

The employment discrimination experiences of younger and older Americans with cancer under Title I of the Americans with Disabilities Act

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Abstract

Purpose The goal of the research was to describe discrimination, both actual and perceived, that has occurred against younger individuals with cancer (i.e., 35 years of age and under) in comparison with older individuals with cancer (i.e., over age 35) through analysis of the US Equal Employment Opportunity Commission (EEOC) Integrated Mission System (IMS) database.

Methods An ex post facto, causal comparative quantitative design was used to examine Americans with Disabilities Act Amendments Act (ADAAA) Title I complaints received by the EEOC from younger people with cancer from 2009 through 2016 ($n = 1001$) in comparison with older people with cancer over the same time period ($n = 8874$).

Results Results revealed statistically significant differences in the patterns of issues alleged by the two groups. When compared with older charging parties with cancer, the younger charging parties with cancer had proportionally more individuals who were male and who identified as African American and proportionally fewer individuals who identified as Caucasian.

Conclusions Younger people with cancer were more likely to allege discrimination in the areas of promotion, training, reinstatement, and referrals to other employers. They were less likely to allege discrimination in the area of benefits. The younger group was also significantly less likely than the older group to find that EEOC investigations of their allegations resulted in merit-based case resolutions, that is, discrimination had indeed occurred.

Implications for Cancer Survivors Psychosocial programs and vocational programming assisting young adults with career development should focus on the types of discrimination that young adults experience, which is unique compared with older adult cancer survivors.

Keywords: Cancer · Workplace Discrimination · Vocational Rehabilitation

Young adults (18–35 years of age) with a history of cancer experience significant problems obtaining employment [1–3]. A recent meta-analysis revealed that adult survivors of childhood cancer are twice as likely to be unemployed when compared with their healthy controls [4]. Secondary health

concerns such as depression, fatigue, cardiovascular disease, visual impairment, and impaired attention span have also been linked to difficulty in obtaining employment for young adults who are childhood cancer survivors [4]. In addition, these young cancer survivors might not have the skills (i.e. work place social skills) or prior work experience needed to find employment [5]. Certain types of childhood cancer are associated with increased levels of unemployment. Specifically, survivors of childhood cancer involving the central nervous system have been found to be five times more likely to be unemployed [4]. The symptom burden of central nervous system cancers can interfere with perception, cognition, and physical movement that can impact an individual's ability to meet an employer's demands [5]. Cancer affecting the head and neck has also been associated with lower than average rates of return to work [4].

In addition to the documented health and late effect issues that impact the employment of young adult cancer survivors,

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it would appear reasonable to assume that environmental factors external to the individual such as stigma and discrimination in the workplace impact the initial entry of young adult cancer survivors into the labor market [6]. Unlike their older adult counterparts where multiple studies have focused on workplace discrimination against cancer survivors, there has been no research to date that has examined the impact of employment discrimination in a group of young adult cancer survivors. Therefore, there is a significant need to examine the impact of employment discrimination from the young adult perspective because young adults are at a completely different point in their career development process compared with their adult counterparts. Specifically, young adults are typically trying to make their initial entry into the labor market, whereas older adults are typically employed, attempting to return to work, and/or making mid- to late-career adjustments. As a result of their point in the career development process, it would be reasonable to assume that the discrimination that young adult cancer survivors experience may be more likely to impact issues related to career awareness and initially entering the labor market versus returning to prior employment.

Recent research has attempted to develop an increased understanding of the factors associated with the challenges experienced by young adult cancer survivors related to career development and employment. One model that has received recent attention in conceptualizing factors related to career development and employment of young adult cancer survivors is the Illinois Work and Wellbeing Model (IW2M) [7]. The conceptual framework was informed by the International Classification of Functioning (ICF) Model as well as theory-based research regarding employment of individuals with chronic health conditions. The IW2M is comprised of three major domains (Contextual, Career/Employment Development, and Participation) that have a bidirectional relationship that informs outcomes and potential interventions. This model provides a structured framework to conceptualize factors that impact the career development for young adult cancer survivors and has the potential to guide career development and employment research and service in the young adult cancer population (Fig. 1). Specifically, the Career Domain of the model is comprised of the following three factors that identify the distinct but interconnected phases of the career development process: Awareness, Acquisition, and Maintenance [8].

Americans with Disabilities Act-Amended

The Americans with Disabilities Act (ADA) was first passed in 1990 to address environmental factors such as stigma and discrimination related to the employment of people with disabilities. Specifically, the ADA was designed to provide legal protections for individuals with disabilities, including those

diagnosed with cancer, with respect to hiring practices, terms of employment, employer–employee relations, and the provision of reasonable accommodation. Although the original ADA of 1990 provided protections to cancer survivors, the protections tended to diminish or disappear when an individual had no clear evidence of a tumor or was considered to be in remission. For cancer survivors, this decrease in coverage was particularly problematic because many cancer survivors experience long-term or late effects (e.g., fatigue) related to cancer and its treatment that negatively impact employment.

Enacted in 2008 and effectuated in 2009, the ADAAA provides a more comprehensive and inclusive definition of disability including the long-term functional impairments that impact individuals with cancer as they attempt to return to work or maintain employment post-diagnosis. Specifically, the ADAAA indicates that an employee maintains his or her status of having a disability even when the condition is in remission or symptoms are being managed through medications. Despite these expanded protections, the ADAAA still requires that the individual's impairment substantially limits a major life activity when the health problem is active [9].

Rationale for and purpose of the present study

To date, there has been a lack of research regarding the potential impact of employment discrimination on the career development and employment of young adult cancer survivors. As a result, the workplace discrimination experiences of cancer survivors and how those experiences differ based on the age of charging parties and phases of career development are not well understood. Previous studies have explored workplace discrimination within the adult cancer population, but this study was the first to explore differences between younger and older adult cancer survivors. More specifically, the purpose of this study was to examine differences between younger (i.e., 35 years of age and under) and older (i.e., over age 35) charging parties with cancer with respect to the types of discrimination that were alleged to have occurred, the characteristics of charging parties (e.g., gender and race/ethnicity), and whether the allegation of discrimination was verified (merit resolution) or was lacking in evidence to meet the legal standard of discrimination (non-merit resolution). This inquiry provides a basis for continued research into how, where, and to whom workplace discrimination occurs and what areas of career development and employment are most impacted in the young adult cancer survivor population.

The following research questions guided this study:

- 1 Do workplace discrimination allegations filed by younger Americans with cancer differ from those filed by older Americans with cancer in terms of the types of discrimination that is alleged to have occurred?

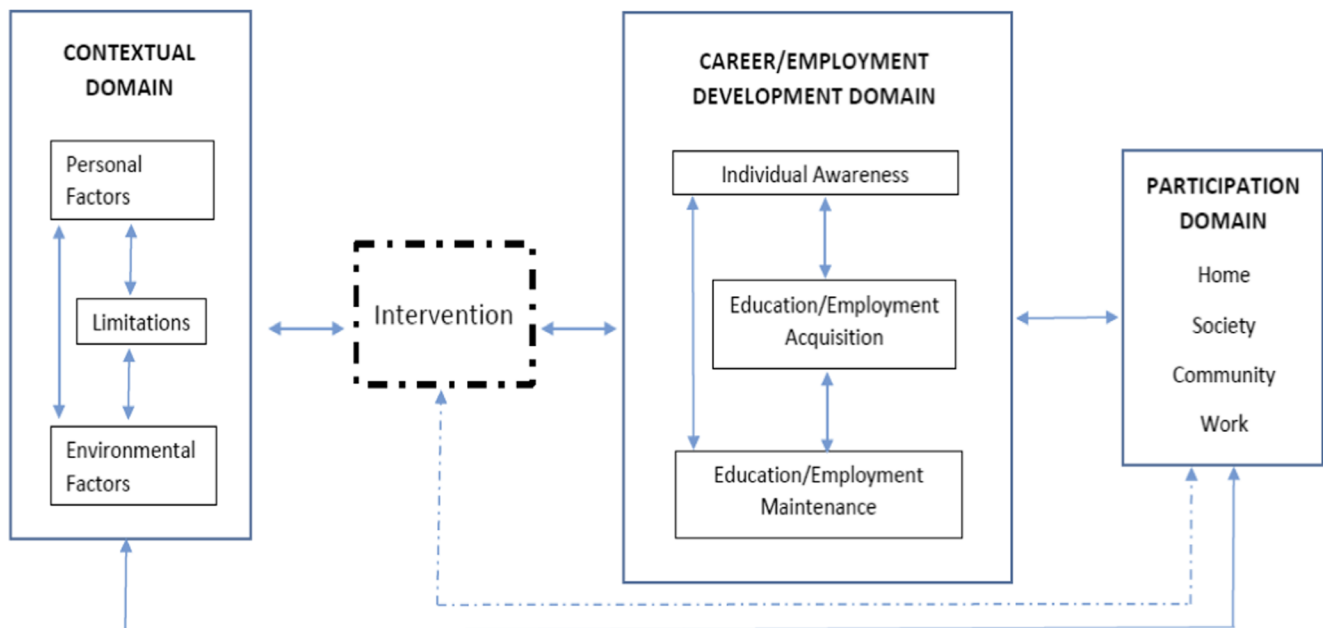


Fig. 1 Illinois Work and Well-Being Model

- 2 Do workplace discrimination allegations filed by younger Americans with cancer differ from those filed by older Americans with cancer in terms of charging party gender and race/ethnicity?
- 3 Do workplace discrimination allegations filed by younger Americans with cancer differ from those filed by older Americans with cancer in terms of the rate of merit case resolutions?

Method

The research team implemented an ex post facto, causal comparative quantitative design [10]. The over-arching purpose of the study was to gain a better understanding of the nature and scope of workplace discrimination experience by younger vs. older Americans with cancer.

Study sample and variables

To answer the research questions, researchers utilized the entire population of ADAAA Title I complaints received by the US Equal Employment Opportunity Commission (EEOC) from younger people with cancer from 2009 through 2016 ($n = 1001$), along with a comparison group of older people with cancer from the same time period ($n = 8874$). The primary unit of measure in this study was an allegation of employment discrimination filed by a person with cancer with the EEOC since the effectuation of the ADAAA on January 1, 2009. Each allegation was treated as one distinct data point in the IMS system; if one individual filed more than one

allegation with the EEOC under Title I of the ADAAA, each allegation was investigated and adjudicated separately. The number of allegations is greater than the number of charging parties in the IMS database because many charging parties file more than one allegation. In EEOC parlance, the nature of the unlawful activity alleged is referred to as an “Issue” (e.g., unlawful termination, inequitable wages, and disability harassment).

Issue

There are 41 unique Issues that have some level of allegation activity ranging in frequency from 10 to 260,572 in the overall EEOC Integrated Mission System (IMS) database. It is worth noting that the top five issues on this list account for 76% of all allegation activity. Four of these five issues have been thoroughly documented in special issues of peer-reviewed journals devoted to each [11–16].

Characteristics of charging parties

The characteristics of CPs in this study include gender (female/male), race/ethnicity, and age. All CPs share the basis (disability type) of cancer. Because the typical ceiling age for young adulthood is considered to be age 35, the group was divided by age (i.e., 35 years of age and under [younger] and over age 35 [older]), which served as the two-level independent or grouping variable for all inferential comparisons in this study.

Resolution

This refers to the final EEOC determination following a thorough investigation as to whether or not discrimination actually occurred. For purposes of this study, Resolutions were dichotomously classified as Merit, favoring the CP (discrimination did occur) or Non-Merit, favoring the respondent employer (discrimination did not occur).

Procedure

The National EEOC ADA Research Project (NEARP) was begun in 2003 to utilize the IMS for research purposes in order to provide evidence-based answers to questions regarding discrimination allegations under the ADA [17]. NEARP colleagues proceeded to extract and refine the IMS database in order to retrieve, verify, and examine closed ADA allegations. To conduct this investigation, the researchers, via NEARP, secured permission to access the IMS database with proper protections for the CPs (applicants or employees) and Respondents (employers or labor unions). Only “closed” allegations are captured in the IMS/NEARP database, and all information contained therein is de-identified. From the IMS/NEARP database, a study dataset was extracted to include only those variables related to the research questions provided above. The extraction process adhered to the following inclusion/exclusion criteria:

- 1 The unit of study was an allegation; it was not an individual CP, nor an individual employer. A single CP may bring more than one allegation or may bring the same allegation on more than one occasion (e.g., in 2009 and again in 2012).
- 2 Only unique allegations that do not involve recording errors or duplications were included in the study dataset.
- 3 To maximize confidentiality, all identifying information regarding CPs was purged except for age, race/ethnicity, gender, and disability type (i.e., cancer).
- 4 Only allegations received, investigated, and closed by the EEOC were included.
- 5 Only allegations that had been closed by the EEOC during the study period, defined as January 1, 2009 (first effective date of ADAAA) through December 31, 2016, were included in the study dataset.

Application of these inclusion and exclusion criteria resulted in a study dataset of 1001 allegations pertaining to the target group, younger individuals with cancer. The comparison group, older individuals with cancer, included 8874 allegations.

Statistical analysis

Data were imported into the Statistical Package for the Social Sciences (SPSS) version 21 for all analyses. Descriptive statistics such as means, standard deviations, ranges, frequencies, and percentages were used to illustrate the distribution of scores between the two groups on all independent and dependent variables. For each categorical dependent variable (i.e., issues, CP gender, CP race/ethnicity, and resolution), a Pearson chi-square test was first utilized to test the homogeneity of proportions across the disability groups. If the Pearson chi-square test indicated the existence of significant proportional differences, standard residuals greater than an absolute value of 2.0 were used to pinpoint those statistically significant differences. This test statistic does not require independence of study data (some Charging Parties filed more than one allegation), equivalent group sizes, or normality of distribution assumptions. Results of these analyses provided Z scores (distributed generally as X^2) and 99% confidence intervals.

Results

Findings are presented in both descriptive and inferential terms to illustrate the distribution of scores across the two referent groups. As noted in “[Method](#),” the researchers applied nonparametric statistics to answer the research questions.

Types of alleged discrimination (discrimination issues)

1. Do workplace discrimination allegations filed by younger Americans with cancer differ from those filed by older Americans with cancer in terms of the types of discrimination that is alleged to have occurred?

The first analysis explored the specific types of personnel actions alleged to be unlawful by the CP (also known as Issues). Table 1 presents a comparison of the issues in EEOC Title I allegations for both groups. The asterisk (*) symbol denotes statistically significant differences between the two groups in the proportions of allegation type.

As is seen in Table 1, the most common allegations filed by younger people with cancer during the 2009–2016 retrospective observation period involved discharge (32.8%), reasonable accommodation (17.0%), terms and conditions (9.3%), harassment (8.7%), discipline (4.5%), assignment (2.9%), promotion (2.7%), constructive discharge (2.3%), other (2.3%), and training (2.1%). Readers will note that the five most common types of issues filed by younger people with cancer ($n = 723$) comprised 72.3% of the total number of allegations filed by that group. The most common allegations in the older people with cancer group involved discharge (34.3%), reasonable accommodation (18.3%), terms and

Table 1 Issues involved in ADA Title I allegations: 2009–2016

Charging Party Issue	Younger Cancer (<i>n</i> = 1001) (%)	<i>n</i>	Older Cancer <i>n</i> = 8874) (%)	<i>n</i>
Discharge	32.8	328	34.3	3040
Reasonable accommodation	17.0	170	18.3	1625
Terms/conditions	9.3	93	10.8	954
Harassment	8.7	87	7.9	700
Discipline	4.5	45	5.8	513
Assignment	2.9	29	2.2	193
Promotion*	2.7	27	1.4	127
Constructive discharge	2.3	23	2.5	222
Other*	2.3	23	0.9	81
Training*	2.1	21	0.3	24
Demotion	1.9	19	1.9	173
Reinstatement*	1.9	19	0.6	55
Wages	1.8	18	1.8	156
Referral*	1.6	16	<0.1	2
Suspension	1.3	13	1.2	103
Layoff	1.0	10	1.5	134
Intimidation	1.0	10	1.4	122

**p* < .001

conditions (10.8%), harassment (7.9%), discipline (5.8%), constructive discharge (2.5%), assignment (2.2%), demotion (1.9%), wages (1.8%), and layoff (1.5%). Similar to the younger group, the five most common types of issues in the older people with cancer group (*n* = 6832) comprised 76.9% of that group's total allegations.

A chi-square analysis revealed statistically significant differences in the pattern of issues alleged by younger people with cancer in comparison to the pattern of issues alleged by older people with cancer ($X^2(40, N = 9875) = 267.255, p < .001$). Specifically, younger people with cancer were more likely than older people with cancer to allege discrimination related to promotion, other, training, reinstatement, and referral. Younger people with cancer were less likely than older people with cancer to allege discrimination related to benefits such as healthcare.

Characteristics of charging parties

2. Do workplace discrimination allegations filed by younger Americans with cancer differ from those filed by older Americans with cancer in terms of charging party gender and race/ethnicity?

The second set of analyses concerned the demographic characteristics of younger CPs with cancer and how they differed from older CPs with cancer. With regard to gender, younger charging parties with cancer were 51.6% female and 48.4% male, whereas older charging parties with cancer were 59.4% female and 40.6% male. A chi-square analysis revealed that a statistically significant difference was present

between the younger cancer group and the older cancer group in terms of gender ($X^2(1, N = 9219) = 21.157, p < .001$), such that the younger group was more likely to be male and less likely to be female.

As is seen in Table 2, the racial/ethnic profile of the younger cancer group was 54.3% Caucasian, 38.0% African American, 4.3% Latina/o, 1.8% Asian, and 1.5% Native American/Alaskan Native. The older cancer group was 69.6% Caucasian, 23.6% African American, 3.0% Latina/o, 2.3% Asian, and 1.5% Native American/Alaskan Native. A chi-square analysis revealed that the younger cancer group had proportionally more individuals who identified as African American and proportionally fewer who identified as Caucasian than did the older cancer group ($X^2(4, N = 8293) = 96.137, p < .001$).

Table 2 Charging Party Race/Ethnicity involved in ADA Title I allegations: 2009–2016

Race	Young Cancer (<i>n</i> = 865) (%)	<i>n</i>	Older Cancer (<i>n</i> = 7428) (%)	<i>n</i>
Caucasian*	54.3	470	69.6	5169
African American*	38.0	329	23.6	1750
Latina/o	4.3	37	3.0	222
Asian	1.8	16	2.3	172
Nat. Amer./Alaska Native	1.5	13	1.5	115

**p* < .001

Rate of merit case resolutions

3. Do workplace discrimination allegations filed by younger Americans with cancer differ from those in filed by older Americans with cancer in terms of the rate of merit case resolutions?

The final comparison in this study involved the outcomes or Resolutions of the EEOC investigatory process with respect to allegations brought by younger and older CPs with cancer. For purposes of comparison, the researchers collapsed all case resolutions into two categories: merit resolutions and non-merit resolutions. Merit resolutions include settlements with and without benefits, and “pure” merit resolutions in which the allegation is upheld (i.e., the EEOC has found sufficient evidence that discrimination has occurred). Non-merit resolutions include a “pure” resolution in which insufficient evidence exists to conclude that discrimination has occurred, as well as administrative closures in which files are closed on one of several technicalities (i.e. started application but did not finish). The vast majority of non-merit closures are pure non-merit. Less than one-third (30.9%, $n = 3051$) of allegations by all people with cancer were resolved with merit, and 69.1% ($n = 6824$) were non-merit resolutions. For the younger individuals with cancer, the proportions of merit and non-merit resolutions were 26.6% ($n = 266$) and 73.4% ($n = 735$), respectively. The same analysis of the older individuals with cancer revealed a merit resolution rate of 31.4% ($n = 2785$) and a non-merit resolution rate of 68.6% ($n = 6089$). A chi square analysis revealed that younger people with cancer were significantly less likely (but only at the $p < .005$ level) than older people with cancer to have their allegations result in a merit-based case resolution ($\chi^2(1, N = 9875) = 9.749, p < .005$).

Discussion

Types of alleged discrimination

In absolute terms, the list of most commonly alleged types of discrimination is quite similar for both the younger and older cancer groups. The top five allegations—discharge, reasonable accommodations, terms/conditions, harassment, and discipline—are virtually the same in terms of activity levels for both the younger and older cancer groups, making up 72.3% of all allegations in the younger cancer group and 76.9% of all allegations in the older cancer group. The lack of significant differences here is actually very important. Indeed, cancer is cancer, and the nature of most discrimination is of a similar hue, whether young or old. Furthermore, our research and education efforts regarding discrimination are best invested in these high prevalence issues if we want to

be efficient in our efforts to mitigate this problem. By no means should we ignore this reality.

Viewing the types of alleged discrimination more closely, however, reveals a number of proportional differences. Statistically significant differences in the frequencies of types of discrimination were seen in 6 of the 41 different issues between the younger cancer group and the older cancer group. Younger individuals with cancer were significantly more likely to allege discrimination in the areas of *promotion, other, training, reinstatement, and referrals*, whereas the younger cancer group was significantly less likely to allege discrimination in the area of *benefits*. Employing the IW2M to examine the discrepancy in alleged discrimination reveals areas of difference that are related to issues necessary for establishing a career and being promoted within and between organizations, issues typically encountered earlier on in one’s career trajectory and lifespan. Specifically, discrimination related to *Referral, Training, and Promotion* are all related to the *Career Development Domain Acquisition Factor*. Discrimination issues related to *reinstatement and benefits* are directly related to the *Career Development Maintenance Factor*.

With regard to *Promotion, Training, and Referral*, discrimination experienced in these areas denies the young adult cancer survivor an opportunity to engage in the appropriate career activities needed to advance within and between organizations in terms of skill and pay. These issues are discussed below, and though somewhat “low prevalence issues,” each was dramatically significant statistically in terms of relative value.

Factors related to career acquisition

Promotion

Results of this study indicate that young adult cancer survivors are proportionately more likely to experience discrimination in terms of promotion, which is theoretically consistent with the IW2M Career Domain factor of acquisition that addresses issues related to securing appropriate employment. This difference in the area of promotion suggests that younger adults are more likely to perceive being denied a promotion that he or she otherwise believes is deserved or for which he or she is qualified compared with older adult survivors. Importantly, this finding also suggests that the perception of discrimination does not just occur within an organization but also between organizations. The perception of between organization discrimination is important because moving between companies is a major strategy that is used by individuals in the USA to acquire positions with more responsibility and higher levels of pay to facilitate career development [18]. The perception of being denied promotional opportunity both within and between companies creates career stagnation that not only diminishes a positive career, professional development, and

wage trajectory but also leads to diminished psychological well-being, thereby placing individuals at increased risk for depression and anxiety [18].

Training

Being denied the opportunity to participate in appropriate training, outside of employment or on the job, constitutes discrimination occurring within the career acquisition factor that negatively impacts the individual's career course and advancement opportunities. Not having access to, or being denied, training such as continuing education, college tuition assistance, in-house management training programs, opportunities to attend seminars or conferences, and online training directly limits the individual's ability to acquire skills that allow her or him to be competitive for within and between organization promotional opportunities. Research has documented that acquiring work related skills through education is an effective strategy for developing a positive career trajectory that leads to increased job responsibilities and earnings [18]. Being denied appropriate training opportunities within the organization or being denied professional development training can also create significant career stagnation by diminishing the individual's ability to acquire the necessary skills needed to perform his or her job according to current standards. This, in turn, may place the individual at risk for being cited for poor performance, thereby creating an increased probability of poor performance reviews and potential termination. Being cited for poor performance or experiencing termination are negative employment experiences that not only diminish within-organization promotions but also limit opportunities with other employers.

Referral

Findings from this study indicate that young adult cancer survivors are more likely than their older counterparts to perceive discrimination related to current or prior employers making appropriate referrals to other potential employers. Specifically, the category states that discrimination related to referral involves telephone, electronic, and written references. Complaints in this category usually occur when the referring employer attributes poor performance on the person's part to his or her disability or shares information with another employer about the person's health status that the person did not want to be shared. This finding is related to the Career Acquisition Factor and appears to be related to the findings regarding perceived discrimination in the area of training. As indicated in the definition of issues related to referral, young adult cancer survivors in the workplace may be perceived by their employers as performing poorly when compared with their non-cancer survivor counterparts and therefore are less likely to receive positive references that are necessary to

facilitate career advancement and increased earnings. Although there are no specific areas of poor performance noted, when examining the issues related to training and referral together, it is reasonable to assume that being denied training that is necessary for skill acquisition can contribute to poor performance, which, in turn, leads to lack of a quality referral necessary for within-organization promotion and between organization employment opportunities.

To address potential discrimination related to career acquisition factors, the provision of career counseling and guidance to young adult cancer survivors regarding the development of effective job acquisition strategies and also self-promotion within the workplace would appear to be important. In addition, it would appear to be important to work with employers to identify potential unfounded negative attitudes and internal biases that may be impacting the three areas related to career acquisition noted above. This could include promoting structured and consistent metrics for performance evaluation, providing opportunities to engage in career promotion activities, and ensuring that access to training and skill development opportunities are accessible to individuals with chronic health conditions [19].

Reinstatement

The perceived discrimination related to *Reinstatement* impacts the young adult cancer survivor's career maintenance and tenure on the job. The ability to maintain employment contributes to the individual's ability to maintain regular earnings, develop and maintain current skills, and increase earnings over time. Conversely, young adult cancer survivors who experience issues related to maintaining employment are at increased risk for intermittent employment participation, thereby placing them at increased risk of being viewed negatively by employers and being denied opportunities to advance within and between organizations.

Study findings indicate that young adult cancer survivors perceive increased discrimination related to reinstatement when compared with their older counterparts. Perceived discrimination related to Reinstatement occurs when an individual perceives being denied reinstatement to his or her customary job following suspension, layoff, workers' compensation leave, sick or personal leave, Family and Medical Leave Act (FMLA) leave, or short-term disability. This is particularly relevant for young adult cancer survivors who may be dealing with residual effects (i.e. fatigue and depression) from acute treatment or ongoing late effects that require continued medical attention. Younger adult cancer survivors often have less seniority, work experience, and tenure on the job that may lead to employers being less likely to provide accommodations for medical treatment. In addition, the younger cancer survivors may have less experience in advocating for themselves within the work environment and working with

employers to develop acceptable accommodations that allow the younger survivor to meet the demands of the position while also meeting the individual's specific medical needs.

Low prevalence issues of interest

All issues involving a prevalence of less than 1% are deleted from Table 1. This included 25 issues all but one of which lacked statistical significance. All feature exceedingly small Ns. As such, they are relatively unreliable compared with those that are retained in Table 1. These issues included Insurance Benefits, Posting Notices, Non-compensation Benefits, Segregated Unions, Job Classification, Union Representation, Prohibited Medical Inquiry, Recall, Severance Pay, Unfavorable References, Qualification Standards, Testing, Record Keeping Violations, Involuntary Retirement, Pension Benefits, Seniority, Tenure, Early Retirement Incentives, Advertising, Apprenticeships, Waiver of ADEA Rights, Maternity Leave, Segregated Facilities, and Segregated Union Locals. These are reported in the narrative for three reasons:

- 1 Some are surprisingly low relative to the expectations of many policy makers, advocates, and legal scholars.
- 2 They are over-reported in research and training relative to the high prevalence issues.
- 3 They reflect in a general sense that Employers are generally compliant with these requirements or that CPs find them of low priority.

Characteristics of charging parties

Findings of this study indicate that younger adult cancer survivors are more likely to be male and African American when compared with their older counterparts. The increasing number of African Americans in the younger survivor group may reflect the changing demographics of the workplace with increased participation in the broader work environment from minority populations [18]. Previous research by Pete and colleagues [20] demonstrated congruence with these findings, noting that younger African American males as a whole experience some of the most substantial barriers to employment, citing unemployment rates as high as 33.4%. By and large, the increased number of male cancer survivors filing claims in the younger survivor population is an interesting finding and warrants further investigation. One possible explanation is that male survivors may feel more agency to file discrimination claims than their female counterparts, especially during the early stages of their careers. If this is the case, this finding would suggest that interventions directed at encouraging females to advocate for themselves in the

workplace regarding their cancer and potential accommodations would be needed. It could also be the case that younger women in the workplace may be more likely to self-advocate for issues regarding health and leave through other means such as benefits related to maternity leave and FMLA, which employers are more familiar with and more likely to perceive as an appropriate benefit for younger individuals.

Rate of merit case resolutions

Discrimination allegations filed by the younger cancer survivor group were less likely to be resolved with merit when compared with allegations filed by older cancer survivors. This finding may be related to the types of discrimination alleged by the younger cancer survivor group. As stated earlier, the claims filed by younger individuals are more likely to be related to issues of career and employment advancement and skill acquisition. Another potential factor is that being younger in the workforce may inherently subject individuals to less job security and place them at risk for termination related to factors of subjective job performance, which could vitiate their claims of discrimination. Also, it may simply be the case that younger cancer survivors lack the self-advocacy skills, standing, and life experience to mount a defensible claim of workplace discrimination with the EEOC. Older cancer survivors may be better able to document discriminatory conduct on the part of employers, assert their rights to a governmental enforcement agency, and confront perpetrators of perceived discrimination. More research in this area is needed to gain more clarity regarding the potential personal, medical, and environmental factors that may contribute to the age-related discrepancy in merit resolutions that was observed in this study.

One parenthetical note is worth stating: The merit rates for both cancer groups (26.6% younger and 31.4% older) were much higher than the average for the entire NEARP database, which without replacement would be approximately 23.5%. This is likely due to the fact that cancer CPs were ADA literate and the EEOC was encouraging CPs with cancer to fully exploit the alternative prongs of the ADA definition of disability, especially "history of disability." The alternate prongs definitely have worked to the favor of persons with cancer, as other studies have documented [21].

Limitations

This study has many strengths including population level data across time, but it has several limitations that should be kept in mind when interpreting results. For example, available CP demographic data are mostly nominal in nature, which restricts the types of statistical analyses that can be used to non-parametric

statistics. Further, there are many person characteristics that have been shown to be relevant to both employment and cancer outcomes that were not available in the database including marital status, sexual orientation, overall health status, motivation, resilience, locus of control, socioeconomic status, and urban-rural-suburban residency. The data on the nature of CPs' cancer are limited, as well. Specific data regarding the types of cancer with which CPs were diagnosed, severity and prognosis, duration of illness, and treatment received were unavailable. These may have had important implications for CPs' employment and workplace discrimination experiences. This means that a person who has cancer but who also has depression might file his or her allegation using depression as the primary disability; this person's allegation would not be part of the present study even though he or she has cancer. Finally, this study was strictly limited to allegations brought under Title I of the ADA; thus, it is likely that the study population does not represent the entirety of Americans with cancer who experience workplace discrimination. People with cancer who experience unfair treatment in the workplace often choose not to report their experiences to anyone, and those who do choose to file complaints may do so under other employment-related legislation such as the Rehabilitation Act of 1973, Civil Rights Act, Equal Pay Act, or Age Discrimination in Employment Act. Allegations by this population could also have been filed on the basis of race, age, and/or gender with the EEOC, as the alleged discrimination may not have occurred exclusively as a result of cancer [22].

Conclusion

Overall, the results of this study provide some valuable insights into the type of perceived discrimination that young adult cancer survivors experience. Results of the study suggest that younger adult cancer survivors are more likely to experience discrimination related to promotions, training, and referral, which can be conceptualized as directly impacting the overall career development process. In addition, study results revealed that the younger cancer survivor group had higher proportions of males and African Americans than the older group. In addition, the younger cancer survivors' allegations were less likely to be resolved in their favor (i.e., with merit) than the older survivors' allegations. More research is needed to gain insight into the issue, gender, ethnicity, and case resolution discrepancies that were observed between the two age groups considered in this investigation. Findings do clearly indicate the importance of working with younger cancer survivors in the workplace from a career development perspective to facilitate the development of effective job acquisition and self-promotion skills that can be utilized within the workplace. Working with employers to address issues related to unfounded negative attitudes, internal biases, promotion structures, and consistent metrics for performance evaluation—along with ensuring that

access to training and skill development opportunities are accessible—would seem to be necessary emphases of vocational intervention with young cancer survivors.

Compliance with ethical standards

Ethical approval “All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.”

Disclaimer Records were examined with permission of the Equal Employment Opportunity Commission (EEOC) through an Interagency Personnel Agreement (IPA) and Confidentiality Agreement involving the EEOC, Dr. Brian T. McMahon, and his employer (a state university).

Conflict of interest The authors declare that they have no conflict of interest.

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