



Psychosocial Factors Associated with the Self-Efficacy of Managing HIV/AIDS

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Abstract

Many people living with HIV/AIDS (PLH) choose to use complementary and alternative medicines (CAM) alone or in addition to traditional medication. A dearth of research has examined psychosocial variables in CAM users who are HIV+. This study explores the role of self-efficacy in managing HIV/AIDS for CAM users and its association with three correlates of mental health: depression, stress and quality of sleep. Research has demonstrated that self-efficacy plays a role in a wide range of life situations, ranging from success in the workplace, to parenting skills to living with HIV (Bandura, 1992). However, little research has examined factors associated with self-efficacy of managing HIV/AIDS. Attention to such factors may provide insight into how to improve self-efficacy in this population and contribute to improved adherence rates.

Depression, stress, and poor sleep quality are reported to be implicated in decreased immune functioning in healthy individuals (Kiecolt-Glaser, 2001). Additionally, these three factors are partially responsible for poor immune functioning in many chronic illnesses, including cancer (Gidron, 2006). Only a few studies have examined the roles these factors play in self-efficacy and no studies exist that examine these dynamics in an HIV+ population (Bandura, 2003).

This study explores the relationship of depression, stress, and sleep quality with self-efficacy in CAM users living with HIV/AIDS (instruments used: CES-D (Radloff, 1977), Perceived Stress Scale (Cohen et al., 1983), Pittsburgh Sleep Quality Index (Buysse et al., 1989), and Self Efficacy of Managing a Chronic Disease).

Background

• Studies have found that self-efficacy was highly associated with pain tolerance in individuals living with diseases (Altmair et al., 1993; Lefebvre et al., 1999).

• In a study done on medication adherence in HIV+ participants, it was found that stress from the people around the participants had a positive impact on medication adherence, whereas general life stressors (such as job stress, school, etc.) had a negative impact on adherence (Schonnesson et al., 2006).

• Participant's depressive levels were found to decrease as the levels of negative attitudes and low self-efficacy decreased, due to new effective coping strategies (Cruess et al., 2002).

Hypotheses

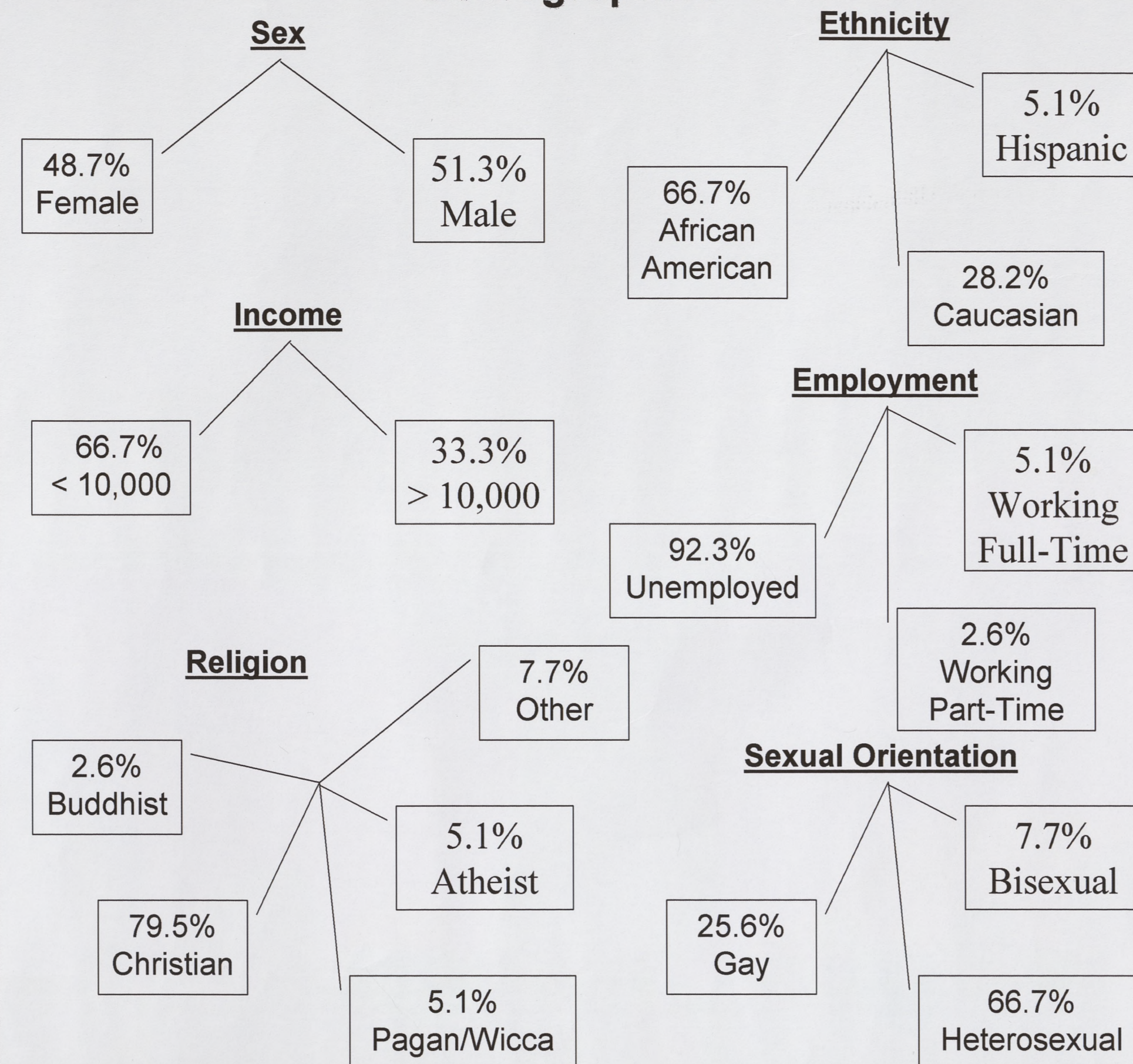
- In HIV+ CAM users with poorer sleep quality will be associated with lower levels of self-efficacy for management of their disease.
- In HIV+ CAM users with a higher level of depression will be associated with a lower level of self-efficacy.
- In HIV+ CAM users with more stress in their lives will be associated with a lower level of self-efficacy.

Participant Characteristics

Demographic and Medical Variable Summary (N = 39)

Variables	Mean	Standard Deviation	Range
Age	45.82	6.7	31 - 61
Years of Education	12.13	2.44	2 - 18
Years Since Diagnosis	9.6	5.3	1.11 - 19.22
CD4 Count	345.51	201.83	3 - 742
Symptoms	14.85	6.97	1 - 24

Demographics



Methods

• This study uses a cross-sectional, correlational design.
 • Data was collected from a convenience sample of PLH who used CAM from AIDS Service Organizations in the Dallas/Ft. Worth Metroplex

Measures:

HIV Symptom Checklist (MACS Study, Kaslow, 1987)	"Fatigue lasting for at least 2 weeks." 0=Not Present, 4=Very Severe
CESD (Kalichman et al., 2000) $\alpha = .90$	"I thought my life had been a failure." 1=Rarely (< 1 day), 4=Most of the time (5-7 days)
Perceived Stress Scale (Cohen et al., 1983) $\alpha = .85$	"In the last month, how often have you felt that you were on top of things?" 0=Never, 4=Very Often
Pittsburgh Sleep Quality Index (Buysse et al., 1989) $\alpha = .83$	"During the past month, when have you usually gone to bed at night?"
Self-Efficacy for Managing Chronic Disease Scale (Lorig et al., 2001) $\alpha = .91$	"How confident are you that you can do things other than just taking medication to reduce how much your illness affects your everyday life?" 1=Not At All Confident, 10=Totally Confident

Data Analysis

- All data were entered twice to control for data entry errors
- All data were analyzed using SPSS version 11.0 (SPSS, Inc., Chicago, IL)
- Standard procedures for assuring normality were performed
- Univariate and bivariate descriptive analyses were performed
- Principal Component Analyses were performed on all instruments
- An exploratory hierarchical multiple regression analysis was performed

Results

Univariate Statistics

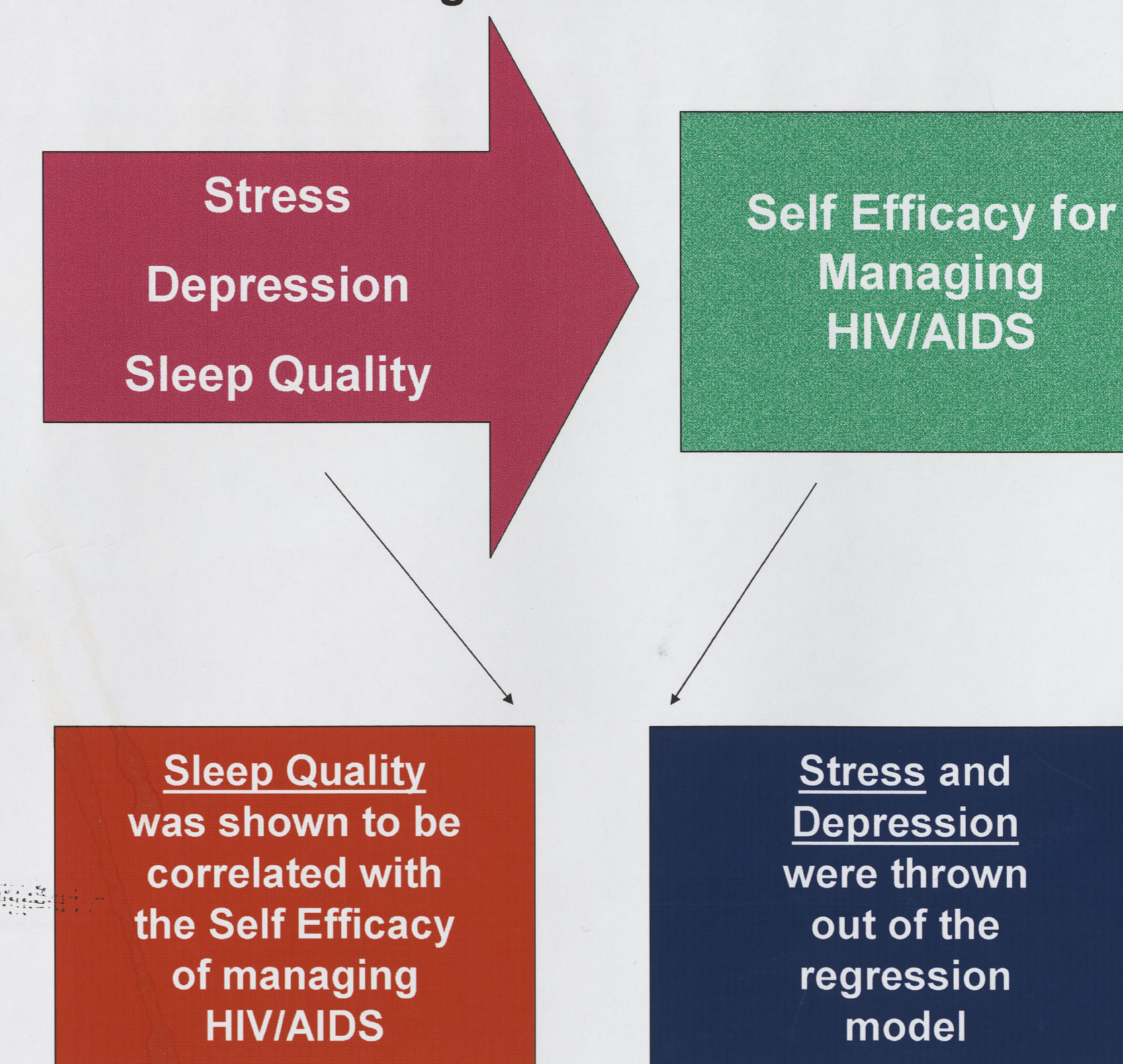
Variables	Mean	SD	Range
Stress	15	7.54	0 - 32
Depression	6.97	5.49	0 - 17
Sleep Quality	9.59	4.63	1 - 19
Self-efficacy	7.42	1.89	2.67 - 10

Correlation Matrix

	Age	Sex	Education	Ethnicity	Income	Diag Yr	CD4 Ct	Symp Tot	CESD	PSQI	PSS	SIEFF
Age	-											
Sex	ns	-										
Education	ns	-.43**	-									
Ethnicity	ns	ns	ns	-								
Income	ns	ns	ns	ns	-							
Diag Yr	-.38*	ns	ns	ns	ns	-						
CD4 Ct	ns	ns	ns	ns	ns	ns	-					
Symp Tot	ns	ns	ns	ns	ns	ns	ns	-				
CESD	ns	ns	ns	ns	ns	ns	ns	ns	-			
PSQI	ns	ns	ns	ns	-.31*	ns	ns	.35*	.50**	-		
PSS	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	-	
SIEFF	ns	ns	.39*	ns	.34*	ns	ns	ns	-.56**	-.55**	ns	-

*p<.05, **p<.01

Regression Model



Summary of Exploratory Hierarchical Regression Analysis

Variables	Self Efficacy		
	β	t	p
Stress	-.1	-.61	.55
Depression	-.17	-1.00	.32
Sleep Quality	-.49	-3.21	.00

Adjusted R² = .34, F(3, 33) = 7.14

Hypotheses

Hypothesis 1: Confirmed

In HIV+ CAM users with poorer sleep quality will be associated with a lower level of self-efficacy for management of their disease.

Hypothesis 2: Rejected

In HIV+ CAM users with a higher level of depression will be associated with a lower level of self-efficacy.

Hypothesis 3: Rejected

In HIV+ CAM users with more stress in their lives will be associated with a lower level of self-efficacy.

Conclusions

• It is interesting that in this study, depression and stress were thrown out of the model and found not to be significantly associated with the self efficacy of managing HIV/AIDS in these CAM participants. However when we ran stress and depression independently in regressions they were found to be significantly negatively associated with self-efficacy. This suggests that in our model, poor sleep was such a powerful indicator of or lower self-efficacy, that neither stress nor depression were significant predictors of self-efficacy.

• Although all demographic variables were examined, only those that significantly contributed to the amount of variance accounted for in each of the models were shown.

• Further studies should be done to look at why, in this population, stress and depression did not significantly contribute to the overall variance in the model. Whereas in most other studies done, stress and depression were shown to be significantly associated with self-efficacy (Bandura et al., 2003).

Clinical Implications

- The results from this study suggest that for HIV+ CAM users sleep quality is significantly positively associated with the self-efficacy of managing HIV/AIDS.
- Bandura has demonstrated that as self-reported self-efficacy increases so does the likelihood of performance of the targeted behavior (Bandura et al., 2003).
- Therefore if clinicians can improve self-efficacy in managing HIV/AIDS, they may also be successful in improving adherence rates that are critical to combating the replication of the virus in the blood.
- Interventions are needed to increase sleep quality and sleep self-efficacy.

Limitations

- Drawing causal inferences from our results is limited due to the correlational, cross sectional design of the study.
- Results from our study are limited in generalizability due to the fact that we used a convenience sample and as a result did not sample all types of PLH who use CAM.
- Results are also limited in generalizability due to the small sample size.

Future Research

- Longitudinal studies should be done to assess a cause and effect relationship
- Multiple modes of data collection should be used to look further into the relationship of other psychosocial variables and self efficacy

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