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Psychological Reactance and HIV-related Stigma among Women Living with HIV

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Abstract

Psychological reactance is defined as the drive to reestablish autonomy after it has been threatened or constrained. People living with HIV may have high levels of psychological reactance due to the restrictions that they may perceive as a result of living with HIV. People living with HIV may also exhibit levels of HIV-related stigma. The relationship between psychological reactance and HIV-related stigma is complex yet understudied. Therefore, the main aim of this study was to examine the association between psychological reactance and HIV-related stigma among women living with HIV. Data were obtained from one time-point (a cross-sectional assessment) of a longitudinal HIV disclosure study. Psychological reactance was measured using the 18-item Questionnaire for the Measurement of Psychological Reactance (QMPR). HIV-related stigma was measured using the HIV Stigma Scale, which has four domains: personalized, disclosure concerns, negative self-image, and concerns with public attitudes. Principal component analysis was used to derive components of psychological reactance. Linear regression models were used to determine the association between overall psychological reactance and its components, and stigma and its four domains, and depressive and anxiety symptoms. The associations between stigma and mental health were also examined. Three components of psychological reactance were derived: Opposition, Irritability, and Independence. Overall psychological reactance and irritability were associated with all forms of stigma. Opposition was linked to overall and negative self-image stigma. Overall psychological reactance, opposition and irritability were positively associated with anxiety symptoms while opposition was also associated with CES-D depressive symptoms. There were also positive associations between all forms of stigma, and depressive and anxiety symptoms. Health care providers and counselors for women living with HIV addressing feelings of irritability and opposition towards others may reduce HIV-related stigma. Future research should examine the link between psychological reactance, mental health and HIV-related stigma among other populations living with HIV.

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Introduction

Psychological reactance is defined as the drive to reestablish autonomy after it has been constrained (Brehm, 1966). People living with HIV may have high levels of psychological reactance because of perceived restrictions due to living with the disease. Among people living with HIV, there may be a motivation to regain the sexual freedom that was experienced (Mason, 2003) before an HIV diagnosis.

HIV-related stigma continues to be a problem in the US (Ojikutu, Nnaji, Sithole-Berk, Bogart, & Gona, 2014; Shacham, Rosenberg, Onen, Donovan, & Overton, 2015) and has been shown to be associated with anxiety and depression (Kamen et al., 2015; Shacham et al., 2015). People living with HIV also exhibit levels of HIV-related stigma (Mannheimer et al., 2014), which may be related to affect, behavior and well-being among people living with HIV (Earnshaw, Smith, Chaudoir, Amico, & Copenhaver, 2013).

Research examining the association between psychological reactance and HIV-related stigma is very limited. However, research has shown that the perception of high levels of social pressure to reduce HIV/AIDS prejudice may be associated with perceived stigma (Miller, Grover, Bunn, & Solomon, 2011), and this pressure to reduce HIV/AIDS prejudice may lead to psychological reactance (Devine, Plant, Amodio, Harmon-Jones, & Vance, 2002; Grover, Miller, Solomon, Webster, & Saucier, 2010). Reactance theory may be used to explain the relationship between psychological reactance and HIV-related stigma, and suggests that people react against attempts to constrain their behaviors and their autonomy (Brehm, 1966). The perception of others constraining one's behavior due to living with HIV may result in higher levels of HIV-related stigma.

To date, and to our knowledge, no study has examined the association between psychological reactance and HIV-related stigma among populations living with HIV. The primary aim of this study was to examine the association between psychological reactance and HIV-related stigma among women living with HIV. The associations between psychological reactance, HIV-related stigma and depressive and anxiety symptoms were also assessed.

Methods

Data Source and Population

Data were obtained from one time-point (a cross-sectional assessment) of a longitudinal HIV disclosure study conducted between 2001 and 2004 in a large Midwestern city. To be eligible, women had to be 18 years old and living with HIV. Participants were recruited through HIV/AIDS service organizations, a children's hospital, and a clinical trial unit associated with a larger university, and 125 women were enrolled in the study.

Measures

Psychological reactance was measured using the 18-item Questionnaire for the Measurement of Psychological Reactance (QMPR) (Merz, 1983). Items were scored using a

Likert-type scale ranging from “Does not apply at all” (1) to “Always applies” (6). The Cronbach’s alpha of the QMPR was 0.90.

HIV-related stigma was measured using the HIV Stigma Scale, which had four domains: personalized, disclosure concerns, negative self-image, and concerns with public attitudes (Berger, Ferrans, & Lashley, 2001). Items were scored using a Likert-type scale ranging from “Strongly disagree” (1) to “Strongly agree” (4). The Cronbach’s alpha of overall HIV-related stigma and its domains are presented in Table 2.

Depressive symptoms were measured using the 20-item Centers for Epidemiologic Studies – Depression (CES-D) (Radloff, 1977) and the Costello-Comrey Anxiety and Depression (CCAD) (Costello & Comrey, 1967) scale using 14 items. The items for the CCAD for depressive symptoms and CES-D were scored using a Likert-type scale ranging from “Never” (1) to “Always” (9) and “Rarely or None of the time” (0) to “Most or All of the time” (3), and had Cronbach alpha values of .91 and .93, respectively.

Anxiety symptoms were operationalized using 9 items from CCAD scale (Costello & Comrey, 1967). The CCAD for anxiety symptoms had a Cronbach alpha of .88.

Confounders

Potential confounders considered in this study (age and race/ethnicity) were determined by literature review *a priori*. Age and racial/ethnic differences have been found in psychological reactance (Woller, Buboltz, & Loveland, 2007) and HIV-related stigma (Emlet et al., 2015; Wohl et al., 2013).

Analytic Approach

Participants were excluded if they were missing on half or more items of the psychological reactance scale and/or the stigma scale (n=9). Therefore, 118 women were in the final study population. Principal component analysis (PCA) using a promax (oblique) rotation was used to derive psychological reactance components. Loadings ≥ 0.4 (Asante & Doku, 2010) were used to determine items for components. Simple and multiple linear regression models, adjusting for age and race/ethnicity, were used to determine the associations between psychological reactance and its components, and overall stigma and its domains, and between psychological reactance, HIV-related stigma, and depressive and anxiety symptoms. All analyses were performed in SAS version 9.4 (SAS Institute, Cary, NC).

Results

The QMPR components and their loadings are shown in Table 1. Two items, which had loadings of <0.4 on these components were not included in QMPR subscale/component analyses but were still included in analyses comprising overall psychological reactance. Component 1 was defined as “Opposition” – these items suggested contradicting others. Component 2 was defined as “Irritability” - items suggested feelings of irritation. Component 3 was defined as “Independence” – items suggested independence of others and regulations. The components were correlated to overall psychological reactance and with themselves: $r(\text{Overall}|\text{Opposition}) = 0.80$; $r(\text{Overall}|\text{Irritability}) = 0.92$; $r(\text{Overall}|\text{Independence}) = 0.85$.

Independence) = 0.72; $r(\text{Opposition}|\text{Irritability}) = 0.57$; and $r(\text{Irritability}|\text{Independence}) = 0.74$. Supplemental Table 1 shows the means and standard deviations for all QMPR items.

Descriptive statistics of the study population and for psychological reactance and its components are shown in Table 2. The associations between psychological reactance, its components, and stigma and its domains, and depressive and anxiety symptoms are shown in Table 3. There were positive associations between overall psychological reactance, irritability and all forms of HIV-related stigma. Opposition had a positive association with overall stigma and negative self-image stigma. Overall psychological reactance, opposition and irritability were positively associated with anxiety symptoms while opposition was also associated with CES-D depressive symptoms. There were no statistically significant associations between Independence and any type of stigma or mental health. Supplemental Table 2 displays the positive associations between all forms of HIV-related stigma and depressive and anxiety symptoms.

Discussion

This study is the first to examine the association between psychological reactance and HIV-related stigma among women living with HIV. Psychological reactance and irritability were associated with all forms of stigma while opposition was associated with overall and negative self-image stigma.

The association between psychological reactance and internalized HIV stigma may be explained by the reactance theory, which states that people may react against attempts to restrict their behaviors and autonomy (Brehm, 1966). Theoretically, among women living with HIV, those with higher psychological reactance (which may be due to perceived restrictions and discrimination due to living with the disease) may have higher levels of HIV-related stigma.

Inspection of the HIV Stigma Scale shows that the personalized domain of the scale aligns closely with enacted stigma (Jacoby, 1994). The negative self-image scale is closely related to internalized stigma (Herek, 1990). The concern with public attitudes subscale is most akin to felt/anticipated stigma (Jacoby, 1994). The disclosure subscale contains items that may be a direct result of felt/anticipated stigma. The association between opposition and negative self-image stigma indicated that showing defiance to others was associated with stigma more specific to internal conceptualization of HIV status, but not with perception of external discrimination. Irritability was associated with stigma, which has been supported by previous research (Semple, Strathdee, Zians, & Patterson, 2012). The lack of statistically significant findings between Independence and HIV-related stigma suggests that independence may not be linked to internalized or externalized stigma.

Supplemental analyses in the current study showed that there were associations between psychological reactance and mental health, and also between stigma and mental health. Due to the cross-sectional nature of the study, the temporal sequence between variables could not be assessed. However, these additional findings indicate the potential role of psychological reactance as a mediator between stigma and mental health or of stigma as a mediator

between psychological reactance and mental health. Indeed, previous research has shown that irritability or anger mediates the association between perceived discrimination and psychological distress (Liao, Kashubeck-West, Weng, & Deitz, 2015).

There were some limitations in the current study. Due to the cross-sectional design, causality could not be inferred. Indeed, a bidirectional association between psychological reactance and HIV stigma is possible (Corrigan, Mueser, Bond, Drake, & Solomon, 2009). Questions measuring psychological reactance were not HIV-related. In addition, findings may not be generalizable to all women living with HIV.

Nevertheless, the study also had several strengths. This study is the first to examine psychological reactance and HIV stigma among women living with HIV. PCA was used to derive components of psychological reactance and important confounders (age and race/ethnicity) were considered in adjusted analyses.

Conclusions

Health care providers and counselors for women living with HIV may address HIV-related stigma by addressing irritability and opposition towards others. Future studies should explore the relationship between independence and HIV-related stigma among larger study samples to determine if an association exists. Longitudinal studies should also assess the mediational roles of psychological reactance and/or stigma in their associations with mental health.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1
Components Derived for Questionnaire of Measurement for Psychological Reactance (QMPR) Scale based on Principal Component Analysis and Loadings based on Promax (Oblique) Rotated Factor Pattern

Item Number	Item Description	Component 1 Opposition	Component 2 Irritability	Component 3 Independence
2	I get a kick out of contradicting others	0.81 *	-0.09	-0.02
3	I seldom behave according to others' standards	0.70 *	0.11	0.04
4	When told not to do something, my reaction is, "Now I'll do it for sure"	0.79 *	0.07	-0.01
6	When given advice, I take it more like a demand	0.60 *	0.33	-0.03
11	Suggestions and advice often make me do the opposite	0.74 *	0.18	-0.01
16	It pleases me when I see how others disobey social norms and obligations	0.76 *	-0.04	-0.02
8	It makes me angry when someone points out things which are obvious to me	0.19	0.44 *	0.32
9	Often I lose enthusiasm for doing something just because others expect me to do it	0.32	0.53 *	0.08
12	I succeed in doing things well if I do them	-0.28	0.40 *	0.01
14	I get annoyed when someone else is put up as an example for me	0.11	0.74 *	-0.04
15	When I'm pushed to do something I often tell myself, "For sure I won't do it"	0.16	0.84 *	-0.21
18	I get very irritated when somebody tells me what I must do or not do	-0.03	0.81 *	0.08
5	The thought of being dependent on others is unpleasant to me	0.20	0.45 *	0.56 *
10	I get very irritated when someone tries to interfere with my freedom to make decisions	0.00	0.55 *	0.43 *
1	I react strongly to duties and regulations	0.18	-0.23	0.73 *
7	To make free and independent decisions is more important to me than it is to most people	0.03	0.05	0.83 *
Items that did not meet the loading criteria used for any of the three components				
13	I resist attempts of others to influence me	0.15	0.00	0.01
17	Excessive praise makes me suspicious	0.39	0.33	0.14

Note: Items 5 and 10 had cross-loadings on Components 2 and 3

Note: The last two items (13 and 17) did not meet the loading criteria for either of the three components and were not included in the creation of QMPR subscales.

* Criteria used include loadings 0.4

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Table 2
Distribution of Sociodemographic Characteristics and Mean and Standard Deviation
values for Psychological Reactance, and Components Derived from Principal Component
Analysis

Sociodemographic Characteristic	Number	Percent (%)
Age (Mean, SD)	37.8	9.5
Race/Ethnicity		
Black	82	69.5
White	29	24.6
Hispanic	4	3.4
Other	3	2.5
Education		
Less than high school	29	25.4
High School	35	30.7
Some college	40	35.1
College graduate/Graduate School	10	8.8
Income		
\$0 - \$500	46	39.0
\$501 - \$1000	46	34.8
>\$1000	31	26.3
Employment		
Yes	25	21.4
No	92	78.6

Psychological Reactance	Mean	SD	Range	α-value*
Overall	49.5	14.5	18 – 95	0.90
Component 1 (Opposition)	13.2	5.3	6 – 34	0.87
Component 2 (Irritability)	24.7	8.1	8 - 48	0.86
Component 3 (Independence)	13.7	4.4	4 – 24	0.73

* Standardized Cronbach alpha value

Table 3
Association between Overall Psychological Reactance and Derived Components from Principal Component Analysis, and HIV-Related Stigma and Depressive and Anxiety Symptoms

HIV-Related Stigma and Mental Health	Model 1 Crude β (95% CI)	Model 2 Adjusted β (95% CI)
	Overall Psychological Reactance	
Overall (0.96) *	0.46 (0.17, 0.75)	0.45 (0.16, 0.74)
Personalized (0.95) *	0.21 (0.06, 0.36)	0.21 (0.06, 0.36)
Disclosure concerns (0.91) *	0.12 (0.04, 0.21)	0.12 (0.03, 0.20)
Negative self-image (0.93) *	0.13 (0.02, 0.24)	0.12 (0.01, 0.23)
Concern with public attitudes (0.95) *	0.24 (0.09, 0.40)	0.24 (0.08, 0.40)
Depression (CES-D)	0.08 (−0.08, 0.25)	0.08 (−0.09, 0.24)
Depression (CC-D)	0.09 (−0.18, 0.36)	0.07 (−0.19, 0.34)
Anxiety	0.34 (0.18 – 0.50)	0.34 (0.18 – 0.51)
Opposition		
Overall	0.88 (0.05, 1.71)	0.86 (0.18, 1.70)
Personalized	0.42 (−0.00, 0.84)	0.41 (−0.02, 0.83)
Disclosure concerns	0.17 (−0.08, 0.42)	0.16 (−0.09, 0.41)
Negative self-image	0.37 (0.07, 0.68)	0.37 (0.06, 0.68)
Concern with public attitudes	0.38 (−0.07, 0.82)	0.36 (−0.09, 0.82)
Depression (CES-D)	0.47 (0.02, 0.92)	0.47 (0.01, 0.92)
Depression (CC-D)	0.63 (−0.12, 1.38)	0.65 (−0.10, 1.40)
Anxiety	0.87 (0.41 – 1.34)	0.88 (0.41 – 1.35)
Irritability		
Overall	0.99 (0.47 – 1.51)	0.98 (0.46 – 1.51)
Personalized	0.46 (0.19 – 0.72)	0.46 (0.19 – 0.74)
Disclosure concerns	0.27 (0.11 – 0.43)	0.26 (0.10 – 0.42)
Negative self-image	0.24 (0.04 – 0.44)	0.23 (0.03 – 0.44)
Concern with public attitudes	0.55 (0.27 – 0.83)	0.55 (0.26 – 0.83)
Depression (CES-D)	0.19 (−0.11, 0.49)	0.18 (−0.12, 0.48)
Depression (CC-D)	0.18 (−0.32, 0.67)	0.13 (−0.37 – 0.62)
Anxiety (CCAD)	0.70 (0.41 – 1.00)	0.71 (0.41 – 1.01)
Independence		
Overall	0.79 (−0.20, 1.77)	0.80 (−0.19, 1.79)
Personalized	0.47 (−0.03, 0.97)	0.48 (−0.03, 0.98)
Disclosure concerns	0.24 (−0.05, 0.53)	0.25 (−0.05, 0.54)
Negative self-image	−0.09 (−0.45, 0.28)	−0.09 (−0.45, 0.28)

HIV-Related Stigma and Mental Health	Model 1	Model 2
	Crude β (95% CI)	Adjusted β (95% CI)
Overall Psychological Reactance		
Concern with public attitudes	0.52 (−0.01, 1.04)	0.52 (−0.00, 1.05)
Depression (CES-D)	−0.20 (−0.75, 0.34)	−0.20 (−0.75, 0.34)
Depression (CC-D)	−0.65 (−1.53, 0.23)	−0.66 (−1.53, 0.22)
Anxiety	0.31 (−0.26, 0.89)	0.32 (−0.26, 0.89)

Note: Model 1: Unadjusted model; Model 2: Adjusted for age and race/ethnicity

Bolded numbers are statistically significant at $p < 0.05$

* Standardized Cronbach alpha value