suggest low competence (relative to warmth), a history of cancer should elicit passive harm behaviors in organizational contexts (Cuddy et al., 2007). Examples of passive harm behaviors include “avoiding eye contact, being dismissive, and ignoring” others (Cuddy et al., 2008, p. 109). Although subtle, these behaviors can constitute “consequential forms of discrimination (e.g., passive segregation, failure to hire members of a specific group)” (Cuddy et al., 2007). For example, Cuddy, Fiske, and Glick (2004) found that working mothers, stereotyped as being higher on warmth than in competence, were more likely to experience passive harm behaviors including reduced likelihood of being hired, promoted, or receive developmental training, which are all characterized as acts of relatively passive acts of omission.

The present research focuses on three important phases of the selection process: interacting with hiring personnel, being allowed to submit an application, and receiving inquiries from hiring personnel to pursue employment (e.g., callbacks for interviews in response to applications; Hebl, Foster, Mannix, & Dovidio, 2002). Each of these contexts may elicit passive harm behaviors from hiring personnel, as characterized by the BIAS Map (Cuddy et al., 2007). Specifically, we propose the following:

**Hypothesis 2:** Hiring personnel will engage in more passive harm behaviors toward applicants with a history of cancer (vs. no history) of cancer. These behaviors include negative interpersonal interactions (Hypothesis 2a), communicating lower job availability (Hypothesis 2b), and engaging in fewer callbacks (Hypothesis 2c) compared with applicants without a history of cancer.

In the present research, two studies test the role of discrimination (passive harm) directed toward those with a history of cancer in selection contexts by taking a three-pronged approach. We first present the results of a pilot study that examines whether people with a history of cancer elect to disclose this history in selection contexts. In Study 1, we then present data that examines the nature of stereotypes of cancer history in workplace settings. In Study 2 we investigate the ways that discrimination toward those with a history of cancer manifests in actual selection scenarios.

**Pilot Study: Do Individuals With a History of Cancer Disclose in the Workplace?**

We began by examining, across two samples, whether individuals with a history of cancer actually disclose in selection contexts. All participants were at least 18 years of age, lived in the United States, and identified as “cancer survivors who are working part-or full-time.” Eighty participants were recruited via Amazon Mechanical Turk (MTurk) and compensated $0.40. We recruited an additional 112 participants at a Susan G. Komen fun-run event. Descriptive statistics of these two samples are provided in Table 1.

**Table 1**

<table>
<thead>
<tr>
<th></th>
<th>Mechanical Turk</th>
<th>Susan G. Komen race</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total sample</strong></td>
<td>80 (100%)</td>
<td>112 (100%)</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>38.59 (12.02)</td>
<td>53.30 (10.11)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>35 (44%)</td>
<td>2 (2%)</td>
</tr>
<tr>
<td>Female</td>
<td>34 (43%)</td>
<td>109 (97%)</td>
</tr>
<tr>
<td><strong>Race/ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>57 (71%)</td>
<td>54 (48%)</td>
</tr>
<tr>
<td>Black</td>
<td>3 (4%)</td>
<td>32 (29%)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>8 (10%)</td>
<td>21 (19%)</td>
</tr>
<tr>
<td>Asian</td>
<td>3 (4%)</td>
<td>2 (2%)</td>
</tr>
<tr>
<td>Not reported</td>
<td>9 (11%)</td>
<td>3 (3%)</td>
</tr>
<tr>
<td><strong>Diagnosis age</strong></td>
<td>29.79 (12.69)</td>
<td>44.41 (10.53)</td>
</tr>
<tr>
<td><strong>Years in remission</strong></td>
<td>—</td>
<td>7.00 (5.84)</td>
</tr>
<tr>
<td><strong>Years of work experience</strong></td>
<td>—</td>
<td>28.07 (11.98)</td>
</tr>
</tbody>
</table>

We also conducted the analyses reported in this study using only individuals with management experience and using only individuals with interviewing experience. Neither of these restrictions resulted in substantively different results for any analyses.

**Study 1: What Are the Stereotypes Associated With Cancer Survivorship?**

In this study, we assess ratings of warmth and competence attributed to people with a history of cancer. In addition, we compare the ratings of people with a history of cancer to other groups identified in previous SCM research (Fiske et al., 2002; see also Clement-Guillotin et al., 2014). Specifically, we focus on a noncollege sample within the United States, and we compare the ratings of warmth and competence for individuals with a history of cancer to ratings for White, Asian, and “poor” individuals. These groups were chosen because they consistently represent the high-warmth/high-competence, low-warmth/high-competence, and low-warmth/low-competence quadrants outlined in the SCM in previous research (Fiske et al., 2002), respectively.

**Method**

**Participants.** Participants were 87 individuals recruited via MTurk. Of these, 15 were removed because they did not provide any variation in responses. On average, participants were 38.83 years (SD = 13.29 years), the majority (54.90%) were employed full time, and many had management experience (52.80%) and/or experience as an interviewer (41.70%).

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**Results and Discussion**

An initial exploratory principal components factor analysis of the nine cancer items using promax rotation yielded two distinct factors that accounted for 63.16% of the total variance. The two factors replicated Fiske et al.’s (2002) distinction between warmth (α = .80) and competence (α = .84). All factor loadings exceeded .60, with no cross-loading across factors. Reliabilities for the warmth and competence items with respect to the other three groups all exceeded .61.

Following Fiske et al.’s (2002) procedure to establish within-group differences along the two dimensions of competence and warmth, a paired samples t test was used to compare the perceptions of competence and warmth with respect to those with a history of cancer. In support of Hypothesis 1, these individuals with a history of cancer were rated higher in warmth (M = 3.96, SD = 0.63) than in competence (M = 3.54, SD = 0.73), t(65) = 4.57, p < .001, d = 0.56.

We next compared those with a history of cancer with people representing other quadrants. As expected, those with a history of cancer were rated higher in warmth than White individuals (M = 3.26, SD = 0.75), t(53) = 5.44, p < .001, d = 0.74, and lower in competence than White individuals (M = 4.08, SD = 0.50), t(53) = 4.03, p < .001, d = 0.63. Individuals with a history of cancer were rated higher in warmth than Asians (M = 3.14, SD = 0.91), t(55) = 5.56, p < .001, d = 0.74, and lower in competence than Asians (M = 4.32, SD = 0.50), t(55) = 6.50, p < .001, d = 0.87. Those with a history of cancer also were rated higher in warmth than poor people (M = 3.01, SD = 0.92), t(54) = 6.83, p < .001, d = 0.92, and higher in competence than poor people (M = 2.12, SD = 0.75), t(54) = 10.99, p < .001, d = 1.48.

The results of Study 1 suggest that, in line with the SCM, individuals with a history of cancer are rated higher in warmth than they are in competence. Furthermore, warmth and competence ratings from previous SCM research confirm that people with a history of cancer are best classified in the high-warmth/low-competence quadrant. Thus, corresponding with prior conceptualizations of SCM categories, we classify individuals with a history of cancer in the high-warmth/low-competence quadrant of the SCM.

**Study 2: What Behaviors Result From Cancer Stereotypes?**

We now focus on how the content of these stereotypes may manifest as discriminatory behaviors against individuals with a history of cancer in actual hiring scenarios using a field study. Based upon our review of the SCM, BIAS Map, and organizational contextual factors, we predicted that individuals with a history of cancer would receive passive harm behaviors.

**Method**

**Participants and research confederates.** Participants were 121 managers of retail stores at three large shopping malls in a major metropolitan city in the southern United States. The only demographic information recorded of the managers was gender (65% female). Five research confederates (two male and three female) served as applicants. All of these confederate applicants were between 21 and 29 years of age. For each study trial, applicants were assigned randomly to disclose a history of cancer or provide no information about a history of cancer. Prior to data collection, we confirmed that each store was currently hiring and we excluded stores that utilized a completely online application process. Finally, applicants were assigned randomly to each store and only one applicant entered any given store.

**Manipulations and training.**

**Manipulation of cancer status.** The confederates presented resumes to managers that included their actual employment experiences. The resumes were adjusted to fit the work history and job requirements appropriate for an individual applying to a sales associate position at a retail store by omitting any overqualifications and irrelevant work experiences, and were standardized across confederates for length, formatting, and level of experience or impressiveness.

<table>
<thead>
<tr>
<th>Mechanical Turk</th>
<th>Never disclose</th>
<th>In some situations</th>
<th>Always disclose</th>
<th>Unrelated responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>If you were to apply for a new position, under what conditions might you disclose your cancer history to the interviewer?</td>
<td>23 (29%)</td>
<td>43 (54%)</td>
<td>4 (5%)</td>
<td>11 (12%)</td>
</tr>
<tr>
<td>Please tell us about a time in the past when you disclosed your cancer history in an interview context.</td>
<td>31 (39%)</td>
<td>48 (61%)</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Susan G. Komen race</td>
<td>If you were to apply for a new position, under what conditions might you disclose your cancer history to the interviewer?</td>
<td>28 (25%)</td>
<td>39 (35%)</td>
<td>38 (34%)</td>
</tr>
</tbody>
</table>
In the experimental condition, confederates wore hats and provided resumes that disclosed cancer survivor status. The resumes included the following statement, “Please note: There is a gap in my employment because I was diagnosed and treated for cancer. I have been in remission for one year” and the hat had the words “Cancer Survivor” depicted across the front. In the control condition, the resume provided no extra information and participants wore a plain white hat. Finally, it is important to note that all confederates served as their own control—they entered some stores wearing the “Cancer Survivor” hat and other stores with the plain white hat. Confidante applicants remained blind to condition.

Training and standardization. The confederates received extensive training in order to standardize the interactions. In addition, the confederates asked four standard questions of all managers: (a) “Are you hiring right now?”, (b) “Can I fill out an application?”; (c) “What sorts of things would I be doing if I worked here?”, and (d) “When should I expect to hear from you?” The confederates did not deviate from this predetermined script unless the manager had follow-up questions, in which case the confederate was to act naturally but not overengage.

Procedure. The experimental paradigm for the present study was one adapted from previous organizational field research (Hebl et al., 2002; Singletary & Hebl, 2009). Before entering each store, a research assistant placed a hat on the confederate’s head and handed them the corresponding resume. To remain blind to condition, confederates did not look at the resume and avoided reflective surfaces. Upon entering each store, confederates asked to speak with a manager and then asked the four standardized questions. If the manager stated that the store was hiring, the confederate took an application and left a resume with the manager. Conversely, if the manager indicated the store was not hiring, the confederate thanked them, exited the store, and noted this response on a rating form that also included the focal dependent variables. All applications were completed in a standardized way and returned the same day. If managers contacted the confederate regarding the position, the confederate politely indicated that they were appreciative of the response but were no longer seeking employment.

Measures.

Interpersonal interactions. Passive harm was measured with items used in previous field research assessing subtle interpersonal discriminatory behaviors (e.g., Hebl et al., 2002). Confederate job applicants evaluated the manager on 13 dimensions: friendliness (reverse coded [R]), eye contact (R), smiling (R), helpfulness (R), level of interest (R), comfort (R), nodding (R), rudeness, pursing lips, negative brow furrowing, hostility, and nervousness. Each item was rated on a 7-point Likert scale (1 = not at all, 7 = very much). These variables showed high reliability (α = .92), and were averaged into one composite, Passive Harm, with higher ratings indicating more negative interpersonal behaviors.

Application. For each applicant, we noted whether or not the employer indicated that there was an open position available and allowed the applicant to submit an application.

Callbacks. For each applicant, we noted whether or not the employer called the applicant to offer them a job within a 3-month period of time following the initial data collection.

Results and Discussion

None of the managers specifically mentioned the applicant’s hat during the interactions. An analysis of variance examining the effects of individual applicants revealed no statistically significant differences on ratings of Passive Harm as a result of individual confederates, $F(4, 116) = 1.18, p > .05$, $\eta^2 = .04$, or confederate gender, $F(1, 119) = 2.46, p > .05$, $\eta^2 = .02$. Similar tests revealed that there were not systematic effects related to the particular mall, $F(2, 118) = 1.712, p > .05$, $\eta^2 = .03$, or type of store, $F(2, 118) = 0.10, p > .05$, $\eta^2 < .001$, that was visited. Thus, we collapse across confederates, confederate gender, mall, and store type in further analyses.

Passive harm. Consistent with Hypothesis 2a, applicants in the cancer disclosure condition reported significantly more passive harm from the hiring personnel ($M = 3.21, SD = .97$) compared with applicants in the control condition ($M = 2.34, SD = .81$), $F(1, 119) = 30.89, p < .001$, $\eta^2 = .21$.

Application. Hypotheses 2b and 2c were evaluated using Fisher’s exact test, which provides the statistical significance of differences for contingency tables in which the actual (rather than inferred from a larger population) phenomenon of interest is available. There were no differences as a function of condition in the number of managers offering prospective applicants an opportunity to apply for the job (one-sided Fisher’s exact test, $p = .39$). Specifically, six stores indicated that they were not hiring in the control condition and eight stores indicated they were not hiring in the cancer disclosure condition. Hence, although the pattern of data is in the predicted direction, Hypothesis 2b was not supported.

Callbacks. Consistent with Hypothesis 2c, prospective applicants in the cancer disclosure condition received fewer callbacks from hiring personnel ($n = 13$; 21.3%) than those in the control condition ($n = 22$; 36.7%; one-sided Fisher’s exact test, $p = .05$).

The results of Study 2 revealed that individuals with a history of cancer were treated with higher levels of passive harm (worse interpersonal treatment, fewer callbacks) by managers. However, these individuals were allowed to apply for jobs at comparable levels, a finding that is contrary to predictions but perhaps in line with legal concerns. The differences in passive harm are striking, given that the interactions were highly structured (because of the standardized training the confederates received) and short in length. These findings cannot be attributed to demand characteristics or self-fulfilling prophecy, as the confederates were blind to the manipulation in each encounter.

General Discussion

The purpose of the present research was to examine the return-to-work experiences of individuals with a history of cancer. Although past research suggests that these individuals are prone to higher incidences of unemployment (de Boer et al., 2006, 2009), little is known about the psychological mechanisms that may explain this phenomenon in selection contexts. Our pilot study demonstrated that individuals with a history of cancer often decide to disclose this fact to interviewers. Study 1 demonstrated that the stereotypes associated with these individuals include perceptions that they are higher in warmth than competence. Finally, Study 2 demonstrated that, in accordance with the tenets of the SCM and BIAS Map, applicants that ostensibly had a history of cancer received more passive harm behaviors from store personnel, in-
incorporate their histories with cancer as a central part of their traumatic events, and many of these individuals can come to experience of undergoing treatment and recovery are often very This may be related to the fact that a diagnosis of cancer and the sequelae associated with it can be a source of stigma and discrimination. Indeed, hiring personnel in Study 2 made fewer callbacks and displayed more negative interpersonal reactions to applicants who revealed a history of cancer. Such behavior is consistent with the belief that individuals with a history of cancer may be at higher risk of being untrustworthy or unproductive employees, which can lead to biased selection decisions and potential discrimination. Moreover, the BIAS Map predicts two possible behaviors in response to a given outgroup, depending on whether the characteristic that is concealable—one can avoid prejudice and discrimination related to the characteristic if one is able to conceal it or other workplace contexts, it is important for leaders within organizations to be prepared to handle such disclosures. An interviewer that allowed a disclosure of cancer history to impact decisions to hire an applicant that is otherwise capable of performing the job would be at risk of making suboptimal selection decisions and litigation for violating the tenets of the Americans with Disabilities Act (1990).

Furthermore, engaging in negative interpersonal behaviors like we found in Study 2 could create a self-fulfilling prophecy among applicants in which they perceive negativity from hiring personnel and thus form negative impressions about the job. This negative impression would then be communicated to hiring personnel, who would determine that they are either not interested in the job or would not be a good fit for the organization. It has been shown that these negative interpersonal interactions can indeed affect interview performance, giving hiring personnel justified reasons to not hire the applicant (Word, Zanna, & Cooper, 1974).

Finally, there are implications for individual employees with a history of cancer. The present research suggests that the perceived competence of these potential employees may be a barrier to employment. Thus, individuals with a history of cancer may be able to allay concerns about their competence by highlighting positive aspects about their experiences and specifically addressing concerns employers may have.

Limitations and Future Directions

We presumed that employers perceived that our control applicant did not have a history of cancer. Similarly, we have conceptualized the discrimination experienced by the applicant in the experimental condition to emerge as a result of the applicant’s history of cancer. However, it may be the case that this discrimination emerged as a result of disclosing a history of cancer. The present research does not allow us to differentiate between these hypotheses. This is a problem inherent to any stigmatizing characteristic that is concealable—one can avoid prejudice and discrimination related to the characteristic if one is able to conceal it and does not disclose its presence. Hence, the present research adds to the growing literature on the double bind of the negative implications of both concealing and revealing concealable stigmas. The present findings stand in contrast to a growing body of work suggesting the benefits that some groups receive from explicitly acknowledging their stigmas (e.g., Singletary & Hebl, 2009). Future research will benefit from continuing to explore the implications of concealing versus disclosing a history of cancer, especially considering the relatively high rates of disclosure found in our pilot study.

Future research would benefit from continuing to explore health-related stigma in the workplace. The present research did not specify the type of cancer experienced by the applicant, which may constitute a fruitful avenue of future research, particularly if the cancer is perceived to be the result of controllable factors (e.g., a smoker’s lung cancer; Weiner, 1985).

Conclusion

Although diversity efforts have increased over the past decade, health characteristics are often not included in these programs. Individuals with a history of cancer make up a large proportion of the potential workforce, and return to work has tremendous economic and psychological benefits for these individuals (e.g., Bradley & Bednarek, 2002). Hence, it will be essential for organizations to address discrimination related to cancer history (and other health outcomes) in interventions designed to create equity in hiring practices.
References


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