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# The Complex Role of Personality in Cancer Treatment: Impact of Dependency-Detachment on Health Status, Distress, and Physician-Patient Relationship

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# Introduction

Although medical factors such as type of cancer and the extensiveness of surgery and follow-up intervention (e.g., chemotherapy) help determine patients' adjustment during and after treatment, evidence suggests that psychosocial variables such as coping style, stress management skill, and social support also play a significant role (Orom et al., 2009; Penedo et al., 2013). As the importance of psychosocial processes in cancer treatment has become established, researchers have begun to examine the impact of personality on patients' response to cancer diagnosis. Among the personality factors associated with more positive adjustment are optimism and internal health locus of control; low self-efficacy (both global and health related) and alexithymia are linked with more negative outcomes (Carver et al., 2005; Orom et al., 2009).

Given the feelings of helplessness, fear, and vulnerability that often follow a cancer diagnosis, it is not surprising that researchers have examined links between patient dependency and adjustment in cancer patients. Evidence from a study of 101 older adults (Mean age = 73.90, Range = 68-83) newly diagnosed with cancer suggested that patients' degree of physical (or *functional*) dependency on caregivers was negatively associated with their overall quality of life assessed by questionnaire and open-ended interview (Esbensen et al., 2011). These results echo findings from studies of functional dependency and quality of life in adults receiving care for other types of illnesses and injuries (e.g., loss of mobility, dementia; see Baltes, 1996; Bornstein, 2005).

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No studies have assessed the impact of personality based interpersonal dependency (sometimes called *trait dependency*) on adjustment in cancer patients, but a plethora of studies have documented the impact of interpersonal dependency on health related attitudes and behaviors in other domains. For example, dependent psychotherapy and medical patients tend to overuse health and mental health services, incurring higher costs than nondependent patients with similar demographic and diagnostic profiles; these patterns hold in both outpatient and inpatient treatment settings (Bornstein, 1993, 1998; O'Neill and Bornstein, 2001; Porcerelli et al., 2009). Along somewhat different lines, O'Neill and Bornstein (2006) found that dependent patients undergoing inpatient treatment for an array of physical illnesses reported higher levels of satisfaction than did nondependent patients with similar diagnoses. These findings are consistent with the longstanding observation that dependent adults tend to be more comfortable than nondependent adults in situations where they are cared for by a figure of authority (e.g., physician, psychologist, professor; see Bornstein, 2011, 2012).

Although the converse of interpersonal dependency—detachment—has received only modest attention from researchers, preliminary evidence suggests that detachment may also moderate patient adjustment during treatment for physical and psychological illness. For example, Bornstein et al. (2009) found that high levels of dysfunctional detachment as assessed by the Relationship Profile Test (RPT; Bornstein and Languirand, 2003) were associated with increased depression and anxiety in a sample of female primary care patients undergoing outpatient treatment in an urban health center. Porcerelli et al. (2009) found that high levels of detachment are associated with higher average healthcare costs per office visit. High levels of detachment are associated with a maladaptive defense style in patients undergoing outpatient substance abuse treatment (Bornstein et al., 2010), and with elevated levels of distress and poorer treatment response in patients undergoing inpatient treatment for substance abuse (Haggerty et al., 2010).

Given that interpersonal dependency and detachment moderate patient adjustment for an array of illnesses, it is likely that these variables play a particularly important role in moderating patient adjustment following cancer diagnosis. After all, cancer diagnosis is a highly stressful event that typically evokes a strong emotional response in patients, and as noted, such a diagnosis typically evokes feelings of helplessness, fear, and vulnerability, especially in patients predisposed toward interpersonal dependency. The physician—who plays an important symbolic role as protector and caregiver even for individuals undergoing treatment for less serious illnesses—becomes a crucial figure in the patient's life following cancer diagnosis.

This study examined the impact of interpersonal dependency and detachment on health status, distress, and the physician-patient relationship in a mixed-sex sample of adults undergoing outpatient treatment for cancer. Dependency and detachment were assessed via the RPT (Bornstein and Languirand, 2003), a widely-used self-report measure which yields separate scores for Destructive Overdependence (DO), Dysfunctional Detachment (DD), and Healthy Dependency (HD). We hypothesized that high scores on the RPT DO and DD scales would be associated with higher levels of distress, and lower health related quality of

life. High DO scores should be associated with a more positive physician-patient relationship, whereas high DD scores should be associated with a comparatively negative physician-patient relationship. High scores on the RPT HD scale should be associated with lower levels of distress, higher health related quality of life, and a more positive physician-patient relationship.

### Methods

#### Patients and Procedure

Adult cancer patients (N = 50) undergoing radiation, with and without chemotherapy, were recruited from a suburban outpatient oncology clinic at a university-affiliated hospital. Gender, age, ethnicity, marital status, income, type of cancer diagnosis, and cancer stage are reported in Table 1. Patients were recruited by flyer in the clinic waiting room; patients who were interested in participating in the "Cancer and Relationships" study contacted a member of the research team, either by phone or in-person, to schedule a visit to the clinic to complete self-report and interview measures. All participants provided written consent. The study was approved by the Wayne State University IRB.

#### Instruments

**Relationship Profile Test**—Destructive Overdependence (DO), Dysfunctional Detachment (DD), and Healthy Dependency were assessed with the Relationship Profile Test (RPT; Bornstein and Languirand, 2003). The RPT is comprised of 30 rationally-derived items that ask participants to rate a series of self-statements on a 5-point Likert scale ranging from 1 (not at all true of me) to 5 (very true of me). The RPT yields 3 (10-item) subscale scores: DO, DD, and HD. RPT items assess 4 components of each personality style (cognitive, emotional, motivational, and behavioral), as well as other core features of each dimension. Cronbach's a for DO, DD, and HD have been reported to be 0.82, 0.60, and 0.67, respectively (Bornstein et al., 2002, 2003, 2004). The 3 subscales have good retest reliability over 23, 85, and 158 weeks; retest reliability coefficients are unaffected by daily hassles and major life events experienced in the weeks prior to retesting (Bornstein et al., 2002, 2003; Bornstein and Huprich, 2006). Support for the convergent and discriminant validity of the RPT subscales have been shown through correlations with measures of attachment style, self-concept, identity, relatedness, affect regulation, need for approval, locus of control, alexithymia, and life satisfaction (Bornstein et al., 2002; Bornstein et al., 2003). RPT subscales also had the expected patterns of intercorrelations and gender differences, and adequate internal reliability (Bornstein et al., 2003; Bornstein et al., 2004). Lastly, RPT subscales had the expected relationships with scores on measures of gender role orientation (Bornstein et al., 2004).

**Medical Outcome Study Short Form**—Physical health-related quality of life was assessed using the three subscales of the Medical Outcome Study Short Form (SF-20; Stewart, Hays, and Ware, 1988): Health Perception (5 items), Physical Functioning (6 items), and Pain (1 item). The SF-20 was developed for the multi-year Medical Outcomes study to assess quality of life (physical and mental health) of patients with chronic medical diseases. Only the physical health subscales were used for this study. Each item is scored on

a Likert-type scale ranging from either 1 to 5 or 1 to 3. Raw scores for each of the subscales are converted to percentage scores ranging from 1 to 100, with higher scores reflecting greater health. For ease of interpretation scores from the Pain score were reversed so that higher scores represent greater pain. The SF-20 is one of the most commonly used measures of quality of life. Reliability and validity evidence has been reported in Stewart, Hays, and Ware (1988) and Ware, Sherbourne, and Davies (1992).

**Patient Health Questionnaire-2**—Depression was assessed using the Patient Health Questionnaire-2 (PHQ-2; Kroenke, Spitzer, and Williams, 2003), a 2-item ultra-brief scale made up of the first two items from the PHQ-9 (Kroenke, Spitzer, and Williams, 2001) - *Little interest or pleasure in doing things* and *Feeling down, depressed or hopeless*. Each item is scored on a 4-point Likert-type scale: 0 (*not at all*) to 3 (*nearly every day*). PHQ-2 scores range from 0 to 6, with a score of 3 or greater indicating a positive depression screen. Kroenke et al. (2003) reported sensitivity and specificity of the PHQ-2 (for the diagnosis of major depressive disorder) of 0.83 and 0.90, respectively. Total scores from the PHQ-2 were used for all analyses.

**Generalized Anxiety Disorder-2**—Anxiety was assessed using the Generalized Anxiety Disorder-2 (GAD-2; Kroenke, Spitzer, Williams, Monahan, and Löwe, 2007), a 2-item ultrabrief scale made up of the first two items from the GAD-7 (Spitzer, Kroenke, Williams, and Löwe, 2006) – *Feeling nervous, anxious, or on edge* and *Not being able to stop or control worrying*. Each item is scored on a 4-point Likert-type scale: 0 (*not at all*) to 3 (*nearly every day*). Scores range from 0 to 6, with a score of 3 or greater indicating a positive screen for generalized anxiety disorder. Kroenke et al. (2007) reported sensitivity and specificity of the GAD-2 (for the diagnosis of generalized anxiety disorder) of 0.95 and 0.64, respectively.

**Somatization**—The Patient Health Questionnaire-15 (PHQ-15; Kroenke, Spitzer, and Williams, 2002) is a 15 item self-report scale with items assessing symptoms associated with somatization: pain, neurological, gastrointestinal, cardiac, fatigue and sleep symptoms. Items are rated on a 3-point Likert-type scale: 0 (*not bothered at all*) to 2 (*bothered a lot*). Scores range from 0 to 30, with higher scores indicating greater somatization. A cutoff of 10 is used to determine moderate-severe symptom severity. Total PHQ-15 scores were used for all analyses. Reliability and validity of the PHQ-15 have been reported by Kroenke et al. (2002) and Kocalevent, Hinz, and Brahler (2013).

**Cancer Stage**—Cancer stage I through IV was obtained for each patient from hospital records by a medical staff quality specialist. Although criteria for stages differ for different types of cancer, higher numbers indicate more extensive disease. For example, Stage IV cancers have spread to distant tissues or organs (National Cancer Institute, 2012).

**Patient-Doctor Relationship Questionnaire**—The Patient-Doctor Relationship Questionnaire (PDRQ-9; Van der Feltz-Cornelis, Van Oppen, Van Marwijk, De Beurs, and Van Dyck, 2004) is a 9-item patient self-report scale. Items are rated on a 5-point Likert scale ranging from 1 (*not at all appropriate*) to 5 (*totally appropriate*) with scores ranging from 1 to 45. Items include questions about the physician's trustworthiness, helpfulness, degree of understanding, dedication and accessibility, as well as the patient's degree of

contentment with the care received and the amount of agreement about the nature of the patient's problems. Van der Feltz-Cornelis et al. (2004) reported an adequate two-month retest reliability of the PDRQ-9 of 0.61. Construct validity of the PDRQ-9 was assessed through factor analysis and by comparison of PDRQ-9 scores between primary care and epilepsy clinic patients. Porcerelli, Murdoch, Morris, and Fowler (in press) reported that the PDRQ-9 (Hahn et al., 1996) correlated significantly with scores on the (physician-rated) Difficult Doctor-Patient Relationship Scale, supporting the scale's convergent validity. PDRQ-9 scores were unrelated to patient age, physician-rated and patient-rated physical health status, or psychological distress, supporting the discriminant validity of the measure.

#### Results

Mean age of patients was 60.32 (SD = 12.74); other demographic data are summarized in Table 1. Table 1 also includes information regarding cancer diagnosis, cancer stage, and scores on each study variable (Mean, SD, and  $\alpha$ ). As Table 1 shows, the majority of patients in this sample were women; there was considerable variability in cancer stage and cancer type/diagnosis.

Table 2 summarizes the correlations between scores on each RPT subscale and the health, distress, and physician-patient indices assessed in this sample. RPT DO scores were positively correlated with patients' level of anxiety, and associated with a more negative physician-patient relationship. There was also a trend for high DO scores to be associated with higher levels of self-reported pain (r = 0.27, p = 0.06) and somatization (r = 0.24, p = 0.09). RPT DD scores were also associated with higher levels of self-reported pain (r = 0.27, p = 0.06) and somatization (r = 0.24, p = 0.09). RPT DD scores were also associated with higher levels of self-reported pain, somatization, depression, and anxiety, and marginally related to lower health perception (r = -0.27, p = 0.06). Like DO scores, DD scores were associated with a more negative physician-patient relationship, though the magnitude of the DD—PDRQ-9 association (r = -0.23, p = 0.10) was not significant. Although RPT HD scores did not significantly correlate with any of the outcome measures, HD negatively correlated with cancer stage (r = -.25, p = .08) and positively correlated with Health Perception (r = .23, p = .10).

Table 3 contrasts RPT DO, DD, and HD scores in the present sample with those of a primary care sample of urban women (Porcerelli et al., 2009). Although oncology patients and primary care patients did not differ with respect to DO (t [158] = 1.39, p = 0.17), oncology patients obtained significantly lower scores than primary care patients on DD (t [158] = 2.61, p = 0.01), and significantly higher scores than primary care patients on HD (t [158] = 2.52, p = 0.01).

#### **Discussion and Conclusions**

The present results confirm that personality factors moderate adjustment in oncology patients: Overdependence (and to a lesser extent, detachment) were associated with a more difficult physician-patient relationship following cancer diagnosis. Overdependence and detachment were both associated with elevated levels of anxiety as well, although only detachment was associated with increased depression and somatization.

Contrary to our hypothesis that higher DO scores would be associated with positive physician-patient relationships, overdependence was associated with more negative patient-physician relationships. Clinical observations suggest that in initial visits with healthcare providers, overdependent patient's provide extensive descriptions of their medical problems which can be helpful as the provider gathers information and conceptualizes the case. Over multiple visits, however, physicians may find it challenging to meet the needs of overdependent patients thus resulting in lower ratings by patients (see Porcerelli et al., 2009, for evidence regarding the relationship of overdependence to excessive use of health services).

Our results extend earlier findings regarding the construct validity and clinical utility of the RPT to a new population—oncology patients—and suggest that continued assessment of overdependence and detachment in this population may provide information regarding adjustment following cancer diagnosis. Obtained RPT-adjustment effect sizes in this sample were generally in the medium range, of a magnitude similar to that obtained in studies of personality and adjustment following cancer diagnosis involving other personality dimensions (e.g., optimism, locus of control; see Carver et al., 2005; Orom et al., 2009).

These results are in certain respects consistent with earlier findings regarding overdependence and detachment in primary care patients, and they differ in certain respects as well. Consistent with findings from Bornstein et al. (2009) involving primary care patients, RPT DO and DD scores were associated with increased depression in oncology patents. However, in contrast to primary care patients, high levels of detachment—but not overdependence—were associated with increased depression in oncology patients. Along somewhat similar lines Porcerelli et al. (2009) found that high DO and DD scores were associated with increased somatization in primary care patients; in the present sample of oncology patients only detachment was associated with increased somatization.

Further research is needed comparing DO, DD, and HD scores across socio-economic groups and disease levels. Our comparisons between urban primary care patients and suburban cancer patients suggests that lower levels of detachment (DD) in cancer patients may in part be due to healthcare providers actively promoting collaboration to address challenges that are unique to cancer patients. Higher healthy dependency (HD) scores of cancer patients (versus primary care patients) may be a function of healthcare providers encouraging appropriate help- and support-seeking in order for patients to receive the services that are available to them (e.g., a cancer support group). Patient factors may also contribute to lower DD and higher HD scores. Having cancer may provide a motive for greater engagement with others to quell cancer-related fears, or as part of a search for greater purpose and meaning in life.

A limitation of this study involved the small sample size, and the fact that the majority of patients were married women of Caucasian descent. These limitations restricted the generalizability of the findings and prevented a comparison of ethnic differences in health outcomes. The small sample size also minimized the statistical power needed to detect an effect of destructive overdependence on pain and somatization. Lastly, the sampling

Limitations notwithstanding, this study underscores the importance of understanding dependency and detachment and their relationships with psychological distress, health-related quality of life and the doctor-patient relationship in patients with cancer. Although preliminary, these data suggest that dysfunctional detachment is associated with poorer quality of life and higher psychological distress while over-dependency is associated with poorer doctor-patient relationship following a cancer diagnosis.

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## Table 1

Demographic Information and Study Variables (N = 50).

	n	%	
Gender			
Male	18	36	
Female	36	64	
Marital Status			
Single	2	4	
Married	31	62	
Divorced	14	28	
Widowed	3	6	
Ethnicity			
Caucasian	42	84	
African American	6	12	
Other	2	4	
Family Income			
0 - 39,000	15	30	
40,000 - 70,999	25	50	
80 and above	10	20	
Cancer Diagnosis			
Breast	14	28	
Lung	11	22	
Lymphoma	8	16	
Colon	5	10	
Prostate	4	8	
Pancreatic	2	4	
Endometrial	2	4	
Other	4	8	
Cancer Stage			
Stage I	8	16	
Stage II	18	36	
Stage III	14	28	
Stage IV	10	20	
Study Variables	Mean	SD	a
Personality			
RPT - Destructive Overdependence	23.04	6.66	0.76
RPT - Dysfunctional Detachment	29.24	7.45	0.79
RPT - Healthy Dependency	34.84	7.36	0.82
Physical Health-Related Quality of Life			
SF-20 - Health Perception	54.08	21.25	0.88
SF-20 – Pain <sup>a</sup>	64.18	21.11	
SF-20 - Physical Functioning	71.77	21.62	0.87

	n	%	
Psychiatric Symptoms			
PHQ-15 - Somatization	8.42	4.72	0.80
PHQ-2 - Depression	1.46	1.68	0.91
GAD-2 - Anxiety	1.38	1.74	0.85
Doctor-Patient Relationsip			
PDRQ-9 - Patient-Doctor Relationship	41.72	5.42	0.93

 $^a\mathrm{No}\,\alpha$  is reported for the SF-20 pain scale because it is a single item scale.

RPT, Relationship Profile Test; SF-20, Medical Outcomes Study - Short Form; PHQ15, Patient Health Questionnaire Somatization scale; PHQ-2, depression screen; GAD-2, Generalized Anxiety Disorder two-item screen; PDRQ-9, Patient-Doctor Relationship Questionnaire-9.

Table 2

Relationship Profile Test -- Outcome Measure Correlations (N = 50)

	Cancer Stage	Health Perception	Pain	Physical Functioning	Somatization	Depression	Anxiety	Patient-Doctor Relationship
Destructive Overdependence	.03	09	.27 <sup>t</sup>	04	.24t	.18	.30 <sup>t</sup>	–.28 <sup>t</sup>
Dysfunctional Detachment	.17	27 <sup>t</sup>	.32 <sup>t</sup>	14	.41**	.31 <sup>t</sup>	.39**	23
Healthy Dependency	25 <sup>t</sup>	.23	01	.07	03	05	06	01
$t \\ p < .10,$								
$_{p < .05, }^{*}$								
p < .01.								

#### Table 3

Relationship Profile Test Means, SD, and Score Distributions in two Medical Samples

		Ν	Mean (SD)	Median	Range
Destructive Overdependence					
	Primary Care sample <sup>a</sup>	110	25.07 (9.26)	24.00	10-50
	Oncology sample	50	23.04 (6.66)	23.50	11-37
Dysfu	nctional Detachment				
	Primary Care sample	110	32.84 (8.37)	33.00	10-50
	Oncology sample	50	29.24 (7.45)	30.00	11-45
Healthy Dependency					
	Primary Care sample	110	31.54 (7.82)	32.00	10-50
	Oncology sample	50	34.84 (7.36)	35.00	16-49

<sup>a</sup>Primary care sample data obtained from Porcerelli, Bornstein, Markova, and Huprich (2009)

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