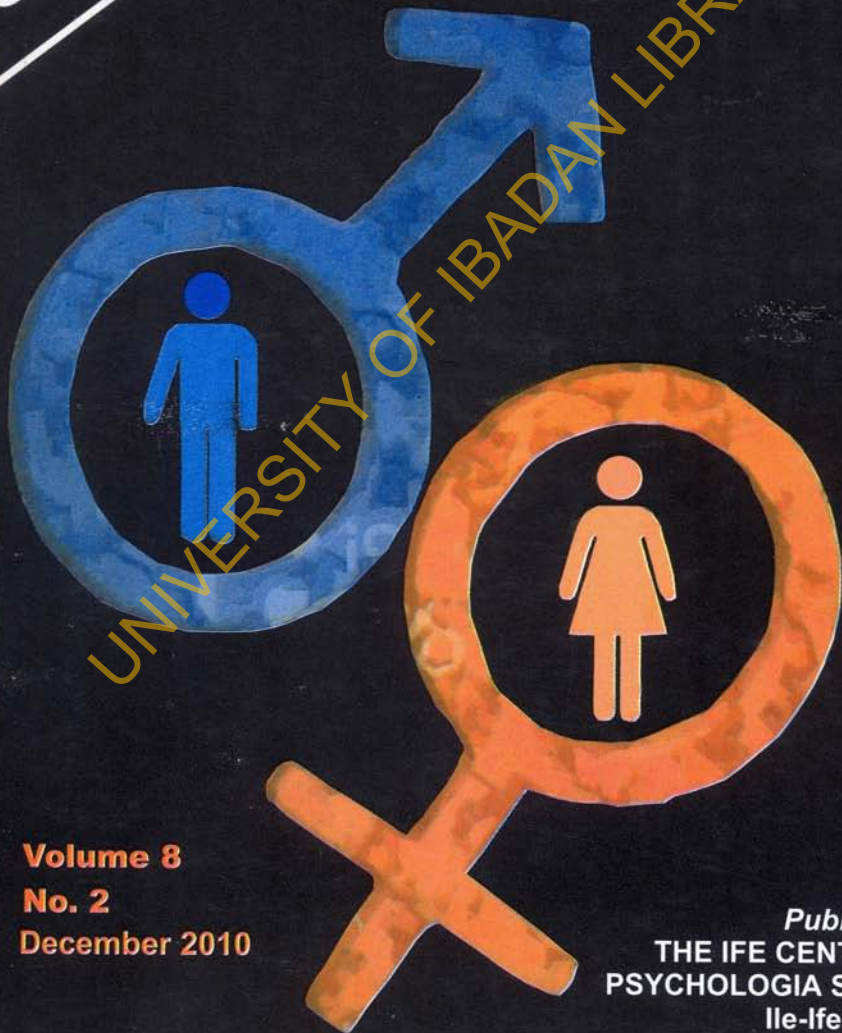


# Gender & Behaviour

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**THE ROLE OF INSECURE AND FEARFUL ATTACHMENT STYLES  
IN SEXUAL RISK BEHAVIORS AMONG HIV-POSITIVE WOMEN  
ATTENDING A SUPPORT GROUP IN IBADAN, NIGERIA**

**B.O. OLLEY; PhD**

Department of Psychology  
Faculty of the Social Sciences,  
University of Ibadan, Nigeria.

[Olley28@yahoo.com](mailto:Olley28@yahoo.com)

*The present study investigated the relationship between adult attachment style and unprotected sex among women living with HIV-positive in Ibadan. HIV-positive participants (N = 60) completed questionnaires assessing consistent condom use three months preceding study, multiple sexual partners, adult attachment, self-esteem, and depressive symptoms. Results revealed that insecure attachment styles (particularly negative attachment representations of self) and fearful attachment were associated with both number of none condom use in the past three months and having multiple sexual partners in the same period. Similarly negative self esteem and depressive symptoms were related to these high risk sexual practices. These relationships remained significant after controlling for self-esteem, and depressive symptoms. These results suggest the inclusion of relational factors such as attachment in HIV prevention.*

## **INTRODUCTION**

The role of personality in sexual behaviors has been a premise for empirical study. Past empirical efforts have applied the health belief model and theory of reasoned action to explain HIV and AIDS risk behaviors. Recent advancement has considered the role of relational factors in individual risky sex (Furman & Shaffer, 2003). Evidence show that because most sexual behaviors among adults occur within the context of close relationship, factors such as attachment styles may be important in explaining sexual risk

behaviors among HIV and AIDS patients (PLWHAs) in view of continuous unprotected sex among them (Ciesla, Roberts and Hewitt, 2004). This is particularly imperative in Nigeria, where sexual risk behaviours are increasing, reported HIV declining notwithstanding (Olley, 2008; FMOH, 2008).

Consistent findings showed that many HIV infected individuals are sexually active and practice unprotected sex (Kennedy et al., 1993; Kalichman, 1999; Olley, et al, 2005; 2006; 2008). For example, in a study among HIV patients in the USA, it was found that 42% of HIV+ men and 42% of HIV+ women reported at least one instance of unprotected intercourse during a 6-month period, frequently with partners with unknown or seronegative HIV status (Kalichman, 1999). Another study reported that 25% of serodiscordant heterosexual couples (couples in which only one partner is HIV+) do not consistently use condoms during sexual intercourse (Kennedy et al., 1993). Olley et al, 2005 found among 55 HIV patients in South Africa, representing 54.4 % of those sexually active, had not used a condom during the most recent intercourse.

Several correlates of increased risky behavior among HIV+ individuals have been reported. These include substance abuse (Kalichman, 1999; Kalichman, Kelly, & Rompa, 1997; Olley et al 2005) and the exchange of sex for money or drugs (Kalichman, Kelly, & Rompa, 1997). Others include having current partner, lack knowledge of their partner's HIV status and shorter duration of HIV infection, coping styles characterized by denial and negative emotionality (Olley, et al 2005; Heckman et al., 1999; Kalichman, Kelly, & Rompa, 1997; Kelly et al., 1993; Kennedy et al., 1993), though not consistently (Kalichman, 1999).

Despite the clinical value of the above findings, they have been limited for being mechanistic and ignoring the interpersonal and affectional nature of sexual relationships (Ciesla, Roberts and Hewitt, 2004). The need for a greater understanding of these interpersonal and affectional motives for continued risky sex behavior has been demonstrated from such findings, which found unprotected sex as a more common behaviour among HIV+ individuals in long-term relationships than in casual relationships (Heckman et al., 1999; Remien, Carballo-Dieiguez, & Wagner, 1995; Olley et al 2005).

It has been proposed that attachment theory (Bowlby, 1980) may provide a useful framework through which to explore the interpersonal nature of HIV risk behavior (Feeney & Raphael, 1992). Four prototype of adult attachment styles, which represent four

possible combinations from positive and negative models of self and others have been described (Bartholomew and Horowitz (1991). They include secure, dismissing, preoccupied, and fearful. *Secure* individuals have positive models of both self and others, while *fearful* individuals have negative models of both. *Preoccupied* individuals have positive models of others and negative models of self, while *dismissing* individuals have the reverse pattern. Such attachment styles and working models are thought to affect a broad range of interpersonal behaviors, including sexual behaviors (Feeney & Raphael, 1992; Ciesla, Roberts and Hewitt, 2004). Investigating this proposition, with regard to unprotected sexual behaviours among HIV individuals may provide a pointer for a personality focused intervention to reduce sexual risk behaviours.

Studies investigating these associations have been few (Ciesla, Roberts and Hewitt, 2004; Riggs, Vosvick and Stallings, 2007), evidence showed that insecure and fearful attachment styles were associated with having multiple sexual partners (Ciesla, Roberts and Hewitt, 2004). Riggs et al (2007) found in a study of the role of adult attachment style in stigma, stress and depression of 288 HIV patients that attachment styles constitute a risk factor to depression and stress. Kershaw, Milan, Westdahl et al, (2007) found among 755 high risk young pregnant women (ages 14-25) recruited from urban prenatal clinic that attachment anxiety predicted unprotected sex with risky partners. Results further showed that current relationship with father of the baby mediated the effect of attachment anxiety on multiple partners and STI.

The overlapping relationships between women vulnerability to infection vis a vis their biological makeup and power imbalance in sexual negotiation have further heightened the role of relational factors in sexual risk behaviors. Their vulnerability may further be affected by the stigma and discrimination with HIV, by the knowledge that they are likely to die prematurely of AIDS, and by the burden of care giving for other members of the family who may have also been infected with the disease. We hypothesized that women living with HIV in Nigeria will report high insecure and fearful attachments in view of their susceptibility and that this will be associated with high-risk sexual behavior. We also proposed that HIV positive women reported self-esteem and depressive symptoms will mediate these associations.

## METHODS

### **Participants and Procedure**

Sixty (success rate = 100%), HIV positive women who were attending a support group facility formed at the Ogbere Oloba/Gbaremu Ona-Ara local government primary health care clinic, in Ibadan, South West Nigeria, voluntarily took part in this study. They were approached when on their regular bimonthly meeting. Those judged by the primary care team (local health-care professionals and counselors) as mentally stable and cognitively capable of participating and who consented completed a 42 item questionnaire that contained measures of socio-demographic factors, depression, attachment styles, self esteem and sexual risk behaviors. They were filled in private, although a trained research assistant periodically checked on the participant and addressed any questions. Information regarding participants CD4+ cell counts was obtained through self report from the women- most HIV patients in Nigeria know their current CD4 count as this is done on routine follow-up visits. All 60 women approached, consented and participated. All filled the questionnaire appropriately with no missing information. The women were all Yoruba language speaking people with an average age 34 years ( $SD = 5.2$ ). Our sample did not significantly differ from the population of known HIV+ women in the Nigeria (FMOH, 2008).

### **Measures**

**Attachment Styles:** The Relationship Questionnaire (RQ) as used (Ciesla, et al 2004) was utilized and administered to the women in this study. The RQ presents four short paragraphs, each describing a different attachment style (secure, preoccupied, dismissing, and fearful). Participants were asked to rate each paragraph in terms of how well it describes their thoughts and feelings in relationships on a 10-point scale ranging from 1 (*not at all like me*) to 10 (*just like me*). Three probable scores are derived from these ratings. First, each of the four ratings could constitute a continuous measure of each style. Second, the dominant attachment style for a respondent could be determined by inspection of the continuous ratings. In the event of ties between styles, a fearful style took precedence over all other styles, whereas dismissing and preoccupied styles took precedence over secure styles (Mickelson, Kessler, and Shaver (1997).



Third, a derivable scores for self (WM-Self) and other (WM-Other) can be determined by summation of the four continuous ratings. For example, WM-Self could be computed by summing the dismissing and secure scores, then subtracting the preoccupied and fearful scores. Similarly the WM-Other could be computed by summing the preoccupied and secure scores, then subtracting the dismissing and fearful scores (Griffin & Bartholomew, 1994). The four-item WM-Self-scale is thought to reflect the degree to which individuals have a positive, internalized sense of self-worth versus an externalized or negative sense of self-worth, resulting in preoccupation or anxiety over being unloved by others. The four-item WM-Other scale is thought to reflect individuals' perceptions of others as available and supportive. For the purpose of this present report, we utilized both the continuous scores of the 4 attachment styles, with coefficient alphas: dismissing .73; secure .75, preoccupied .65 and fearful .76 respectively and the working model of (WM-Self) and (WM-Other).

#### **Depressive symptoms:**

Depressive symptoms were assessed by using the Center for Epidemiologic Studies Depression Scale (CES-D) <sup>27</sup>. This 20 items screening instrument for frequency of depressive symptoms has each of its item rated 0 (rarely or none of the time) to 3 (most or all of the time) for frequency of occurrence in the past 7 days. Scores can range from 0 to 60. The scale has been used extensively in population-based studies of depression and in clinical settings to cooperate levels of depressive symptoms in clinical samples. For the purpose of this study we adopted the 15 items subscale of the CES-D to create a depression score that did not include somatic complaints, because the physical symptoms of depression in the CES-D (i.e. fatigue, poor appetite, lack of energy, restless sleep, and poor concentration) are also symptoms of HIV infection. In this regard the total CES-D scores constituted a measure of depression for the present analyses with demonstrated internal consistency (Cronbach's  $\alpha$  0.79). Item total correlation coefficient was high for all the items with ranges between 0.73-0.84. In studies of the general population, total mean CES-D scores of 8-9 have been reported and for clinically depressed patient populations, the total means scores have ranged from 24 to 39. Among the participants for this study total CES-D mean scores ranged from 10-32. A cutoff scores of 16 or more on the CES-D has been used to classify persons as probable cases of

depression. For the present study depression was treated as a continuous variable.

### ***Self-esteem:***

The Rosenberg (1979) Self-Esteem Scale (RSE) was used to measure participants' global self-esteem. This widely used scale consists of five positively and five negatively valence self-referent statements to which participants indicate agreement or disagreement on a 5-point Likert scale. In the present sample, there is a coefficient alpha of .81.

### ***Sexual Risk Behaviour***

A sexual risk behaviour scale was also administered to the women. This was a 6-item modified measure as used previously among recently diagnosed HIV/AIDS patients in South Africa (Olley et al 2005). Participants were asked about their sexual activities in the preceding 3 months. Questions included: "Did you use a condom at last sex?"; "number of times condom was not used in sexual activities in the preceding 3 months?"; "had sex with more than one primary partner?"; "number of none primary partner with sex in the preceding 3 months?"; "had sex after using alcohol heavily or other drugs?"; "had sex with a partner known for less than 1 day?" The questions were well understood by the patients and there was no evidence of ambiguity in responses. For the present analyses, two items were utilized: "number of times condom was not used in sexual activities in the preceding 3 months, and number of none primary partner with sex in the preceding 3 months. Internal consistency (Cronbach's alpha,  $r=0.90$ ) and the split half reliability ( $r=.91$ ) were established.

### ***Data Analytic Plan***

Multiple linear regression analysis was used to test the relationship between number of times condom was not used in sexual activities in the preceding 6 months, in the preceding 6 months and the continuous measures of attachment style. Similarly, we employed the linear regression to test the relationship between and number of none primary partner with sex and the continuous measures of attachment styles. Finally, the potential mediating effects of self-esteem and depression were explored by first examining the zero-order correlations among the study variables. Self-esteem and depression were then added to the regression models as control variables. Evidence for mediation would include significant relationships between the potential mediator (self-esteem or

depression) and the attachment styles, as well as between the potential mediator and sexual risk. Further, mediation would suggest that the relationship between attachment styles and sexual partners should diminish when self-esteem and depression are included as control variables in the regression model (Ciesla et al 2004).

## RESULTS

### Univariate Analyses

Of the 60 women, 35 (60%) reported more than one occasion condom was not used at sex over 3 months, twenty per cent of the women reported having two or more sexual partners in the previous 3 months. A substantial number (n=42) are self employed, while the remaining are either presently none employed or working for the government. The mean years of education was 13.4 (SD=4.8). Majority of the women (n=32) indicated that they were "married or living with someone as married, 17 reported that they were never married, while 8 were separated or divorced, and 3 were widowed. Majority of the women had more than five year's duration of knowledge of HIV infection (6.45, SD 2.8). Many lack knowledge of their sexual partner's HIV status. With regard to attachment styles, a substantial majority (57%) of the women reported insecure attachment, almost half (48.7% reported fearful attachment style. Majority of the women were low in self esteem, with scores ranging from 10-19. Majority also showed evidence of depression with mean scores of 18.4, SD 4.6.

### Attachment Styles and Multiple Sexual Partners

**Table 1: Hierarchical Multiple Regression Analyses Predicting Multiple sexual partners**

Predictor	B	pr	t
<b>Working models (WM) of self and other</b>			
WM-Self	-.24	-.29*	-2.41*
WM-Other	-.05	-.05	-0.34
Model R <sup>2</sup> =.18, F(3, 32) =3.08, p = .06			
<b>Continuous ratings of attachment styles</b>			
Fearful	.47	.39*	3.20*
Preoccupied	-.17	-.14	-.06
Dismissing	.08	.10	0.19
Secure	-.09	-.10	0.89
Model R <sup>2</sup> = .19, F(3, 54) = 1.77, p = .13			

Note. B= standardized beta weight, pr=partial correlation.

\* p<.05.

Working models of self and other were first examined as potential predictors of total number of none primary partner with sex over the past 3 months. WM-Self and WM-Other were entered simultaneously into a multiple linear regression predicting number of multiple sexual partners. As can be seen in Table 1, WM-Self was a significant predictor ( $\beta = -.244$ , partial correlation [ $pr$ ] =  $-.29$ ,  $p < .05$ ), whereas WM-Other was not statistically significant. Individuals with more positive model of self reported fewer multiple sexual partners. Similarly each continuous measure of attachment styles was entered simultaneously into a regression equation predicting number of multiple partners. Fearful attachment was associated with a greater number none primary sexual partners over the past 3 months ( $\beta = .474$ ,  $pr = .46$ ,  $p < .05$ ). Individuals with a more fearful attachment style reported a greater number of multiple partners. No other style was statistically significant.

### Attachment and Number of times Condom not used at sex over 3 months

**Table 2: Hierarchical Multiple Regression Analyses Predicting number of times Condom not used**

Predictor	B	pr	t
<b>Working models (WM) of self and other</b>			
WM-Self	-.28	-.28*	-.2.57*
WM-Other	-.13	-.16	-0.87
Model $R^2 = .13$ , $F(2, 45) = 3.33$ , $p = .05$			
<b>Continuous ratings of attachment styles</b>			
Fearful	.30	.30*	3.12*
Preoccupied	-.19	-.20	-1.35
Dismissing	-.001	-.00	0.01
Secure	.17	.17	1.12
Model $R^2 = .19$ , $F(4, 43) = 2.46$ , $p = .06$			

Note. B= standardized beta weight, pr=partial correlation.

\*  $p < .05$ .

We also examined the relationship between number of times condom was not used at sexual activities over 3 months and attachment styles. As can be seen in Table 2, regression analysis indicates that WM-Self also significantly predicted the variables in the predicted direction ( $\beta = -.288$ ,  $pr = -.28$ ,  $p < .05$ ), whereas WM-Other was not significant.

When number of times condom was not used at sexual activities over 3 months was regressed on the four continuous attachment style scores, Fearful attachment showed a trend toward

significance ( $\beta = .305$ ,  $pr = .30$ ,  $p < .05$ ), whereas the other attachment styles failed to make a significant contribution.

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## METHODS

### **Participants and Procedure**

Sixty (success rate = 100%), HIV positive women who were attending a support group facility formed at the Ogbere Oloba/Gbaremu Ona-Ara local government primary health care clinic, in Ibadan, South West Nigeria, voluntarily took part in this study. They were approached when on their regular bimonthly meeting. Those judged by the primary care team (local health-care professionals and counselors) as mentally stable and cognitively capable of participating and who consented completed a 42 item questionnaire that contained measures of socio-demographic factors, depression, attachment styles, self esteem and sexual risk behaviors. They were filled in private, although a trained research assistant periodically checked on the participant and addressed any questions. Information regarding participants CD4+ cell counts was obtained through self report from the women- most HIV patients in Nigeria know their current CD4 count as this is done on routine follow-up visits. All 60 women approached, consented and participated. All filled the questionnaire appropriately with no missing information. The women were all Yoruba language speaking people with an average age 34 years ( $SD = 5.2$ ). Our sample did not significantly differ from the population of known HIV+ women in the Nigeria (FMOH, 2008).

### **Measures**

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Table 3  
Correlations among Study Variables

Variables	WM-Self	WM-Other	Secure	Dismissing	Preoccupied	Fearful	Depression	SE	Multiple partners	Non condom use
WM-Other	-.01									
Secure	.45**	.57***								
Dismissing	.46**	-.62***	.04							
Preoccupied	-.65***	.38**	.12	-.10						
Fearful	-.64***	-.45**	-.12	.16	.42**					
Depression	-.59***	.16	-.10	-.13	.69***	.39**				
SE	.22	.36*	.29*	-.16	-.50**	.32*				
Multiple Sex	.35*	.24	.12	-.12	-.27	-.49***	-.47**	.50***		
Non Condom use	.34*	.04	.05	.10	-.22	-.36*	-.33*	.14	.26	

Note. WM=working models; RSE= Rosenberg Self-Esteem Scale (Rosenberg, 1979).  
\*p<.05. \*\*p<.01. \*\*\*p<.001.

### **Mediating role of Self-Esteem and Depressive Symptoms**

We examined the moderating effect of depression and self-esteem on the relationship between number of times condom was not used at sex over 3 months, and number of multiple sexual partners at the same period with attachment styles. First, we found a relationship between self-esteem and WM-Self ( $r = .30, p < .05$ ), ratings of fearful attachment ( $r = -.27, p = .07$ ), non condom use at last sex ( $r = -.20$ ) and number of multiple sexual partners ( $r = -.27$ ) Table 3.

We repeated regression analyses as performed earlier using self-esteem and depression as covariates. Result showed a statistically significant association between all entered variables with the dependent measures ( $p < .05$ ). insecure attachment was statistically and significantly associated with number of sexual partners  $F(3, 1021) = 12.4, p < .01$ , accounting for 5.6% of the variance number of sexual partners fearful attachment, self esteem and depression were entered in the second block and the equation remained statistically significant,  $F(3, 1044) = 23.5, p < .01$ , contributing an additional 5.7% of the variance in number of sexual partners. We found that self esteem and depression moderated the influence of insecure and fearful attachment styles to sexual risk behaviors of the women.

### **DISCUSSION**

This study documents the potential and relative roles of certain attachment styles to high risk behaviors among women living with HIV in Ibadan, Nigeria. Significant findings were that: (1) sixty per cent of the women reported more than one occasion condom was not used at sex over 3 months, (2) twenty per cent of the women reported having two or more sexual partners over 3 months, (3) with regard to attachment styles, a substantial majority (57%) of the women reported insecure attachment, (4) almost half (48.7% reported fearful attachment style (5) majority of the women reported low self esteem as they reported elevated depressive symptoms.

Our findings showed that insecure and fearful attachments were predominant among HIV women in Ibadan and may influence their high-risk sexual behaviors and specifically suggest that women with more negative attachment representations of self (insecure) and attachment that is more fearful have greater likelihood of having multiple sexual partners and increase number of times condom was not use at sexual activities. These are consistent with the reports



documented in Kalichman, Greenberg, & Abel, 1997; Kalichman, Kelly, et al., 1997; and Ciesla et al, 2004; Kershaw et al 2007. For example, Ciesla et al 2004 found that 69% of HIV+ individuals with a fearful attachment style reported multiple sexual partners in a US study. Kershaw et al 2007 similarly found attachment anxiety to predict unprotected sex among high risk pregnant women attending a prenatal clinic. Of interest in our findings is the contributory role of self esteem and depressive symptoms of the women in the association between insecure attachment and the sexual risk outcomes. Though it runs contrary of the observations reported by Ciesla et al 2004, but consistent with the linear relationships between self-esteem or depressive symptoms and sexual risk behavior (Kalichman et al 1997; Olley et al 2005). Depression has always been reported as correlates of sexual risk behaviors in HIV disease (Kalichman et al 1997; Olley et al 2005).

The heterogeneity of HIV/AIDS samples across studies may to some extent account for the inconsistent results. However, other factors may also be relevant, our sample are predominantly women of low socioeconomic class with probable increase life stress due to poverty and lack of social security. Addressing these issues further in subsequent research remains a crucial empirical exercise in the Nigerian context.

Generally, this study supports earlier contention of the possibility of interpersonal traits in human sexuality ( ) and suggest that sexual behavior is important to individuals' concepts of self in the context of romantic relationships rather than their global concepts of self devoid of interpersonal context. Specifically, negative WM-Self involves feelings of discomfort with the self in intimate relationships, anxiety regarding abandonment, and dependence on others' acceptance and affirmation, rather than global poor self-regard.

Several mechanisms have been posited for the relationship between fearful attachment and sexual risk behaviors (Ciesla, et al (2004). Accordingly, dysfunctional attachment in terms of fearful and dismissing types may lead to having a greater number of sexual relationships to the extent that, these individuals may engage in casual sexual behavior than did individuals with a Secure or Preoccupied style (Ciesla et al 2004). Similarly, it is of the view that persons with insecure attachment styles may be wary in disclosure of their HIV+ status for fear of rejection and abandonment. Implicitly, they may fear the possible negative consequences of refusing the sexual advances of others. For example, individuals with a fearful

attachment style tend to rate themselves as being more submissive, less autocratic, and more exploitable compared to secure, preoccupied, or dismissing individuals (Bartholomew & Horowitz, 1991). In the same vein, the self concept individuals hold about themselves may follow the same direction. For example an individual with low self esteem who lacks self value may seek acceptance and attachment through impulsive and unreasoned sexual relationship, which in most instances are risky (Bartholomew & Horowitz, 1991).

Thus, a lack of assertiveness may contribute to risky sexual behavior. Finally, individuals with a negative WM-Self, whose self-concept and emotional well being is overly dependent on others, may attempt to use sex as a way to seek acceptance and stability in romantic relationships.

These findings have important implications for HIV prevention in Nigeria in view of the worries about continuous unsafe and high risk sexual behaviors in spite of public campaign efforts. Our findings have provided a lead way towards the relative role of the individual personality, particularly the dynamics of interpersonal attributes in romantic context. The most visible risk prevention program in Nigeria is education regarding safer-sex practices. This is reinforced by the ABC slogan of abstinence, faithfulness and condomization. In as much as they are considered good moral impetus against responsible sexual behavior, they are limited to the extent of negating the role of interpersonal attributes in romantic relationships. Given this, it would be difficult if not impossible to make a significant impact on the spread of HIV without appropriate consideration of the personality in intervention plans. The question to always ask is why do people engage or still engage in risky sexual practices despite information and education? Given that the support group that our sample was drawn from provides such information routinely as they visit for follow-up management, we can assume with confidence that the women were aware of the inherent risks associated with continued unsafe sexual behavior. Nonetheless, many engage in risky sexual practices.

We posit that interpersonal motivations are important influences of sexual behavior, even when such behavior would be socially scorned (having risky sex with uninfected individuals) and place the health of another person at great risk. As such, we propose that interventions for reducing risky behaviors in an HIV+ population should address explicitly the interpersonal context in which high-risk behaviors occur, including issues such as disclosure, assertiveness, and fear of rejection or abandonment.

The results here should, however, be interpreted with caution. First the sample was a convenience selective sample of women attending a support group. The sample size is small and we cannot therefore necessarily generalize to other women or groups living with HIV/AIDS. The study was also limited in that it relied on self-report, and limited to those women who can read the English language. All the women were on antiretroviral therapies, the feeling of wellness as a result drug and other psychosocial management may explain the level of sexual risk behaviors observed in the report. Finally, the data in this study were cross-sectional, with resulting limitations in inferring causation from the associations found. Nevertheless, these data emphasize the extent to which personality attributes, especially those related to romantic context are important in continuous high risk sexual behaviors among women living with HIV and AIDS. In view of the above limitations, we suggest for future studies a more robust way of assessing sexual risk behavior other than relying on self report. For example, it would be wise for investigators to use interview-based devices that involve retrospective accounts of daily behavior over a fixed time period, such as the Timeline Follow-Back Interview (Midanik et al., 1998).

Likewise, prospective investigations with larger sample sizes would be necessary to test the possible causal relationship between working models of attachment and sexual behaviors among HIV+ individuals. Perhaps most importantly, it remains for future research to explore the possible mechanisms underlying the association between adult attachment and high-risk sexual behaviors. Greater understanding of these mechanisms could be invaluable in developing interventions to reduce risky behaviors and ultimately the spread of HIV.

In conclusion this report showed that, working models of self and fearful attachment may be important in understanding and identifying women who continue to engage in high-risk sexual behavior despite HIV infection.

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