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ARTICLE



## The influence of stigma on the quality of life for prostate cancer survivors

Andrew W. Wood, PhD<sup>a</sup>, Sejal Barden, PhD<sup>b</sup>, Mitchell Terk, MD<sup>c</sup>, and Jamie Cesaretti, MD, MS<sup>c</sup>

<sup>a</sup>Department of Clinical Mental Health Counseling, Antioch University Seattle, Seattle, WA, USA;

<sup>b</sup>Department of Child, Family, and Community Sciences, University of Central Florida, Orlando, FL, USA;

<sup>c</sup>Southpoint Cancer Center, Jacksonville, FL, USA

### ABSTRACT

The purpose of the present study was to investigate the influence of stigma on prostate cancer (PCa) survivors' quality of life. Stigma for lung cancer survivors has been the focus of considerable research (Else-Quest & Jackson, 2014); however, gaps remain in understanding the experience of PCa stigma. A cross-sectional correlational study was designed to assess the incidence of PCa stigma and its influence on the quality of life of survivors. Eighty-five PCa survivors were administered survey packets consisting of a stigma measure, a PCa-specific quality of life measure, and a demographic survey during treatment of their disease. A linear regression analysis was conducted with the data received from PCa survivors. Results indicated that PCa stigma has a significant, negative influence on the quality of life for survivors ( $R^2 = 0.33$ ,  $F(4, 80) = 11.53$ ,  $p < 0.001$ ). There were no statistically significant differences in PCa stigma based on demographic variables (e.g., race and age). Implications for physical and mental health practitioners and researchers are discussed.

### KEYWORDS

prostate cancer; quality of life; stigma

Prostate cancer (PCa) is currently the third most common type of cancer among all people and the most common type of cancer in men in the United States of American (National Cancer Institute; NCI, 2011). Despite the high incidence of PCa, survival rates are close to 99% for the first 5 years after diagnosis (NCI, 2011). In light of its very high survivability, it follows that legions of men continue to live with the consequences of both the diagnosis and its treatment at any given time and that these factors adversely can affect their quality of life (QoL).

Researchers have previously reported many predictors that influence the QoL of PCa survivors including treatment (Chipperfield et al., 2013), stage (Vanagas, Mickeviciene, & Ulys, 2013), age (Diefenbach, Mohamed, Horwitz, & Pollack, 2008), social factors (Zenger et al., 2010), and socio-economic status (Aarts et al.,

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**CONTACT** Andrew W. Wood  [awood5@antioch.edu](mailto:awood5@antioch.edu)  Department of Clinical Mental Health Counseling, Antioch University Seattle, 2400 3rd Ave, Suite 200, Seattle, WA 98121, USA.

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2010). One factor, not yet exhaustively studied in PCa survivors, that influences the QoL of individuals with other types of cancer is stigma (Else-Quest & Jackson, 2014). Researchers (e.g., Cataldo, Jahan, & Pongquan, 2012) have made strides in recent years to understand the influence of lung cancer stigma on survivors. However, in examining the current literature, little research has focused on investigating PCa stigma at all, and almost no effort looking at survivors who have been treated with modern techniques (Else-Quest, LoConte, Schiller, & Hyde, 2009; Fergus, Gray, & Fitch, 2002). This study aimed to examine the influence that PCa stigma has on the QoL of survivors.

## Stigma

The concept of stigma refers to a socially constructed phenomenon wherein individuals with diseases or disabilities that differ from the majority of individuals are discredited (Goffman, 1963). Stigma is multifaceted in that individuals can experience a variety of stigmas (e.g., social, self, anticipatory, and label avoidance). Social stigma (Link & Phelan, 2001) is the most common form of experienced and researched stigma, and it exists when the larger society expresses a sense of “otherness” toward individuals due to specific characteristics (e.g., physical deformities). Self-stigma (Vogel et al., 2013) is an internalized social stigma, wherein the opinions and views expressed in social stigma are taken in by the stigmatized and become part of their self-concept (e.g., internalized shame). In addition to social and self-stigma, there are numerous other types of stigma (e.g., anticipatory stigma [Newheiser & Barreto, 2014], label avoidance [Jones & Corrigan, 2014], and family stigma [Park & Park, 2014]) that can cause individuals to experience a variety of negative consequences. Different types of stigmas can be experienced individually or simultaneously, but for the purposes of this article, the main two types of stigma that will be discussed and measured are social and self-stigma.

The majority of stigma researchers over the past 20 years have addressed the threat and prevalence of social and self-stigma related to mental health disorders, mental health treatment, HIV and AIDS exposure, and HIV and AIDS diagnosis (Mak, Poon, Pun, & Cheung, 2007; Varni et al., 2012). However, in recent years, new sources of stigmatization have been revealed for individuals living with various health issues (e.g., diseases and disabilities, Ablon, 2002; Jones & Corrigan, 2014). Individuals suffering from illnesses and diseases can experience a variety of stigmas, including discreditable stigmas, which are stigmas that exist without obvious physical cues that distinguish them from the public (e.g., HIV and AIDS; Herek, 1999) and discrediting stigmas, which are stigmas that can be easily detected (e.g., visible sores; Goffman, 1963).

Experiences of stigma are not mutually exclusive, and victims often report co-occurring experiences of multiple forms of stigma (Vogel et al., 2013). In particular, experiences of stigma related to health issues have been detrimental to QoL (Jones & Corrigan, 2014). Health stigma can exist in multiple forms of stigma for

different health issues such as disability (Ali, Hassiotis, Strydom, & King, 2012; Werner et al., 2012) and obesity (Pearl & Lebowitz, 2014; Puhl & Heuer, 2010). One area of focus that is developing in research is cancer stigma.

### **Cancer stigma**

Empirical research on how stigma affects cancer survivors has been steadily growing in recent years (Else-Quest & Jackson, 2014). Cancer stigma can affect individuals with different types of cancer, such as breast (Torres, Dixon, & Richman, 2016), cervical (Rosser, Njoroge, & Huchko, 2016), head, and neck (Threader & McCormack, 2016). Empirical research supports the idea that cancer is a stigmatizing disease (e.g., Chapple, Ziebland, & McPherson, 2004; Bresnahan, Silk, & Zhuang, 2013; Knapp-Oliver & Moyer, 2009). For example, Cho and colleagues (2013) surveyed a sample of individuals in South Korea with lung cancer and found that the 30% of cancer survivors reported social or self-stigma related to the disease and experiences of stigma were significantly associated with depressive symptoms.

In the growing area of cancer stigma research, lung cancer has been the most investigated cancer site (Else-Quest & Jackson, 2014). Regarding lung cancer, researchers (Chapple et al., 2004; Bresnahan et al., 2013; Knapp-Oliver & Moyer, 2009) have found that nonsmokers and those without lung cancer had stigmatizing attitudes toward individuals with lung cancer, even if they did not smoke. Furthermore, lung cancer survivors have experienced feelings of being “dirty” and would not seek treatment for fear of others knowing they had the disease. In relation to the outcomes of being stigmatized, Gonzalez and Jacobsen (2012) found a positive relationship between feelings of stigma and depressive symptomatology for lung cancer survivors. Similarly, Cataldo et al. (2012) found a positive relationship between stigma and depression, and a negative relationship between stigma and QoL. Brown, Brodsky, & Cataldo (2013) found similar relationships between stigma and anxiety (positive), as well as stigma and QoL (negative). In examining the consequences of stigma, Carter-Harris, Hermann, Schreiber, Weaver, and Rawl (2014) found that experiences of lung cancer stigma influence timing of medical help-seeking behavior. The findings of the study point to stigma as being a barrier to treatment after symptom onset and being a risk to lung cancer becoming worse before treatment is sought. This brief review of lung cancer stigma research illustrates that lung cancer survivors experience stigma and are also negatively affected by stigma. Given that lung cancer can be seen as a discrediting stigma (i.e., through smoking; Bresnahan et al., 2013; Goffman, 1963; Knapp-Oliver & Moyer, 2009), discreditable stigmas could affect survivors of other cancer sites differently.

Else-Quest and colleagues (2009) examined stigma, self-blame, and adjustment in lung cancer, breast cancer, and PCa survivors. Stigma and self-blame were found to be associated with poor psychological adjustment. An interesting finding in the study is that no significant differences were indicated between stigma and types of cancer; indicating that type of cancer may not be directly related to experiences of

stigma. Given the findings of Else-Quest and colleagues (2009), as well as other researchers (e.g., Fergus et al., 2002), PCa stigma can be an area of further exploration to understand how we can better the QoL of survivors.

### *Possible influences of prostate cancer stigma for survivors*

Personal perception of PCa survivors has been indicated as a possible stigmatizing factor for individuals diagnosed or at risk at being diagnosed with the disease (Maliski, Heilemann, & McCorkle, 2002; Pedersen, Armes, & Ream, 2012). Knowledge and experiences with PCa and treatment effects can lead to fear and shame surrounding the disease, perpetuating experiences similar to discreditable stigma (Rot, Ogah, & Wassersug, 2012).

Language used to describe PCa treatment such as impotence and chemical castration, coupled with the emasculating way in which they are discussed in media may influence how PCa stigma is constructed (Cushman, Phillips, & Wassersug, 2010). Researchers have found that PCa is a threat to masculinity for individuals who hold traditional gender role identities (Letts et al., 2010; Maliski et al., 2008). Sexual functioning has also been found to be a factor in negatively affecting PCa survivors (Benedict et al., 2014; Burns & Mahalik, 2008). In addition to knowledge, masculinity, and sexual functioning, PCa has been linked to many physical and mental health issues, including decreased QoL (Torvinen et al., 2013; Zenger et al., 2010), relational issues (Harden et al., 2013), depression (Jayadevappa et al., 2012), sexual desire (Jenkins et al., 2004), self-esteem (Maliski et al., 2008; Rivers et al., 2011, 2012), and incontinence (Kopp et al., 2013). In sum, several factors may contribute to PCa stigma, although gaps exist in empirical research focused on this area.

Findings from a qualitative study conducted by Fergus et al. (2002) showed that PCa survivors experienced an invisible stigma, that is, a stigma that could be seen by survivors, but not others (e.g., discrediting stigma; Goffman, 1963). Qualitative analyses revealed that stigma experiences were related to participants' inability, or fear of an inability to sexually perform with their intimate partners. Furthermore, those without a partner feared engaging with a prospective partner for fear that they would not be able to maintain arousal if sexual opportunities arose.

In light of stigmatization in PCa, there have been multiple movements by different organizations to combat PCa stigma and men's health stigma. For example, Prostate Cancer Canada, the Prostate Cancer Foundation, and related organizations have paired with the Movember Foundation and other campaigns with an aim to raise awareness for men's health and to help normalize PCa and other men's health issues (Bravo & Hoffman-Goetz, 2015). However, there is not a clear empirical understanding of how PCa stigma influences the QoL of survivors in the little research that has focused on PCa stigma (Else-Quest & Jackson, 2014). Therefore, the purpose of the current study was to examine the influence of PCa stigma on survivors' QoL.

## Method

The focus of this investigation was to explore the relationships between PCa stigma and QoL for survivors. A convenience sample was utilized to access an appropriate participant base to take part in the study (Gall, Gall, & Borg, 2007). A correlational design was used to assess the relationships between the PCa stigma, as measured by the social impact scale (SIS; Fife & Wright, 2000), and QoL, as measured by the Functional Assessment of Cancer Therapy—Prostate (Esper et al., 1997), for the current study.

Data were collected from PCa survivors at a free-standing oncology center that specializes in the care of PCa ( $n = 70$ ) and PCa support groups ( $n = 15$ ) in the southeast United States. Data were collected from participants in a larger study that also included data from their romantic or intimate partners, which required the inclusion criteria to extend only to PCa survivors that were currently in romantic or intimate relationships. Inclusion criteria also necessitated that participants were at least 18 years old and had been diagnosed with PCa. Participants in the study were given assessment packets by the first author and were asked to complete the packets and return them in person or via mail in a prestamped envelope. Of the 158 packets distributed, 86 were returned, with one being unusable (i.e., only the demographic form completed) resulting in a 53.8% response rate. The assessment packet consisted of a stigma scale, a QoL scale, and a demographic questionnaire created by the first author.

## Instruments

Two instruments were used to gather data from participants in regard to PCa stigma and QoL. The authors used the SIS (Fife & Wright, 2000) to measure a mixture of stigmas (e.g., social and self-stigma). The authors also used the Functional Assessment of Cancer Therapy—Prostate (Esper et al., 1997) to measure multiple types of QoL (e.g., physical and emotional). Both instruments were assessed for reliability and validity before and after administration.

### *Social impact scale*

The stigma scale used in the study was the SIS (Fife & Wright, 2000). The SIS consisted of 24 items and measured four types of stigma: social rejection (e.g., *Some people act as though I am less competent than usual*), financial insecurity (e.g., *I have experienced financial hardship that has affected how I feel about myself*), internalized shame (e.g., *I feel others think I am to blame for my illness*), and social isolation (e.g., *Due to my illness, I have a sense of being unequal in my relationships with others*). The four subscales of the SIS could also be separated into two main types of stigma: experiences of rejection and stigma, and social psychological feelings regarding stigma (Fife & Wright, 2000). These two main types of stigma were termed as social stigma and self-stigma for the purposes of the current study. Each item on the SIS had a four-point Likert-style response ranging from 1 to 4

(e.g., *Strongly Disagree*, *Disagree*, *Agree*, and *Strongly Agree*). The format for the SIS in the current study began with the prompt, “Below is a list of statements. Please circle or mark one number per question to indicate how much you agree with each statement in regards to your experience with prostate cancer.” The researchers used this prompt as the SIS presented in the original article (Fife & Wright, 2000) did not have a listed beginning prompt for administration of the instrument. Furthermore, the SIS was developed to measure stigma for cancer and HIV/AIDS, and participants were asked to think about the questions in relation to their experiences with PCa. To the authors’ knowledge, this is the first time the SIS has been used with a sample of PCa survivors. The SIS has demonstrated acceptable reliability (e.g.,  $\alpha$  ranging from 0.85 to 0.90 among subscales and 0.99 in total; Fife & Wright, 2000; Pan, Chung, Fife, & Hsiung, 2007) and validity (Burgener & Berger, 2008; Pan et al., 2007). In addition to the reliability reported in previous studies, reliability analysis (e.g., internal consistency) was run on the data obtained for this study. In the current study, the reported internal consistency was 0.84 for the social rejection subscale, 0.85 for the financial insecurity subscale, 0.73 for the internalized shame subscale, and 0.92 for the social isolation subscale, indicating acceptable reliability overall.

#### ***Functional assessment of cancer therapy—prostate***

The QoL scale used in the study was the FACT-P (Esper et al., 1997). The FACT-P is one of multiple cancer QoL scales and is based on the original Functional Assessment of Cancer Therapy (Cella et al., 1993). The FACT-P consisted of 39 items and measured QoL on five subscales: physical (e.g., *I have a lack of energy*), emotional (e.g., *I am losing hope in the fight against my illness*), family/social (e.g., *I get emotional support from my family*), functional (e.g., *I am enjoying the things I usually do for fun*), and prostate concerns (e.g., *I urinate more frequently than usual*). Each item on the FACT-P had a five-point Likert-style response format including the responses, not at all, a little bit, somewhat, quite a bit, and very much, ranging from 0 to 4 (e.g., *Not at all*, *A little bit*, *Somewhat*, *Quite a bit*, and *Very much*). The standard FACT-P format, found on the Functional Assessment of Chronic Illness Therapy website, was used in administration of the instrument. The FACT-P was used in the current study rather than other well-known PCa-specific QoL measures (e.g., Expanded Prostate Cancer Index Composite [EPIC], Wei, Dunn, Litwin, Sandler, & Sanda, 2000) as it was embedded in a larger study examining the experiences of PCa survivors’ partners, as the FACT-P has a noncancer equivalent QoL measure, the Functional Assessment of Cancer Therapy—General Population (Cella, 2012). The FACT-P has demonstrated acceptable reliability (e.g.,  $\alpha = 0.87$ ; Esper et al., 1997) and validity (Hamoen, Rooij, Witjes, Barentsz, & Rovers, 2015). In addition to the reliability reported in previous studies, reliability analysis (e.g., internal consistency) was run on the data obtained for this study. In the current study, the reported internal consistency of the scale utilized each of the subscales: physical (0.87), family/social (0.73), emotional (0.57), functional (0.86),

and prostate concerns (0.20). It was noted that there was some reliability issues in the sample in regard to the emotional subscale and the prostate concerns subscale. This could be due to multiple reasons, one of which being that participants were surveyed at different points in treatment (e.g., starting treatment and 3 year follow-up; Streiner, 2003). In regard to the emotional subscale, it was included in the analysis because it fell within the range of reported reliability in other studies (Peterson, 1994). However, the prostate concerns subscale was eliminated from the analysis due to extremely low internal consistency, resulting in a scale similar to the FACT-G (Cella et al., 1993). These limitations will be expounded upon in the discussion section.

The demographic questionnaire created by the first author consisted of basic demographic items: age, race, gender, current relationship status, sexual orientation, the highest level of education, and annual income. In addition to basic information, items are also extended to cancer-specific concerns: time since diagnosis, stage of cancer, whether participant has been treated for PCa, type of treatment, whether participant has completed treatment, and experience with chronic illness (e.g., neurodegenerative diseases, diabetes, and HIV/AIDS). The demographic questionnaire was reviewed by the second author and external reviewers for content and clarity.

### **Data analysis**

Data were entered into SPSS 21.0 (2012) and then cleaned. Each of the data packets was returned either by hand or by mail and inspected for large amounts (>50%) of missing data. For example, if participants only answered items for one of the instruments, the case was removed from analysis. Cases that had more than 50% of data missing, or three cases, were removed from the data set. Less than 5% of cases had missing data, allowing us to impute missing values (Tabachnick & Fidell, 2013). Multiple imputation (Rubin, 1987) was utilized to impute missing data into the data set, following recommendations from Tabachnick & Fidell (2013) and Rubin (1987). Multiple imputation, seen as the most respectable method for addressing missing data (Tabachnick & Fidell, 2013), is a process wherein missing data points are estimated from participants' previous responses and other participants' responses for that same item. Data were imputed five times through the multiple imputation command on SPSS. Each imputed data point was then summed and averaged to create a new data set with no missing continuous data, with the exception of cases previously deleted due to large amounts (>50%) of missing data.

### **Results**

The aim of the current investigation was focused on investigating PCa stigma's influence on the QoL of survivors. Data were analyzed using a linear regression analysis and exploratory correlational analyses. A multiple linear regression



analysis was used with QoL as the outcome variable and stigma as the predictor variable. A multiple linear regression analysis was chosen for this study to account for multiple dependent variables (e.g., each of the QoL subscales).

### **Descriptive and univariate statistics**

Eighty-five participants' contributed data for the current study. The majority of participants were between the ages of 66 and 75 (50.6%) and between 56 and 65 (29.4%). Furthermore, most of the participants identified as Caucasian (78.8%), followed by Black participants (16.5%) and all but three individuals were currently in a romantic or intimate relationship. Most participants had either a high school (or equivalent) education (24.7%) or a bachelor's degree (22.4%), with a smaller portion having an associate's degree (17.6%).

The majority of participants had been diagnosed with PCa between 1 and 3 years prior (43.5%) or less (38.1%). Furthermore, the majority of participants had received some type of treatment (92.9%) and were currently in treatment or had received a combination of treatments (e.g., external and internal radiations or surgery and external radiation; 40%), followed by those who only received external radiation treatments (30.6%). For those receiving treatment, 52.9% had completed treatment. Finally, 54.1% of the sample indicated that they had been diagnosed with another chronic disease or disorder (e.g., other type of cancer [21.2%], diabetes [8.2%], or heart disease [7.1%]).

In addition to examining descriptive statistics, univariate statistics (e.g., mean values) were also examined. Overall, the participants in the sample had lower stigma (indicating less experienced stigma) than the norm group (Fife & Wright, 2000) in every SIS subscale (Table 1). Furthermore, participants in the sample also had higher QoL (indicating better QoL) than the norm group (Esper et al., 1997) in every FACT-P subscale (Table 1).

### **Preliminary analysis**

To help ensure the trustworthiness of the results, assumptions for linear regression analyses (e.g., Osborne & Waters, 2002; Tabachnik & Fidell, 2013) were checked

**Table 1.** Descriptive statistics for SIS and FACT-P subscales.

Instrument	<i>M</i>	<i>SD</i>	<i>Mdn</i>	<i>Mode</i>	<i>Range</i>
FACT-P physical well-being	23.02	5.67	25	28	0–28
FACT-P social/family well-being	22.16	4.14	23	26	10–28
FACT-P emotional well-being	19.76	4.38	20	24	6–24
FACT-P functional well-being	22.19	5.35	23	28	9–28
SIS social rejection	10.63	2.71	9	9	9–20
SIS financial insecurity	4	1.89	3	3	3–12
SIS internalized shame	7	2.42	6	5	5–13
SIS social isolation	9.61	3.8	7	7	7–23

SIS, social impact scale; FACT-P, functional assessment of cancer therapy—prostate.

with the data. Assumptions of multiple regression analyses include normal distribution (i.e., that data do not contain too many outliers and data, for the most part, lie on a normal distribution), linearity (i.e., ensuring that there is a linear relationship between independent and dependent variables), homoscedasticity (i.e., variance of errors are consistent for all levels of the independent variables), and reliability (i.e., utilizing reliable measures). Data from the FACT-P indicated that the sample was negatively skewed; however, the skewness and kurtosis analysis revealed absolute values below 1, indicating that the distribution was relatively normal. Furthermore, in the regression analysis, P–P plots, residual outputs, and residual plots illustrated a relatively normal distribution, linear relationship between variables, and homoscedasticity. Finally, the reliability of measures was addressed by examining the reliability of the assessments used. As detailed in the methods section, reliability analyses (e.g., internal consistency) were conducted on data collected for this study for both the SIS and the FACT-P. As mentioned previously, one of the FACT-P subscales was removed due to poor reliability. Thus, for the sample obtained for the current study, assumptions for linear regression analyses were met. A correlation table (Table 2) was also produced to assess the relationship between variables individually which may not have been noticed during the linear regression analysis.

**Primary analysis**

Data were analyzed to assess if PCa stigma influenced the QoL of survivors. The total FACT-P score was entered as the dependent variable in the regression analysis and each subscale on the SIS was entered as independent variables. The first four subscales of the FACT-P were scored according to the scoring manual for the FACT-P (Cella et al., 1993; Esper et al., 1997) and summed together to get a total score. The prostate concerns subscale was excluded from analysis due to poor reliability ( $\alpha = 0.2$ ). Each SIS subscale was summed to produce the independent variables. Overall, the model was significant,  $R^2 = 0.33$ ,  $F(4, 80) = 11.53$ ,  $p < 0.001$  (Table 3), indicating that PCa had a significant, moderate influence on the QoL of survivors. In examining the regression coefficients, two of the four independent

**Table 2.** Correlations between FACT-P and SIS subscales.

	1	2	3	4	5	6	7	8
1 FACT-P physical	1							
2 FACT-P social/family	0.19	1						
3 FACT-P emotional	0.64**	0.27*	1					
4 FACT-P functional	0.65**	0.35**	0.58**	1				
5 SIS social rejection	-0.33**	-0.03	-0.27*	-0.34**	1			
6 SIS financial insecurity	-0.40**	-0.18	-0.43**	-0.47**	0.57**	1		
7 SIS internalized shame	-0.29**	-0.14	-0.43**	-0.38**	0.47**	0.31**	1	
8 SIS social isolation	-0.36**	-0.20	-0.50**	-0.57**	0.66**	0.56**	0.64**	1

FACT-P, functional assessment of cancer therapy—prostate; SIS, social impact scale.  
 Note: \* $p < 0.05$ , \*\* $p < 0.01$ .

**Table 3.** Hierarchical regression of stigma's influence on quality of life for prostate cancer survivors.

	<i>B</i>	SE <i>B</i>	$\beta$
(Constant)	108.1	5.766	
Social rejection	1	0.7	0.18
Financial insecurity	-2.73	0.91	-0.34
Internalized shame	-0.96	0.73	-0.15
Social isolation	-1.46	0.57	-0.36

Note:  $R^2 = 0.33$ ,  $F(4, 80) = 11.53$ ,  $p < 0.001$ .

variables (i.e., SIS subscales) were significant in predicting QoL, with the financial insecurity subscale having a negative influence on QoL,  $\beta = -0.34$ ,  $t(80) = -2.98$ ,  $p < 0.01$ , and the social isolation subscale having a negative influence on QoL,  $\beta = -0.36$ ,  $t(80) = -2.55$ ,  $p < 0.05$ . Another regression analysis was conducted to ensure that the two independent variables remained significant in their own analysis, using the two significant independent variables and excluding the nonsignificant independent variables. In the secondary analysis, the regression equation changed,  $R^2 = 0.34$ ,  $F(2, 82) = 21.02$ ,  $p < 0.001$ . Results from an ANOVA analysis indicated no significant differences in overall QoL between any of the demographic variables, indicating no significant group differences (e.g., based on time of diagnosis or race).

## Discussion

The aim of this investigation was to understand the relationship between PCa stigma and QoL for survivors. A group of 85 individuals who had been diagnosed with PCa were receiving treatment or checkup appointments at a free-standing oncology center or attending PCa support groups participated in the current study. Results indicated that stigma had a significant, moderate influence on QoL ( $R^2 = 0.33$ ), with financial insecurity and social isolation being significant, negative predictors of QoL. The social rejection and internalized shame subscales were not significant ( $p > 0.05$ ) predictors of QoL.

The existence and influence of PCa stigma indicates that it may be a concern for a variety of helping professionals (e.g., oncologists, nurses, and mental health counselors) providing care for survivors. Similar to others' findings, stigma has a significant influence on QoL (e.g., Brown et al., 2013; Cataldo et al., 2012; Kapella et al., 2015; Wan et al., 2014). In particular, financial insecurity had a negative influence on QoL. Financial insecurity as stigma falls in line with social stigma (Link & Phelan, 2001) on the SIS (Fife & Wright, 2000). As demonstrated by Vogel and colleagues (2013), social stigma has an ability to transform into a more emotionally debilitating self-stigma. The current study highlights that PCa survivors also experience self-stigma, as evidenced by the social isolation subscale (a subset of self-stigma) having a significant, negative relationship with QoL.

Similarly, Zenger et al. (2010) found that financial difficulties were a significant influence on the QoL of PCa survivors. Azzani, Roslani, and Su (2015) conducted a review of cancer-related financial hardship studies and found that financial issues are a consistent burden for individuals and families dealing with cancer. As noted in the limitations however, many individuals suffering from PCa are over the age of 65 (National Cancer Institute, 2011), commonly seen as the retirement age in the United States. Therefore, it may be helpful to engage in some amount of financial planning with clients considering PCa treatment and understanding how a fixed income may contribute to the stigma felt from the disease. Furthermore, helping clients become familiar with different types of treatment and working with, or advocating for, them in conjunction with medical personnel to help weigh appropriate treatment options that balance financial burden with treatment side effects is encouraged (DiIorio et al., 2011; Walsh & Worthington, 2012).

In addition to financial insecurity, social isolation was found to have a negative influence on QoL for PCa survivors. Gonzalez and Jacobsen (2012) found that social isolation, as a form of self-stigma, contributed to depression symptoms for lung cancer survivors. Cataldo et al. (2012) found that lung cancer stigma had a positive relationship with depression and negative relationship with QoL. Brown et al. (2013) found a similar link between lung cancer stigma and anxiety. Increases in empirical support for lung cancer stigma highlight the possible experiences of PCa survivors experiencing stigma and similar symptoms that can lead to an overall lower QoL. Although lung cancer carries a different type of stigma (e.g., public perception of smoking that relates more to social stigma), Else-Quest et al. (2009) found that the level of stigma experienced by lung cancer, breast cancer, and PCa survivors was not significantly different. Therefore, mental health practitioners should look to help treat PCa survivors with possible anxiety and depression symptoms.

It should also be noted that two types of stigma measured (i.e., social rejection and internalized shame) were not significant predictors of QoL for PCa survivors. This finding is different from other studies utilizing the same stigma measure but examining other diseases and chronic disorders (e.g., Kapella et al., 2015; Wan et al., 2014). Future studies designed to examine particular subsets of PCa survivors (e.g., examining treatment types and disease severity) may help to further describe how stigma affects PCa survivors and why social rejection and internalized shame could be areas to reduce focus in relation to the other types of stigma measured in this study.

Based on the findings of the current study, stigma reduction strategies should be two pronged: addressing a public perception of PCa and also a personal perception of PCa. Both of these efforts will help address the QoL of PCa survivors from both an advocacy standpoint (Ratts, Singh, Nassar-McMillan, Butler, & McCullough, 2015) and a psychosocial standpoint. In particular, as found in the correlation table (Table 2), stigma had a significant negative correlation with each QoL subscale except the family/social subscale. This finding provides early evidence that PCa

stigma has an influence on QoL, particularly in regard to social isolation and financial insecurity; thus, stigma reduction strategies at both public and personal levels should address QoL from a holistic perspective. In conducting this study, there were several limitations and implications for practice to be noted, as well as areas for future research to carry this area of study forward.

### **Limitations**

One of the main limitations of the study was in instrumentation. The data used in this study were part of a larger study examining the QoL of couples affected by PCa. More reliable measures of QoL for PCa survivors do exist (e.g., EPIC, Wei et al., 2000); however, there are no others that also have an equivalent non-PCa version that PCa survivors' partners could use. Use of a more reliable scale and capturing the attitudes of PCa survivors at the same point in treatment (e.g., beginning of treatment or 1 year follow-up) could yield better reliability for selected measures. Furthermore, development of a PCa-specific stigma scale can help to better characterize how PCa stigma is experienced.

### **Implications for practice**

In regard to public perception, stigma reduction strategies have been found to have mixed effects (Clement et al., 2013), allowing issues like label avoidance and prolonged time before diagnosis threatens the well-being of those with PCa (Jones & Corrigan, 2014). Carter-Harris et al. (2014) found that stigma was a deterrent in help-seeking behavior for individuals with lung cancer, possibly putting those individuals at risk for medical concerns that could affect them permanently if not treated. Furthermore, cultural perceptions of PCa (e.g., Pedersen et al., 2012) may work to further increase publicly stigmatized attitudes toward the disease. The current public perception of PCa (e.g., notions of impotence and use of colostomy bags) may lead to a stigma experienced by survivors that can become internalized (Vogel et al., 2013), which could lead to more serious, personal effects.

Furthermore, there are numerous researched strategies to help alleviate stigma felt by individuals in counseling (e.g., Livingston, Milne, Fang, & Amari, 2012; Masuda, Hill, Morgan, & Cohen, 2012). Psychoeducation has also been found to be an effective approach to reducing mental health-based self-stigma (Mittal, Sullivan, Chekuri, Allee, & Corrigan, 2012). Formal psychotherapy group interventions are helpful in reducing self-stigma (Lucksted et al., 2011; Luoma, Kohlenberg, Hayes, Bunting, & Rye, 2008), and PCa support groups have been found to alleviate fears and concerns related to the disease (Arrington, 2010; Oliffe, Ogradniczuk, Bottorff, Hislop, & Halpin, 2009; Thaxton, Emshoff, & Guessous, 2005). Helping professionals can work together to decrease social isolation by creating PCa-focused support groups and connecting new survivors with ones who have lived with the disease for a prolonged amount of time in an effort to increase social

connections (Oliffe et al., 2009). Thus, not only should stigma reduction strategies focus on the public perception of PCa, but also address personal perceptions.

### **Future research**

Researchers are encouraged to continue examining the influence PCa stigma on QoL for survivors utilizing psychometrically sound measures. Constructs such as hope (Snyder et al., 1991), religious coping (Ano & Vasconcelles, 2005), positive and negative effects (Watson, Clark, & Tellegen, 1988), or treatment type (Chipperfield et al., 2013) would contribute to understanding pathways of moderation/mediation for PCa and stigma. Measurement of PCa stigma is still in its infancy, with the current study utilizing a previously constructed stigma measure (Fife & Wright, 2000), and previous studies using single-item measures (Else-Quest et al., 2009). Development of PCa-specific stigma measures can be helpful to better conceptualize this unique type of stigma. Furthermore, a more diverse sample can lead to further understanding of how stigma may influence health disparities in the incidence and mortality of minority PCa survivors. Samples focusing specifically on how PCa stigma influences QoL for minority survivors can illuminate how cultural factors can influence the experience of stigma. Another area of research that needs further examination is how PCa stigma might influence the QoL of not only romantic partners, but also other family members (Park & Park, 2014). As PCa usually occurs later in life, the influence of stigma may be multigenerational. Studies examining the influence of stigma on the QoL of parents, children, and grandchildren may shed further light on the nature and characteristics of PCa stigma. In sum, the current study is the first, to the knowledge of the authors, to examine the influence that stigma has on the QoL of PCa survivors. With developments in stigma and QoL measurement, further research is needed to better understand PCa stigma, how mental health professionals can address these concerns in practice, and how reducing stigma may influence survivors' health.

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