

1-2007

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### **Recommended Citation**

Burns, S. M., Young, L. R. L., & Maniss, S. (2007). Factors Associated with Employment among Latinos Living with HIV/AIDS. *Journal of Rehabilitation*, 73(1), 29–37.

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# Factors Associated with Employment among Latinos Living with HIV/AIDS

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This investigation explored the utility of various demographic, health-related, and psychological variables in predicting employment among Latinos living with HIV/AIDS. Results of an analysis of variance indicated that employed participants were younger, evinced significantly greater CD4 counts, physical and mental health functioning, and internal locus of control beliefs than those who were unable to work due to disabilities. A backward binary logistic regression demonstrated that age, CD4 count, internal locus of control, and mental health functioning contributed to the explanatory power of the final model. This model correctly classified group membership 72% of the time, 78% of participants who were unable to work due to disabilities, and 65% of employed participants. The authors propose a variety of intervention strategies and directions for future rehabilitation research among Latinos living with HIV/AIDS.

Recent epidemiological statistics suggest that Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) disproportionately affect Latinos in the United States (CDC, 2004). For instance, while Latinos currently constitute 14% of the United States population, they comprise 18% of new HIV and 20% of new AIDS cases (CDC, 2004). Similarly, in 2000 the rate of HIV infection per 100,000 Latinos was 22.5, more than three times that of Whites (CDC, 2002b). Yet, despite these statistics few studies have explored the impact of HIV/AIDS on this population.

With the introduction of highly active antiretroviral therapies in 1996, the medical treatment of people living with HIV/AIDS (PLHA) has improved (McReynolds & Garske, 2001). As a result of these improvements and various policy initiatives targeted at enhancing the occupational opportunities of people with disabilities (e.g., Americans with Disabilities Act, 1990; Ticket to Work and Work Incentives and Improvement Act, 1999), a significant number of PLHA remain in, or return to, the workforce (McReynolds, 1998). For example, Brooks, Martin, Ortiz, and Veniegas (2004) found that 74% of participants who were unable to work due to HIV/AIDS-related disabilities expressed interest in reentering the workforce. Nevertheless, an estimated 45 to 65 per-

cent of PLHA remain unemployed (Cunningham, Andersen, Katz et al., 1999; Vitry-Henry, Penalba, Beguniot, & Deschamps, 1999).

For people living with chronic or life-threatening illnesses employment provides a source of routine, normalcy, and purpose to daily living (Brooks & Klosinski, 1999). According to Koch, Rumrill Jr., Roessler, and Fitzgerald (2001), employment is directly associated with improved psychological and psychosocial functioning for people living with chronic, terminal, and life-threatening illnesses. For instance, prior research suggests employment relates to improved quality of life and self-esteem for patients with illnesses as varied as acute myelogenous leukemia, fibromyalgia, arthritis, and heart disease (De Lima, Strom, Keeting et al., 1997; Paris, Woodbury, Thompson et al., 1993; Reisine, Fifield, Walsh, & Dauser, 2004; Straaton, Maislak, Wrigley et al., 1996).

Many immigrants and racial minorities in the United States experience significant poverty (Denavas-Walt, Proctor, & Lee, 2005). In 2004, for instance, approximately 22% of Latinos living in the United States lived below the poverty level (Denavas-Walt et al., 2005). For members of these populations, employment may represent a critical means of maintaining basic income and materials essential for survival. In one of the few prior studies to explore the association of employment to HIV/AIDS among minority populations, Brooks and colleagues (2004) found that Latinos and African-Americans who were unable to work due to HIV/AIDS-related disabilities were more likely to consider work-

force reentry than Caucasians. In an investigation of employment among African-American men and women with HIV/AIDS, Blalock, McDaniel, and Farber (2002) found that many participants remained employed throughout the duration of their illness. In other research, Burns, Young, and Maniss (2006) found that Latinos with HIV/AIDS were six times more likely than Caucasians to be working full or part-time. Unfortunately, these studies are the only research to the authors' knowledge to examine the impact of HIV/AIDS on the employment status of racial minorities. As such, the purpose of the current study was to explore the utility of demographic, health-related, and psychological variables in predicting employment among Latinos living with HIV/AIDS. Given the dearth of research on the influence of HIV/AIDS on the employment status of Latinos, the authors anticipate that this investigation may provide direction for continued rehabilitation research.

## Predictors of Employment

### *Demographic Factors*

According to Cherrick, Delate, Skarupski, and colleagues (1999), age may represent an important and understudied predictor of employment for PLHA. Specifically, as increased age is often associated with longer gaps in employment history and greater duration of time on disability, an individual's age may serve as a disincentive to workforce reentry (Cherrick et al., 1999). In support of this contention, Crystal, Akincigil, Sambamoorthi, and associates (2003) demonstrated that younger PLHA are more motivated than older peers to reenter, or remain in, the labor force. Similarly, Brooks and colleagues (2004) found that older PLHA were significantly less interested in workforce reentry. In other investigations, Lem, Moore, Marion, and associates (2005) and Rabkin, McElhiney, Ferrando, and colleagues (2004) found no association between age and employment in predominantly Caucasian samples. Given these inconsistencies, and the lack of prior research on the influence of age on the employment status of Latinos, further research on this association seems warranted.

### *Biological and Physical Factors*

The presence or absence of CD4 lymphocytes may also predict employment as CD4 plays a crucial role in one's capacity to resist infection (Auld, 2002). Research by Vidrine, Amick III, Gritz, and Arduino (2003) suggested that PLHA with higher CD4 demonstrate greater work-role functioning and fulfillment of occupational obligations. In an investigation by Darko, McCutchan, Kripke, and associates (1992), higher CD4 was associated with less physical and work-related disability. Nevertheless, these studies are among the few to examine the association of CD4 to work-related outcomes, and no prior study examines this relationship for Latinos. As Latinos living with HIV/AIDS frequently exhibit lower CD4 and higher rates of opportunistic infections than Caucasians (Wohl, Lu, Simon et al., 2001), inclusion of CD4 may be particularly important in investigations of employment within this population.

While biological markers such CD4 may represent an important correlate of employment, these markers often do not fully

account for occupational outcomes among PLHA. Therefore, researchers should also examine the influence of physical capacity (Flemming, Crystal, Nunes et al., 2004). Rabkin and colleagues (2004) found that while CD4 was unrelated to employment status, greater physical functioning was significantly and positively associated with employment. In related research, van Gorp, Baerwald, Ferrando, and associates (1999) demonstrated that low functional capacity was among the strongest predictors of unemployment for a predominantly Caucasian sample. In yet another study, Swindells, Mohr, Justis, and colleagues (1999) indicated that high physical functionality is associated with greater work role performance among PLHA. Unfortunately, the relationship between employment and physical functioning for Latinos remains unexamined. Given the relatively poor physical functioning of many Latinos living with HIV/AIDS (Campsmith, Nakashima, & Davidson, 2003), studies on this association are needed.

### *Psychological Factors*

Beliefs in the controllability of one's health may also predict employment among PLHA. The health locus of control construct describes the extent to which individuals believe health is controllable (Wallston, Stein, & Smith, 1994). An internal health locus of control suggests that positive health results from one's personal behaviors. A powerful others orientation, by comparison, reflects belief in the influence of medical personnel and powerful others (i.e., friends, family, peers) upon one's health (Guinn, 1998). While no prior investigation explores the relationship of health locus of control to employment among PLHA, a variety of prior studies report a relationship between health locus of control and functional capacity. For example, Seeman and Chen (2002) found that people with severe illnesses who assert that health is controllable demonstrate less susceptibility to functional decline (Seeman & Chen, 2002). Similarly, McGuinness (1996) demonstrated that people living with chronic illnesses who held strong beliefs that health is controllable evinced greater recovery of pre-morbid functioning (McGuinness, 1996). Nusselder, Looman, and Mackenbach (2005) found that individuals with chronic illnesses who evince strong internal control beliefs are less likely to experience disabling declines than those with weaker beliefs. Also, Lubusko, Moore, Stambrook, and Gill (1994) found that patients with brain injuries were more likely to return to preinjury occupational functioning when they possessed strong internal beliefs, whereas participants citing strong powerful others beliefs returned to preinjury functioning less often. Given the importance of health control beliefs in predicting Latinos' adjustment to HIV/AIDS (Burns, Maniss, Young, & Gaubatz, 2005), investigation of the relationship between locus of control and employment for this population is needed.

Finally, research suggests that mental health functioning may predict employment among PLHA. For instance, Rabkin and colleagues (2004) reported greater depression among PLHA who were unable to work due to HIV/AIDS-related disabilities than those with occupations. In this same study, PLHA reporting the greatest affective impairment were the least likely to return to work (Rabkin et al., 2004). Similarly, Rhee, Matthews, Neuburg, and associates (2004) suggested that employed patients with skin cancer report greater mental health than peers with disabilities. In

a comparable study, Blalock et al. (2002) found no association between mental health and employment status. This inconsistency, and the dearth of studies on the association of mental health functioning to employment for Latinos, point to the need for further research on this relationship.

## Method

### *Participants*

Participants consisted of 72 Latinos living with HIV/AIDS of diverse demographic backgrounds reporting full or part-time employment, or an inability to work due to HIV/AIDS-related disabilities. The researchers approached potential participants while they waited for medical examinations in the reception area of an HIV/AIDS treatment clinic in the Southwest United States. Permission to recruit participants was granted by the medical institution at which the study occurred. Interested individuals were given informed consent documents with the questionnaire packet. Those electing to participate completed all survey materials in the clinic's reception area and returned these materials to the investigators when completed. Participants responded to paper and pencil, self-report measures translated in both English and Spanish. Questionnaire materials included a demographic sheet, the Multidimensional Health Locus of Control scale, a measure of physical and mental health functioning, and a scale exploring acculturation. The complete questionnaire packet took roughly 20 minutes to complete. All participants were 18 years of age or older and were insured with either Medicare or Medicaid. The investigators offered no compensation for participation. Of the 96 persons approached, 72 elected to participate yielding a response rate of 75%.

### *Instrumentation*

*Biological Markers.* Respondents' most recent viral load and CD4 count were ascertained through self-reports and then confirmed by consulting their medical charts. Discrepancies between self-reported values and those recorded in patient medical records were addressed by substituting the most recent value recorded in the participant's record. All test results were obtained within the three months prior to the investigation.

*Physical Health Functioning.* The Physical Health Summary Scale is a 25-item questionnaire that assesses five domains of physical health functioning: functionality, role limitations, energy/vitality, physical pain, and general health. For each dimension, items are scaled from zero (low functioning) to 100 (high functioning) and aggregated into a composite Physical Health Component score (Ware & Kosinski, 2001). According to Ware and Kosinski (2001), Physical Health Component scores at or below 50 reflect substantial physical impairment. Physical Health Component scores are associated in logically consistent directions with the Sickness Impact Profile, the General Health Rating Index, and the Nottingham Health Profile (Turner-Bowker, Bartley, & Ware, 2002). Internal consistency estimates reported by Ware and Kosinski (2001) ranged from .89 to .94 for the scale. In the present study Cronbach's alpha reliability was .96.

*Health Locus of Control.* To assess participants' perceived control over health outcomes the authors administered the internal and powerful others scales of the Multidimensional Health Locus of Control measure (Wallston, Wallston & Devellis, 1978). For all locus of control items, a six-point response format was utilized, with anchor points ranging from Strongly Agree to Strongly Disagree. The item structure for each scale yields scores ranging from six to 36 with higher scores depicting the respondent's belief that health can be controlled. Research by Wallston et al. (1994) demonstrated internal and powerful other locus of control scores are significantly associated with depression, ratings of pain, and helplessness among people living with a variety of chronic physical conditions. Internal consistency reliability for the internal scale reported by Wallston et al. (1994) was .87, while internal consistency for powerful others was .71. In the current study, Cronbach's alpha coefficients were .68 for the internal scale and .64 for powerful others.

*Short Acculturation Scale for Hispanics.* Participants' acculturative levels were assessed through the Short Acculturation Scale for Hispanics. The 12-item measure, translated in both English and Spanish, assesses three subscale domains: preferred language, electronic media, and social/ethnic relations (Marín, Fabio, Marín et al., 1987). Items in each domain employ a five-point Likert-type scale, with scores ranging from five to 25 for language, three to 15 for preferred media, and four to 20 for ethnic and social interactions. Low scores in each domain suggest low acculturation, whereas high scores reveal a preference for dominant media and social cultures, and the English language. Research by Marín and associates (1987) demonstrated that the scale is highly related to other commonly employed measures of acculturation for Latinos. Internal consistency reported by Marín et al. (1987) was .94. The Cronbach's reliability coefficient for the present sample was .95.

*Mental Health Functioning.* Mental health functioning was explored using the Mental Health Component Scale developed by Ware and Kosinski (2001). Like the Physical Health Component Scale, the Mental Health Component Scale consists of 14 items assessing mental health functioning along four domains: energy/vitality, social functioning, role limitations associated with affective impairments, and mental well-being. Mental Health Component scores at or below 42 reflect significant affective impairment (Ware & Kosinski, 2001). Research by Ware, Snow, Kosinski, and Gandek (1993) demonstrated that Mental Health Component Scale scores are associated with scores on the Quality of Well-Being Scale, Mental Health Dimension of the Duke Health Profile, and relevant subscales of the Sickness Impact Profile. Internal consistency reported by Ware and Kosinski (2001) was .90 for the Mental Health Component Scale. In the present sample the Cronbach's reliability was .94.

*Employment Status.* Employment status was measured by self-report. Specifically, participants indicated on the demographics sheet whether they were unable to work due to HIV/AIDS-related disabilities, or worked full or part-time. In all analyses, participants who reported full (40 hours or more/week) or part-time employment (less than 40 hours/week) were classified as

employed. For analytic purposes, employed participants were coded 1 while respondents who were unable to work as a result of their disabilities were coded 0. In the sample, 19 participants (26%) worked full-time, 22 (31%) part-time, while 31 (43%) were unable to work due to their disabilities.

### Analysis Overview

To determine the relationship between employment status and categorical demographic variables (e.g., citizenship status, relational status, annual household income, and highest educational level), the authors conducted chi-square tests ( $p < .05$ ). However, as many of these variables had inadequate cell sizes (i.e., less than five), the authors made logical combinations of similar cells (e.g., separated and divorced). Next, the authors standardized CD4 and computed log10 values for viral load to reduce the significant skewness observed in these variables. An analysis of variance (ANOVA) was then conducted to detect differences between employment subgroups. Finally, a backward binary logistic regression was computed to determine the classificatory utility of variables differing between subgroups in predicting employment status. Probability for inclusion in the regression model was .05, while probability for removal was .10.

## Results

Participants in the sample ranged in age from 21 to 59 ( $M = 37.5$ ;  $SD = 8.36$ ). Twenty-nine participants were diagnosed with HIV (40%), while 43 lived with AIDS (60%). The amount of time which had elapsed since participants' diagnosis with HIV/AIDS ranged from one year to 19 years ( $M = 7.79$ ;  $SD = 5.32$ ). Participants' most recent CD4 count ranged from two to 1,660 ( $M = 367.19$ ;  $SD = 326.59$ ), while their most recent viral load ranged from undetectable to a high of 2,200,000. Fifty-two participants were citizens of the United States (72%), and 20 reported being a resident of a Latin American country (28%). See Table 1 for a full summary of participant characteristics.

Respondents' physical health functioning ranged from a low of 23.34 to a high of 63.47 ( $M = 45.9$ ;  $SD = 9.76$ ), while mental health ranged from 13.70 to 66.09 ( $M = 38.9$ ;  $SD = 14.7$ ). Internal locus of control scores ranged from 19 to 36 ( $M = 28.6$ ;  $SD = 4.34$ ), and powerful others ranged from 16 to 34 ( $M = 26.1$ ;  $SD = 4.82$ ). Finally, acculturation scores ranged from a low of one to a high of five ( $M = 3.47$ ;  $SD = 1.01$ ).

Chi-square analyses indicated that none of the categorical demographic variables (e.g., citizenship status, educational background) differed significantly between employment groups. Results of the ANOVA, however, demonstrated that employed participants were significantly younger,  $F(1, 68) = 7.53$ ,  $p < .008$  (*Unstandardized M* = 35.29 versus 40.52, respectively), evinced significantly greater CD4 counts,  $F(1, 68) = 4.56$  (*Unstandardized M* = 436 versus 275, respectively), and reported significantly greater physical health functioning than those who were unable to work due to their disabilities,  $F(1, 68) = 11.15$ ,  $p < .001$  (*Unstandardized M* = 49.1 versus 41.9, respectively). Interestingly, the physical health functioning scores of both groups reflected substantial physical health impairment and dis-

ability (Ware & Kosinski, 2001). Employed participants also evinced significantly higher internal locus of control beliefs,  $F(1, 68) = 7.96$ ,  $p < .006$  (*Unstandardized M* = 29.8 versus 27.03, respectively), and greater mental health functioning than those who were unable to work due to their disabilities,  $F(1, 68) = 9.84$ ,  $p < .003$  (*Unstandardized M* = 43.33 versus 33.09, respectively). According to Ware and Kosinski (2001), the mental health functioning scores of the latter group suggest clinically significant depression. Finally, acculturation scores did not differ significantly between employment groups (*Unstandardized M* = 3.39 versus 3.58, respectively). See Table 2 for a depiction of these results.

In the backward binary logistic regression, four variables (age, CD4, internal locus of control, and mental health functioning) significantly contributed to the explanatory power of the model,  $\chi^2(4, 72) = 25.81$ ,  $p < .0001$ . Together, these variables accounted for 40.4% of the variance (*Nagelkerke R*<sup>2</sup> = 40.4). Results are summarized in Table 3. This model correctly predicted group membership 72% of the time. The model correctly classified 78% of participants who were unable to work and 65% of those who were working. See Table 4.

In the regression, age was significantly related to employment (*Wald* = 3.95,  $p = .05$ ). As noted in Table 3, the *Exp(B)* value for this outcome suggested that a one year change in age increased the odds of employment by .54 (*95% Confidence Interval* = .295 to .991). CD4 also significantly predicted employment (*Wald* = 4.65,  $p = .03$ ). As participants' CD4 counts increased, suggesting greater immuno-functioning, their employment likelihood increased, *Exp(B)* = 2.46 (*95% CI* = 1.09 to 5.57). Similarly, internal health locus of control was significantly related to employment (*Wald* = 3.81,  $p = .05$ ). Again, the *Exp(B)* value for this outcome suggested a one unit increase in participants' beliefs in their own capacity to influence health improved the odds of employment by 1.85 (*95% CI* = .997 to 3.44). Finally, mental health functioning was significantly related to employment (*Wald* = 7.4,  $p = .007$ ). The *Exp(B)* for mental health functioning (2.34; *95% CI* = 1.27 to 4.31) indicated that as mental health functioning increased so too did participants likelihood of being employed. See Table 3 for a summary of these results. Inspection of group differences in each domain of mental health functioning indicated that participants who were employed reported higher social functioning ( $F = 14.54$ ,  $p < .001$ ,  $M = 67.6$  versus 41.9, respectively), fewer affect-induced role limitations ( $F = 10.82$ ,  $p < .002$ ,  $M = 58.5$  versus 24.7, respectively), better mental well-being ( $F = 7.26$ ,  $p < .009$ ,  $M = 66.0$  versus 49.8, respectively), and greater energy/vitality ( $F = 7.72$ ,  $p < .007$ ,  $M = 57.7$  versus 40.5, respectively). Examination of the standardized residuals for each case in the regression equation revealed no influential outlying data points. Correlations between variables significantly contributing to the explanatory power of the final model are presented in Table 5.

## Discussion

HIV and AIDS disproportionately affect Latinos living in the United States (CDC, 2004). Indeed, in 2001 HIV/AIDS was the fourth leading cause of death for Latinos aged 35 to 44 (Anderson

& Smith, 2003). Yet, few investigations have explored the impact of HIV/AIDS on members of this population. As such, the present study represents an advance in understanding HIV/AIDS among

Latinos by highlighting correlates of employment. This study allows researchers to deduct a variety of important directions for future investigation. Similarly, our results may assist rehabilita

**Table 1***Demographic and Clinical Characteristics*

<u>Characteristic</u>	<u>No.</u>	<u>Employment Group</u>		<u>No.</u>	<u>%</u>
		<u>Employed (n=41)</u>	<u>Not Working (n=31)</u>		
Age					
M		35.29		40.26	
SD		8.42		7.43	
Time since Diagnosis (in years)					
M		6.88		9	
SD		5.13		5.4	
Years in United States					
M		30.02		35.58	
SD		14.03		11.99	
Recent CD4					
M		436.9		275	
SD		331.71		300.5	
Viral Load					
M		31,157		116,339	
SD		73,256		402,887	
Sex					
Men	36		88	30	97
Women	4		12	1	3
Diagnosis					
HIV	21		51	8	26
AIDS	20		49	23	74
Citizenship Status					
U.S. citizen	31		76	21	68
Non-citizen	10		24	10	32
Relational Status					
Married/with partner	10		24	9	29
Single	21		51	19	61
Divorced	7		17	2	7
Widowed	2		5	0	0
Separated	1		2	1	3
Education					
Less than 8th grade	3		7	2	7
Some high school	7		17	5	16
High school graduate	8		20	7	23
Trade school	4		10	2	7
Some college	16		35	10	32
College graduate	2		9	5	16
Post-graduate degree	1		2	0	0
Employment					
Work full-time	19		46	-	-
Part-time	22		54	-	-
Annual Household Income					
Less than \$5,000	12		29	12	39
\$5,001 to \$10,000	12		29	13	42
\$10,001 to \$20,000	11		27	4	13
\$20,001 to \$30,000	4		10	1	3
\$30,001 to \$40,000	2		5	0	0
Over \$50,000	0		0	1	3

tion specialists in better understanding the relationship of demographic, biological, physical, and psychological factors to employment among PLHA.

Caution should be exercised when interpreting findings from the present research. First, due to design limitations the authors were unable to determine the causes of significant investigatory outcomes. For instance, as our study was correlational the investigators were unable to ascertain whether poor mental health contributed to lower employment likelihood, or, conversely, if participants who were unable to work as a consequence of their disabilities reported poor mental health as a result of their inability to work. Next, our sample included a greater number of males than females, and, thus, may not reflect the experiences of women living with HIV/AIDS. As Latinas constitute a rapidly growing portion of new HIV/AIDS diagnoses (CDC, 2002a), future studies should explore such gender effects. Third, the study failed to measure a variety of factors unrelated to HIV/AIDS that may

affect the employment opportunities available to Latinos (e.g., English language capacity, hiring discrimination, work history). Continued research may benefit from inclusion of these variables. Fourth, the relatively small sample size employed in the investigation may compromise the accuracy of results obtained in the investigation. Future research with larger samples may prove useful in addressing this limitation. Finally, our regression model proved only modestly accurate (65%) in predicting the employment status of those who were unable to work due to their disabilities. As this limitation may stem from our failure to assess numerous potential correlates of employment status among PLHA (e.g., type of antiretroviral medication taken; presence/absence of opportunistic infection), future research should identify and study these variables.

Despite these limitations, age predicted employment in the present study, where younger participants were more likely employed than older peers. This result is consistent with those of Brooks and colleagues (2004) and Crystal and associates (2003)

**Table 2**  
*Means, Standard Deviations, and F Values for between Groups Comparison*

		N	Mean	Standard Deviation	Standard Error	F	p
Age**	Not Working	31	40.52	7.40	1.33	7.53	.008
	Employed	41	35.29	8.42	1.32		
Time Since Diagnosis	Not Working	31	9.00	5.40	.97	2.89	.09
	Employed	41	6.88	5.13	.80		
Years in United States	Not Working	31	35.58	11.99	2.15	3.12	.08
	Employed	41	30.02	14.03	2.19		
Most Recent CD4 Count*	Not Working	31	275.00	300.50	53.97	4.56	.04
	Employed	41	436.90	331.71	51.81		
Most Recent Viral Load	Not Working	31	116,340	402,888	72,360	.64	.43
	Employed	41	31,157	73,256	11,440		
Physical Health Functioning***	Not Working	31	41.85	8.82	1.58	11.15	.001
	Employed	41	49.10	9.36	1.46		
Powerful Others Locus of Control	Not Working	31	25.10	4.71	.85	2.32	.13
	Employed	41	26.83	4.83	.75		
Internal Locus of Control**	Not Working	31	27.03	4.26	.77	7.96	.006
	Employed	41	29.80	4.03	.63		
Acculturation	Not Working	31	3.58	.93	.17	.58	.45
	Employed	41	3.39	1.07	.17		
Mental Health Functioning**	Not Working	31	33.09	13.41	2.41	9.84	.003
	Employed	41	43.33	13.93	2.18		

Note: \*p < .05, \*\*p < .01, \*\*\*p < .001.

underscoring the importance of age as a predictor of employment status. Though design limitations reduce the authors' ability to assign cause to this outcome, this finding may suggest that age operates as a disincentive to workforce reentry among older PLHA as increased age is often associated with longer gaps in employment history and greater duration of time on disability (Cherrick et al., 1999). Alternatively, this finding may reflect the disincentive to labor force reentry posed by the history of workplace discrimination and harassment experienced by older patients (Huebner, Rebchook, & Kegeles, 2004) or the desire of older PLHA to retain existing disability benefits (Brooks et al., 2004). Future investigations and rehabilitation theory may benefit from identification of the determinants of this outcome.

Results of the investigation also indicated that CD4 predicts employment among Latinos living with HIV/AIDS, with higher CD4 associated with greater employment likelihood. Though this result contrasts those of Rabkin and associates (2004), it is consistent with a larger body of literature (e.g., Auld, 2002; Vidrine et al., 2003) suggesting that PLHA with greater resistance to disease-related complications and sepsis are more likely employed than individuals with poorer resistance. This study is unique, however, in that it is the first to demonstrate an association between CD4 and employment for Latinos. As Latinos living with HIV/AIDS frequently evince poor immuno-functioning and high susceptibility to opportunistic infection (Wohl et al., 2001), identification of this salient predictor represents an advance in HIV/AIDS-related knowledge for this population. Nevertheless, given the novelty of

**Table 3**  
*Final Backward Binary Logistic Regression Model*

	B	S.E.	Wald	df	Sig.	Exp(B)	95% Confidence Interval for EXP(B)	
							Lower	Upper
Age*	-.615	.309	3.95	1	.047	.541	295	.991
CD4 Count*	.900	.417	4.65	1	.031	2.46	1.09	5.57
Internal Health Locus of Control*	.616	.316	3.81	1	.050	1.85	.997	3.44
Mental Health Functioning**	.849	.312	7.40	1	.007	2.34	1.27	4.31

Note: \*p < .05, \*\*p < .01.

**Table 4**  
*Classification table for Final Backward Binary Logistic Regression Model*

		Predicted		Percentage Correct
		Employed or Disabled		
Observed	Employed or Disabled	Disabled	Employed	64.5
	Disabled	Employed		78.0
Overall Percentage				72.2

this outcome, future research should attempt to replicate this finding.

Interestingly, though Latinos tend toward externality in locus of control (Sabrega, 1995), results of the study suggested that employed Latinos living with HIV/AIDS endorsed strong beliefs in their own ability to control health. Despite the poor physical functioning of both employment subgroups, those who were employed demonstrated significantly greater internal health control beliefs. To the authors' knowledge, this investigation is the first to report such an association. This finding may reflect the function of employment in reinforcing beliefs that health outcomes, and concomitant limitations, can be instrumentally controlled or averted (Poll & Kaplan De-Nour, 1980). Alternatively, these results may suggest that Latinos with such agentic/internal orientations are buffered from declines in functionality and work-role performance (Seeman & Chen, 2002). According to Seeman and Chen (2002), internal control beliefs are protective for individuals, such as those living with HIV/AIDS, who face predictable declines in their health. Future research among Latinos living

**Table 5**  
*Unstandardized Correlations between Study Variables*

Factor	1	2	3	4
1. Age	-			
2. CD4	-.133	-		
3. Internal Health Locus of Control	-.174	-.055	-	
4. Mental Health Functioning	-.120	-.129	.253*	-

\* p < .05



with HIV/AIDS should attempt to identify the etiology of this interesting outcome.

Finally, prior research suggests that mental health functioning predicts employment for PLHA (e.g., Rabkin et al., 2004; Vidrine et al., 2003). Consistent with these findings, in the current study employed Latinos evinced significantly greater mental health functioning than those who were unable to work as a consequence of their disabilities. The mean score of the later group reflected substantial affective impairment and clinically significant depression (Ware & Kosinski, 2001). Examination of each domain of the mental health functioning scale indicated that employed participants demonstrated higher social functioning, fewer affect-induced role limitations, better mental well-being, and greater energy/vitality. Together, these results may suggest that Latinos living with HIV/AIDS who are most adversely and broadly affected by mental health concerns are least likely to be employed. While further research is needed to clarify the determinants and significance of this finding, rehabilitation interventions for Latinos who wish to remain in or reenter the labor force may benefit from efforts to improve mental health. For instance, rehabilitation professionals who treat Latinos living with HIV/AIDS can work to identify depressogenic cognitions, enhance positive self-regard, and dispute irrational beliefs (e.g., I would be a failure if I couldn't earn as much as I did before) [Goleman, 1995]. Similarly, given the importance of family as a source of emotional and instrumental support for many Latinos (Antshel, 2002), family members may be recruited to aid in improving the mental health functioning of Latinos living with HIV/AIDS who experience emotional difficulties.

In conclusion, Latinos in the United States are disproportionately diagnosed with HIV and AIDS (CDC, 2004). Many of these individuals experience significant obstacles that affect their ability to work (Martin, Brooks, Ortiz, & Venegas, 2003). Results of the present study suggest these obstacles include age, CD4, beliefs about health's controllability, and mental health functioning. Given the dearth of research on HIV/AIDS among Latinos, these findings represent an advance in HIV/AIDS-related knowledge. Consideration of these findings may not only provide direction for further research on the employment status of this population, but may also aid rehabilitation professionals in their efforts to assist Latinos with HIV/AIDS in reentering and remaining in the workforce.

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