The Human Spirit: Anxiety, Spirituality, and Depression in HIV+ Adults

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Introduction

Persons with human immunodeficiency virus (PWH) are living longer and healthier lives as a result of better medical care, major advances in antiretroviral therapy, and prophylaxis of some of the initially fatal complications (Selik, Chu, & Ward, 1995). However, while these medical advancements in treatment have shifted HIV to a more manageable chronic illness, PWH may experience an increase in psychological (Nott, et al., 1995) and physiological (Robinson, et al., 1999) distress.
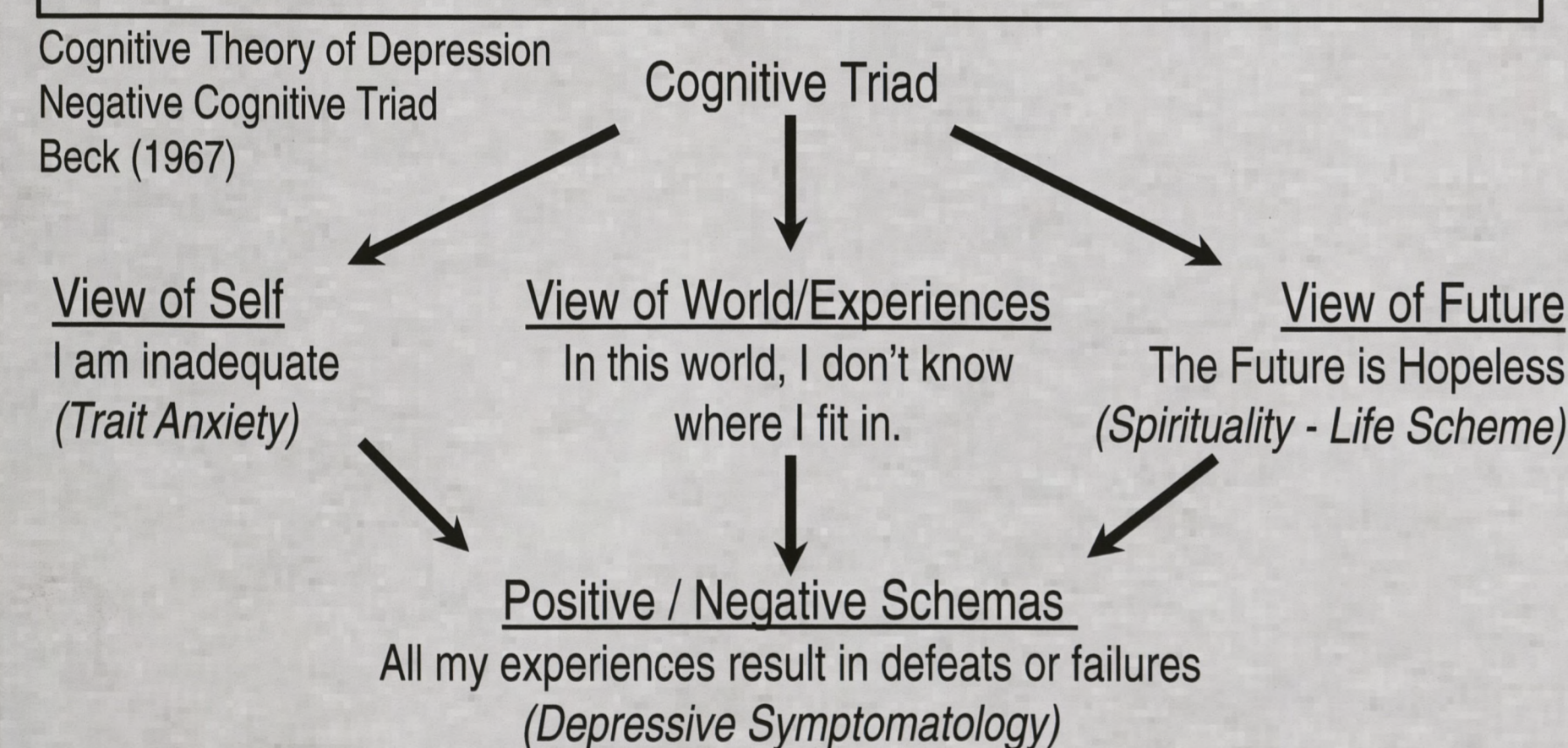
Anxiety is a common feature of HIV infection and AIDS (Sherr and Strong, 1991). Symptoms of anxiety, especially around death, have been associated with impeding antiretroviral adherence (Elliott, 1998; Morrison, 2002; Safren, Gershuny & Hendriksen, 2003). A growing body of evidence suggests that emotional stress, like that produced during anxiety may impact immunological functions (Perry et al., 1992; Antoni, 2003; Charles et al., 1992; Atanackovic, et al., 2004).

Spirituality is concerned with a search for meaning, purpose, and value in life (Frame et al., 2005). Overall, persons with HIV/AIDS describe spirituality as an important factor in health and well-being (Fryback & Reinhart, 1999). Lack of spirituality has been associated with several negative behavioral and psychological outcomes including depression (Wright et al., 1993), substance abuse (Maton & Zimmerman, 1992), anxiety and suicide (Baker & Gorsuch, 1982; Gartner et al., 1991; Sturgeon & Hamley, 1979).

Kaczorowski (1989) found an inverse relationship between spirituality and state-trait (total) anxiety in adults diagnosed with cancer. Research among adolescents (Dienelt, 1984; Hacker, 1994) demonstrated that spirituality and religiosity may moderate anxiety, which was supported by Davis et al., (2003) who reported greater spiritual well-being predicted lower trait anxiety among at-risk adolescents.

Depression is linked to poorer compliance with antiretroviral treatment (Gordillo et al., 1999), an important factor in illness outcome since antiretroviral therapies required 95% adherence for optimal effectiveness (Paterson et al., 2000). Recognizing and treating distress (e.g. depression, anxiety, and other psychological symptoms) in HIV+ persons may improve care, increase adherence, and decrease the transmission of HIV (Lyketsos et al., 1997; Gordillo, et al., 1999; Paterson et al., 2000).

Model

Cognitive Theory of Depression
Negative Cognitive Triad
Beck (1967)

Cognitive Triad

View of Self
I am inadequate
(Trait Anxiety)

View of World/Experiences
In this world, I don't know where I fit in.

View of Future
The Future is Hopeless
(Spirituality - Life Scheme)

Positive / Negative Schemas
All my experiences result in defeats or failures
(Depressive Symptomatology)

Hypotheses

I. Trait anxiety will be positively associated with depression
II. Spirituality life scheme will be negatively associated with depression
III. Trait anxiety and spirituality life scheme will account for a significant proportions of the variance in depression in our sample
IV. Gender differences will be associated with spirituality and depression; thus, higher levels of spirituality life scheme will be associated with lower levels of depression in HIV+ women
V. Spirituality life scheme will moderate the relationship between trait anxiety and depression

Methods

Procedures

Approval was obtained by the appropriate Institutional Review Board. Participants were screened for eligibility, provided a written informed consent, and received monetary incentive for their time. Data was collected using Questionnaire Development System on laptops.

Measures

Spirituality Index of Well-Being
(SIWB; Daaleman and Frey, 2004)

12 item, 5-point likert-type scale. Responses to items are to be scored so higher scores implies lower levels of spirituality on subjective well-being. Assess two dimension: Self-Efficacy (SE) and Life Scheme (LS).

Anchors

| 1 | Strongly Disagree | Reliability: Published α (LS) .89 (SE) .86 |
| 5 | Strongly Agree | Validity: Convergent w/ SWBS |

Sample Item
I am far from understanding the meaning of life

State-Trait Anxiety Inventory
(STAI; Spielberger et al., 1983)

40 item, 4-point likert-type scale. Assess the level of anxiety that an individual is currently in (state) as well as, anxiety that is more characteristic (trait). Responses to items are to be scored so higher scores implies higher level of anxiety.

Anchors

| 1 | Disagree Strongly | Reliability: Published α (SA) .89 (TA) .86 |
| 4 | Agree Strongly | Validity: Concurrent w/ ASQ and MAS |

Sample Item
Feel Inadequate

Center for Epidemiological Scale for Depression
(CES-D; Radloff, 1977)

20 items, 4-point likert-type scale. Responses to items are to be scored so higher scores implies higher levels of depression. A cut-off score of 16 indicates probable depression, while a cut-off of 23 indicates significant depression.

Anchors

| 0 | Rarely | Reliability: Published α (General) .85 (Patient) .90 |
| 3 | Strongly Agree | Validity: Concurrent and Discriminant w/ SCL-90 |

Sample Item
I was bothered by things that usually don't bother me

Participant Characteristics

	M	SD	Range
Age (years)	47.5	8.03	24 – 66
Education (years)	13.2	3.25	7 – 29

Gender	Percent	Freq.
Male	52.1	38
Female	47.9	35
Ethnicity		
African-American	61.6	45
European-American	32.9	24
Other	5.5	4
Household Income		
< $20,000	79.4	58
> $20,000	20.6	15
Source of Income		
Gov. Assistance	64.4	47
Self	17.8	13
Other	17.8	13

N = 73

Results

Univariate Statistics

	Mean	SD	Actual / Possible Range	Cal. α
STAI-Trait	44.96	10.35	24 - 70 / 20 - 80	.91
SIWB-LS	21.03	6.50	6 - 30 / 6 - 30	.91
CES-D	19.25	12.01	1 - 48 / 0 - 60	.89

t - Tests

	Gender	N	Mean	SD	t
STAI - Trait	Male	38	47.97	10.88	2.70
	Female	35	41.69	8.76	
SIWB - LS	Male	38	19.34	6.47	- 2.38
	Female	35	22.86	6.11	
CES -D	Male	38	19.53	12.30	.21
	Female	35	18.94	11.87	

$p < .05$	$p < .01$	$p < .001$

Bivariate Statistics

	1	2	3	4	5	6	7
Age 1.	—						
Education 2.	-.32	—					
African American 3.	.14	-.21	—				
Gov't Assist 4.	.21	-.01	.18	—			
Income 5.	-.20	.14	-.23	-.30	—		
STAI - Trait 6.	-.27	.06	-.19	.04	.01	—	
SIWB -LS 7.	.01	.03	.15	-.02	-.01	-.54	—
CES - D 8.	-.09	-.07	.08	.21	-.24	.70	-.61

Multivariate Statistics

Predictor Variables	β	t	VIF	Tolerance
Education	-.06	- .50	.93	1.07
Age	-.15	- 1.26	.94	1.07
Income	-.21	- 2.80	.91	1.10
African American	.18	2.41	.88	1.14
STAI - Trait	.56	6.26	.63	1.58
SIWB – LS	-.34	- 3.91	.68	1.46

Criterion Variable – Depression   Adj. R^2=.64; $F_{(6, 66)}$ = 22.00

Multivariate Statistics

	Males		Females	
Predictor Variables	β	t	β	t
Income	-.20	- 1.23	-.23	- 2.18
STAI - Trait	.69	5.63	.44	4.03
SIWB - LS	-.20	- 1.72	-.43	- 3.80

Criterion Variable - Depression	
Adj. R^2= .66; $F_{(3, 34)}$ = 24.72	Adj. R^2= .65; $F_{(3, 31)}$ = 21.95

Results

Test for Moderation

* Variables of interest were standardized before analysis

Predictors	β	t	VIF	Tolerance
STAI - Trait	.53	5.63	.71	1.41
SIWB - LS	- .32	- 3.35	.69	1.45
STAI - Trait x SIWB - LS	- .03	- .36	.96	1.05

Criterion – Depression   Adj. R^2 = .65; $F_{(4, 68)}$ = 33.86

Discussion

Hypothesis I: *Supported* - HIV+ individuals may experience higher levels of anxiety than non HIV+ individuals (Rabkin et al., 1997), possibly due to perceived stressors associated with HIV, thus increasing the prevalence of depressive symptomatology (Hirschfeld, 2001).

Hypothesis II: *Supported* - Spirituality, which may be related to enhancing one's ability to cope with stress (Rabin, 1999), may contribute to better health practices, increases in social interaction (Hill and Pargament, 2003; Yi et al., 2004), and a decreases in distress and/or depression (Koenig, 2000; Ironson et al., 2006).

Hypothesis III: *Supported* - Perceived stressors associated with HIV/AIDS diagnosis, lower socioeconomic status (SES; Gurung et al., 2004), and/or the combination of physiological and psychological effects of HIV/AIDS progression (Hand, Phillips, & Dudgeon, 2006), may contribute to increases of anxiety and depressive symptoms and may decrease PWH overall sense of meaning or purpose in life (Church, 1998).

Hypothesis IV: *Supported* - HIV+ women may often engage in spirituality activities which may become an important buffer against stressors and demands associated with HIV disease (McCormick et al., 2001; Powell et al., 2003; Hackl et al., 1997).

Hypothesis IV: *Not Supported* – Our moderation analysis indicates that anxiety and lower spirituality life scheme may worsen depressive symptoms on their own; however spirituality life scheme did not moderate the relationship between trait anxiety and depression in our sample.

Interestingly, we also found higher household income appeared to insulate against depression which may be linked to healthier lifestyles and behaviors of those in a higher SES (Isaacs and Schroeder, 2004). Additionally, African Americans, when compared to European Americans, reported higher levels of depression. This may be explained by the additional barriers African Americans faced compared to other ethnicities (Unutzer et al., 2003; USDHHS, 2001), thus decreasing the likelihood of using mental health counseling or psychotherapy (Richardson et al., 2003).

Design Limitations

Causality cannot be inferred due to our cross-sectional, correlational design
All data collected was self-report, thus susceptible to demand characteristics
Our sample being recruited from one location limits generalizability

Future Research

Longitudinal studies to examine the causal relationships of these constructs
Recruitment from multiple sites will make data more generalizable
Studies developing cognitive and/or behavioral interventions for PWH that aim to reduce depression and/or anxiety may improve overall well-being

References

*Refer to handouts