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Ways of Coping and HIV Disclosure among People Living with HIV: Mediation of Decision Self-Efficacy and Moderation by Sex

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Abstract

Individuals living with HIV/AIDS face several stressors and use varying strategies to cope. Disclosure (or nondisclosure) of HIV serostatus is an important consideration among individuals living with HIV. However, studies examining the association between coping and HIV disclosure are lacking, and more research examining potential mediators and moderators is needed. The transactional model of stress and coping and the theory of planned behavior may help in understanding the mediating relationship between coping, decision self-efficacy, and HIV disclosure. Therefore, the aims of this study were to examine the association between coping and HIV disclosure to sexual partners, assess the mediating role of decision self-efficacy, and examine moderation by sex. Baseline data from 262 individuals living with HIV who participated in a disclosure intervention were used for analysis. Descriptive statistics were used to assess sociodemographic characteristics. Principal component analysis was used to operationalize coping. Path analysis was then used to determine the mediating role of decision self-efficacy in the association between overall, adaptive, distancing, and attack/escape avoidance coping and HIV disclosure to sexual partners. After adjusting for age and time since diagnosis, direct associations between coping and decision self-efficacy, and decision self-efficacy and disclosure behavior varied by sex. Among the overall study population, decision self-efficacy mediated the associations between adaptive coping ($\beta=0.064$, $p=0.003$), attack/escape avoidance coping ($\beta=-0.052$, $p=0.009$) and disclosure behavior. Disclosure intervention programs geared towards populations living with HIV should include decision self-efficacy and adaptive coping, and attenuate attack/escape avoidance coping.

Keywords

coping; HIV disclosure; mediation; disparities; women; men

Introduction

HIV/AIDS continues to be a public health challenge (Centers for Disease Control & Prevention, 2017), and disparities by sex exist in current rates. In the US, in 2017, women accounted for 19% of new HIV/AIDS infections (Centers for Disease Control & Prevention, 2018), with an incidence rate of 5.2 cases per 100,000 (Centers for Disease Control & Prevention, 2018). Men accounted for 81% of new HIV diagnoses and had an incidence rate of 23.1 cases per 100,000 population (Centers for Disease Control & Prevention, 2018).

Individuals living with HIV/AIDS face several stressors and may use a variety of coping strategies (Armon & Lichtenstein, 2012; Fleishman et al., 2003; Vyavaharkar et al., 2007). Some stressors specific to living with HIV/AIDS may include deciding to disclose HIV serostatus to family, friends and/or partners, accessing and remaining in HIV care, adhering to antiretroviral therapy, and attaining viral suppression, to name a few. Ways of coping with these challenges may range from avoidance or self-denial to religious coping, seeking social support, and focusing on managing HIV disease (Vyavaharkar et al., 2007).

Armon and Lichtenstein (2012) found that among patients living with HIV receiving care from an infectious disease clinic in Colorado, adaptive coping was positively associated with mental health scores and maladaptive coping were negatively associated with mental health and physical health scores. Fleishman et al. (2003) found four types of coping from a cluster analysis: frequent use of blame-withdrawal coping, distancing, active-approach coping, and passive coping (infrequent use of all three). In this study, passive and blame-withdrawal copers had high and low levels of physical and emotional functioning, respectively. A latent profile analysis showed that compared to lower intensity coping, higher intensity coping was associated with worse subjective well-being while mixed intensity coping was associated with the lowest subjective well-being (Rzeszutek, Gruszczynska, & Firlag-Burkacka, 2017).

However, research has shown that gender differences and similarities exist in coping among people living with HIV (Gore-Felton et al., 2002; McIntosh & Rosselli, 2012). No statistically significant differences between men and women were found in emotion-based coping and problem-focused coping among people living with HIV; though the mean (SD) values of emotion-focused coping were larger among women compared to men 21.7 (4.0) vs. 18.4 (3.6) (Gore-Felton et al., 2002). Among men who have sex with men (MSM) living with HIV cognitive coping strategies such as positive refocusing and catastrophizing were negatively and positively associated with depression and anxiety (Kraaij et al., 2008). Positive reappraisal and putting things into perspective were negatively correlated with depression and anxiety, and blaming others was positive correlated with depression (Kraaij et al., 2008).

However, among women living with HIV, avoidance coping and social isolation (McIntosh & Rosselli, 2012) were found to be associated with more severe behavioral health outcomes,

including substance abuse (Lechner et al., 2003), less health care-seeking, delay in ART initiation (Sublette, 2008; Weaver et al., 2004) and ART non-adherence (Lechner et al., 2003). Indeed, avoidance coping has been shown to be more disadvantageous for women compared to men, where gender is an effect measure modifier in the relationship between coping, and positive and negative affect (Moskowitz, Hult, Bussolari, & Acree, 2009). Due to these differences, it is crucial to consider sex differences in the assessment of coping among people living with HIV.

The way individuals living with HIV cope with stress may be associated with their decision to disclose or not to disclose their HIV serostatus. Among individuals living with HIV, disclosure or nondisclosure of HIV status continues to be an important consideration. Disclosure of HIV serostatus has been shown to be associated with lower risk of HIV transmission (O'Connell, Reed, & Serovich, 2015), acquiring emotional, physical and social support, and antiretroviral therapy adherence (Serovich, Lim, & Mason, 2008). However, HIV disclosure has also been linked to rejection (Hult, Wrubel, Branstrom, Acree, & Moskowitz, 2012), stigma (Hult et al., 2012), and intimate partner violence (Brown, Serovich, & Kimberly, 2015).

In addition, one factor that may impact the relationship between coping and disclosure behavior is decision self-efficacy. Decision self-efficacy is defined as an individual's confidence in their abilities to make decisions (Scholl et al., 2011). However, many studies that have assessed self-efficacy among populations living with HIV have focused on self-efficacy for HIV disclosure (Armistead et al., 2018; Brown, Serovich, Kimberly, & Umasabor-Bubu, 2015; Cherenack, Sikkema, Watt, Hansen, & Wilson, 2018) and not other forms of self-efficacy, such as decision self-efficacy, which may also be crucial to understanding behavioral outcomes.

The transactional model of stress and coping examines the process of dealing with stressful events (Lazarus & Folkman, 1984). When a stressful event occurs, there is a primary appraisal, how the person perceives the stressor, and a secondary appraisal, where the individual evaluates his/her abilities and resources to handle the stressor. Coping efforts/ styles are then used to attempt to regulate the stressor, which are linked to health behaviors and outcomes. It may be hypothesized that individuals who use specific types of coping strategies, for example, avoidant coping, may be less likely to disclose their HIV serostatus. Indeed, Cherenack and colleagues found that self-efficacy for HIV disclosure was associated with less avoidant coping (Cherenack et al., 2018).

The theory of planned behavior (Ajzen, 1985) may also help in the understanding of the relationship between decision self-efficacy and disclosure behavior. The theory suggests that beliefs and attitudes towards behavior can shape behavioral change and performance. Therefore, if an individual perceives that they have the ability to decide to disclose, this may lead to a greater HIV disclosure. However, to our knowledge, no study has examined the association between HIV disclosure-related decision self-efficacy and disclosure behavior.

Previous research addressing disclosure to family members has largely focused on coping and disclosure to children (Qiao et al., 2015). However, to our knowledge, no study has

assessed the link between coping styles and HIV disclosure to sexual partners nor the relationship between decision self-efficacy and HIV disclosure, the potential mediating role of decision self-efficacy, and the potential differences by sex.

Current Study

The aims of this study were three-fold: 1) Determine the association between ways of coping and disclosure of HIV status to partners among adults living with HIV; 2) Assess the mediating role of decision self-efficacy; and 3) Examine disparities by sex (among men and women). As no study has examined these relationships to our knowledge, our study was exploratory in assessing these relationships. Our hypotheses were that: 1) Adaptive coping and maladaptive coping would be positively and negatively associated with disclosure to partners, respectively; 2) Decision self-efficacy would mediate the relationship; and 3) Adaptive coping strategies would be associated with greater disclosure behavior for men and women.

Methods

Data Source and Study Population

Data were obtained from 346 people living with HIV (191 men and 155 women) from the baseline cross-sectional assessment of a longitudinal randomized controlled trial of a disclosure intervention aimed at helping men and women in their decisions to disclose their HIV serostatus to their family members. The intervention took place in a Southeastern metropolitan statistical area (MSA) from 2014 to 2017. To be eligible for participation in the study, participants had to be at least 18 years old, living with HIV, indicate an interest in learning more about disclosure, express a desire to make a disclosure decision, and have at least one family member who did not know about their serostatus. Questions at baseline assessed HIV disclosure to family and sexual partners. For the current study, we assessed disclosure to sexual partners. Data on disclosure behavior to sexual partners was missing for 84 participants. Therefore, 262 participants (147 men and 115 women) were included in the current study.

Participants were recruited from local and state AIDS service organizations. HIV-related venues, local newspapers, and social media websites. Audio-computer assisted self-interviewing was used to complete baseline questionnaires. The study was approved by the University of South Florida Institutional Review Board. All participants provided written informed consent and could receive up to \$50 for the baseline assessment.

Measures

Coping—Fifty (50) items from The Ways of Coping Scale (Revised) (Folkman & Lazarus, 1985) were used to measure coping in the current study. Each item was scored on a Likert-type scale ranging from *Does not apply/not used (0)* to *Used a great deal (3)*. The Ways of Coping Scale (Revised) had a standardized Cronbach's alpha of 0.91 in the current study. Coping was then operationalized based on empirically constructed scales for a community sample (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986). Cronbach's alpha values for the current study population were: confrontive ($\alpha=.55$), distancing ($\alpha=.63$), self-

controlling ($\alpha=.58$), seeking social support ($\alpha=.75$), accepting responsibility ($\alpha=.58$), escape-avoidance ($\alpha=.78$), planful problem solving ($\alpha=.77$), and positive appraisal ($\alpha=.80$).

Due to poor (confrontive, self-controlling, and accepting responsibility) and questionable (distancing) Cronbach alpha values (Tavakol & Dennick, 2011), principal components analysis was then conducted to determine components based on the current study population - people living with HIV. In the exploratory phase, items 21 and 22 did not load on any components and were omitted from further analyses: *I let my feelings out somehow* and *I realized I brought the problem on myself*. The principal components analysis with the remaining 48 items was conducted using promax rotation. This analysis resulted in three new subscales: adaptive, distancing, attack/escape avoidance (see Table 1). A common rule is to consider loadings 0.30 and greater for inclusion in subscales (Belenko et al., 2016). Item 39, *I drew on my past experiences; I was in a similar position before*, which loaded on two components (adaptive and attack/escape-avoidance) was placed only in the adaptive subscale in final analyses as has been done in prior research (Folkman et al., 1986). The Cronbach's alpha values for the adaptive, distancing and attack/escape-avoidance subscales were 0.92 (excellent), 0.83 (good), and 0.74 (acceptable), respectively (Tavakol & Dennick, 2011).

The overall coping scale and each subscale were operationalized by summing each variable: overall coping (48 variables), adaptive (29 variables), distancing (12 variables), and attack/escape avoidance (7 variables). Each item was included in the overall scale and only one subscale. One item, *I tried to see things from the other person's point of view*, which was included in the empirical scale, was not asked in the study, and so was not included in the current analysis.

Decision Self-Efficacy—The Decision Self-Efficacy Scale was adapted from the Ottawa Decision Support Framework (ODSF) (O'Connor, 1995). The ODSF is a framework for decision making based on cognitive, social, and organizational psychological theory (O'Connor et al., 1998), is organized based on decision-related factors, interventions and evaluation (Legare, O'Connor, Graham, Wells, & Tremblay, 2006), and assesses self-confidence in making decisions. The scale was adapted to measure decision self-efficacy specific to HIV disclosure. The adapted scale included 13 items that assessed the individual's perception of their ability in deciding to disclose their HIV status. An example of an item was: *Think of all the benefits and rewards of disclosing*. Items were scored on a Likert-type scale with answers ranging from *Not at all confident (0)* to *Very confident (4)*. Higher values indicated greater decision self-efficacy. Cronbach's alpha in the current study was .91.

Disclosure Behavior—The Disclosure Behavior Scale was operationalized by 10 items asking participants about their disclosure behavior to sexual partners. However, questions asked of participants were dependent on whether the participant identified as male or female. Six questions were asked of women and eight items were asked of men. For example, disclosure behavior questions, which addressed disclosing to partners with whom the participants had insertive anal sex with/without a condom, and insertive vaginal sex with/without a condom were only asked of men. Questions that asked about disclosing to sexual

partners with whom the participants had receptive vaginal sex with/without a condom were only asked of women. However, questions that asked participants about disclosing to partners with whom they had receptive anal sex with/without a condom, and to partners who they believed were HIV positive or negative, were asked of both men and women. An example of the latter items was: “I have disclosed my HIV status to _____ of my partners who I believed were HIV-negative.” Each item was scored using a Likert-type scale ranging from *None* (1) to *All* (5). Higher values indicated greater disclosure of HIV status to sexual partners. Cronbach’s alpha value was .98 for questions asked only of men, and .97 for questions asked only of women.

Confounders

Potential confounders that were considered were associated with coping and disclosure behavior but were not in the pathway between coping and disclosure behavior. Age has been shown to be associated with coping, where younger adults are more likely to report maladaptive coping compared to older adults (Emlet et al., 2015). Time since HIV diagnosis may also be associated with coping effectiveness (Moskowitz et al., 2009), where the longer a person knows their status, the more opportunities they may have had to improve their coping skills. Age has been shown to be negatively associated with disclosure behavior, where older adults score lower on disclosure behavior (Brown, Serovich, Kimberly, et al., 2015). Time since diagnosis may also be associated with disclosure of HIV positive serostatus. For example, as time since diagnosis increases, individuals living with HIV may be more comfortable disclosing their status to others.

Analytic Approach

Descriptive statistics were used to examine the distribution of sociodemographic characteristics in the study population. Mean and standard deviation (*SD*) values of overall coping, decision self-efficacy, and disclosure behavior were also assessed. Bivariable correlation values were obtained between continuous variables of age, time since diagnosis and overall coping, decision self-efficacy, and disclosure behavior. Path analysis using PROC CALIS was used to determine the mediating role of decision self-efficacy in the association between coping (overall, adaptive, distancing, and attack/escape-avoidance) and HIV disclosure behavior. Shrout and Bolger’s recommendations were used where the effect of the independent variable on the dependent variable was not a deciding factor in the mediation analysis (Shrout & Bolger, 2002). Four mediational models (overall, adaptive, distancing, and attack/escape-avoidance) were conducted for each study group (overall, men and women). Direct standardized estimates and indirect standardized estimates are provided in Table 3 and Table 4, respectively. The path models adjusted for age and time since diagnosis, and were conducted for the overall study population and for men and women. An examination of the absolute fit indices for each path model showed a good model fit—the ratio of the χ^2 value to the degrees of freedom (df) was < 1.00, goodness-of-fit index (GFI) was > .98, and standardized root mean square residual (SRMR) was < .05. All analyses were conducted in SAS 9.4 (SAS Institute, Cary, NC).

Results

The mean scores and *SD* values for overall coping were 76.2 (20.4) with a range from 0 to 131 and 36.7 (10.5) for decision self-efficacy with a range from 6 to 52. The mean score and *SD* values for disclosure behavior were 17.0 (11.6) with a range from 1 to 40.

Descriptive statistics are presented in Table 2. There were no statistically significant differences in overall coping. However, age was negatively correlated with overall coping at -0.140 ($p=0.024$) and disclosure behavior at -0.141 ($p=0.023$). Statistically significant differences were also seen in the mean values of disclosure behavior to sexual partners by sexual orientation. MSM had the highest mean (*SD*) disclosure behavior at 20.5 (11.9) while heterosexual women had the lowest mean (*SD*) disclosure behavior at 12.8 (9.2).

The direct standardized estimates for associations between coping, decision self-efficacy, and disclosure behavior are found in Table 3. Overall coping ($\beta=0.140$, $p=0.023$), adaptive ($\beta=0.282$, $p<0.001$) and attack/escape-avoidance coping ($\beta=-0.225$, $p<0.001$) were statistically significantly related to decision self-efficacy among the overall study population. Among men, overall coping ($\beta=0.164$, $p=0.045$) and adaptive coping ($\beta=0.286$, $p<0.001$) were statistically significantly associated with decision self-efficacy. However, among women, adaptive coping ($\beta=0.265$, $p=0.002$) and attack/escape avoidance ($\beta=-0.349$, $p<0.001$) were associated with decision-self efficacy.

There were no direct statistically significant associations between coping and disclosure behavior in the overall study population or among any group. However, decision self-efficacy was statistically significantly associated with disclosure behavior among the overall study population, men, and women in all coping models (see Table 3).

The indirect standardized estimates of mediating pathways are presented in Table 4. The mediating pathways that were statistically significant were between adaptive coping ($\beta=0.064$, $p=0.003$) and attack/escape-avoidance coping ($\beta=-0.052$, $p=0.009$), decision self-efficacy, and disclosure behavior among the overall study population. Figure 1 and Figure 2 show these pathways. In Figure 1, the proportion of variance explained was 8.1% by decision self-efficacy and 7.0% by disclosure behavior. In Figure 2, the proportion of variance explained was 7.1% by decision self-efficacy and 7.1% by disclosure behavior.

Discussion

To our knowledge, this is the first study to examine the differences in ways of coping and HIV disclosure to sexual partners among populations living with HIV. Overall, we found that coping was not directly associated with disclosure behavior. However, adaptive coping and attack/escape avoidance coping were indirectly associated with disclosure behavior via decision self-efficacy in the overall study population.

The results on the direct associations indicated that coping was associated with decision self-efficacy, and decision-self-efficacy was related to HIV disclosure to sexual partners. The findings from the current study on the positive and negative relationship between adaptive and maladaptive (distancing and attack/escape-avoidance) coping and self-efficacy are

supported by previous research, albeit from studies assessing other forms of self-efficacy (Kang et al., 2018; Mo & Coulson, 2012). Prior research has found that adaptive coping and maladaptive coping is positively and negatively associated with self-care self-efficacy, respectively (Mo & Coulson, 2012); and general self-efficacy was positively associated with problem-focused coping (Kang et al., 2018). Participants who score higher on adaptive coping strategies tend to score higher on self-efficacy and, therefore, may have more confidence in their abilities to decide to disclose their HIV status. However, those who tend to use maladaptive coping strategies tend to score lower on self-efficacy, and may have less confidence in their decision self-efficacy with regards to HIV disclosure to sexual partners.

Sex differences and similarities existed in coping and associations between coping, decision self-efficacy and disclosure behavior. There was no statistically significant difference in overall coping between men and women, which supports previous research, which showed no statistically significant differences in emotion-focused coping (Gore-Felton et al., 2002), adaptive coping (Rzeszutek, 2018) or maladaptive coping (Ashton et al., 2005; Rzeszutek, 2018) among people living with HIV. There were no statistically significant mediation pathways for men or women separately; however, sex differences and similarities were observed in the direct relationships.

Adaptive coping was positively associated with decision self-efficacy and decision self-efficacy was positively associated with HIV disclosure behavior among men and women. These findings suggest that improvements in adaptive coping can increase decision self-efficacy, and improving decision-self-efficacy may improve disclosure behavior for people living with HIV, regardless of sex. Attack/escape-avoidance was negatively associated with decision self-efficacy for women but not for men. These results indicate that the impact of maladaptive coping on attenuating behavioral outcomes such as self-efficacy may be stronger for women compared to men among people living with HIV. Indeed, Moskowitz et al., found that avoidance coping was more disadvantageous for women compared to men in the relationship between coping and positive and negative affect (Moskowitz et al., 2009).

The transactional model of stress and coping (Lazarus & Folkman, 1984) and the theory of planned behavior (Ajzen, 1985) may also help in the interpretation of the current study's findings. The transactional model of stress and coping model suggests that coping styles are used in an attempt to regulate a stressor, which may be linked to health behaviors and outcomes. This model supports our findings of the indirect associations between adaptive coping, attack/escape avoidance coping and disclosure behavior to partners via decision-self efficacy. The theory of planned behavior suggests that beliefs and attitudes will influence health behaviors. This theory supports our findings of the direct association between decision self-efficacy and HIV disclosure to sexual partners.

There are some limitations to consider in interpreting the study's findings. Ways of coping as measured and operationalized in the current study were not specific to illness-related stressors that may result due to living with HIV. It is possible that coping specific to HIV-related stressors may differ from coping with other stressors and may have a different association with HIV disclosure behavior than seen in the current study. The study design was cross-sectional; therefore, causality cannot be determined. We were not able to examine

certain key variables such as types of substances used/abused, which has shown to be associated with coping strategies among people living with HIV (Pence et al., 2008).

Conclusions

The current study also had some strengths. We performed a principal component analysis to determine what components or factors were relevant to the study population. The internal consistency of the factors obtained ranged from acceptable to excellent. The mediating analyses adjusted for age and time since diagnosis, which have been shown to be associated with coping and HIV disclosure behavior, and could have altered the associations between ways of coping and HIV disclosure. The Cronbach's alpha values were high for the disclosure behavior measure for men and women. Lastly, we were able to examine separate models among men and women. From a methodological perspective, the current study highlights the importance of determining factors or components that are relevant to the study population. The results showed that factors, which may be important among one study population, may vary for a different study population. This decision resulted in novel findings, which indicated important implications for behavioral health practice and research. The associations between adaptive and attack/escape avoidance coping and disclosure were mediated by decision self-efficacy in the overall study population. There were also important sex differences and similarities found in coping and in direct associations between coping, decision self-efficacy, and disclosure behavior.

Programs that are geared towards improving disclosure of HIV status to sex partners may consider focusing on accentuating coping and decision self-efficacy. Specifically, programs focused on improving adaptive coping may improve decision self-efficacy, and those focused on improving decision self-efficacy may increase HIV disclosure behavior to partners, regardless of sex. However, addressing maladaptive coping strategies to improve decision self-efficacy may be more beneficial for women living with HIV. Future research should examine additional factors that may improve HIV disclosure to sexual partners among men and women living with HIV, and other potential mediators of the association between coping and disclosure behavior. Future studies could also include validation of assessments of coping measures specific to HIV-related stressors. Consideration of sex differences in the relationship between coping strategies and behavioral outcomes among people living with HIV is also warranted.

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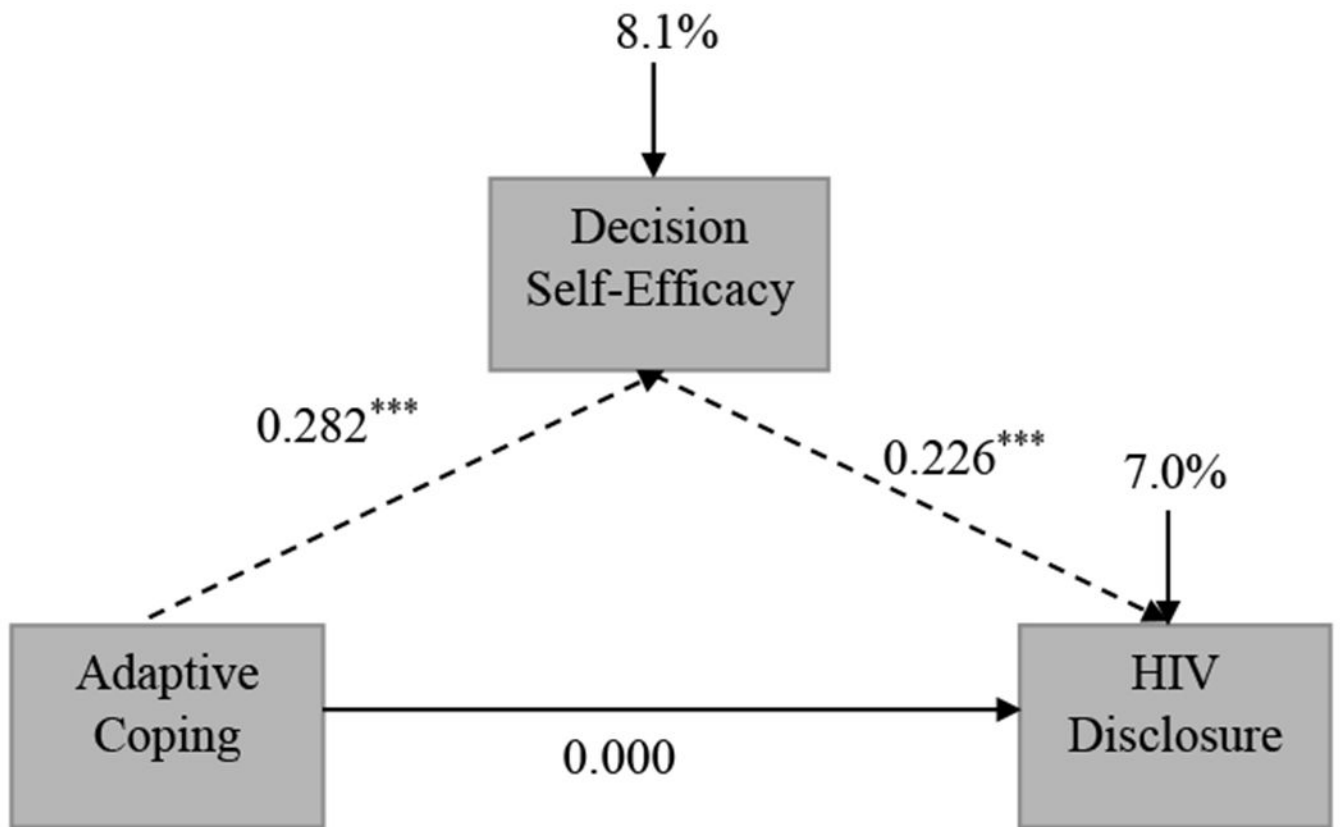


Figure 1. Mediation Diagram between Adaptive Coping, Decision Self-Efficacy, and HIV Disclosure among the Overall Study Population

Note: *** $p < 0.001$

Dashed arrows ($- \rightarrow$) indicate statistical significance at $p < 0.05$.

Solid arrows (\rightarrow) indicate non-statistical significance at $p < 0.05$.

Values for proportion of variance explained are shown in percentages.

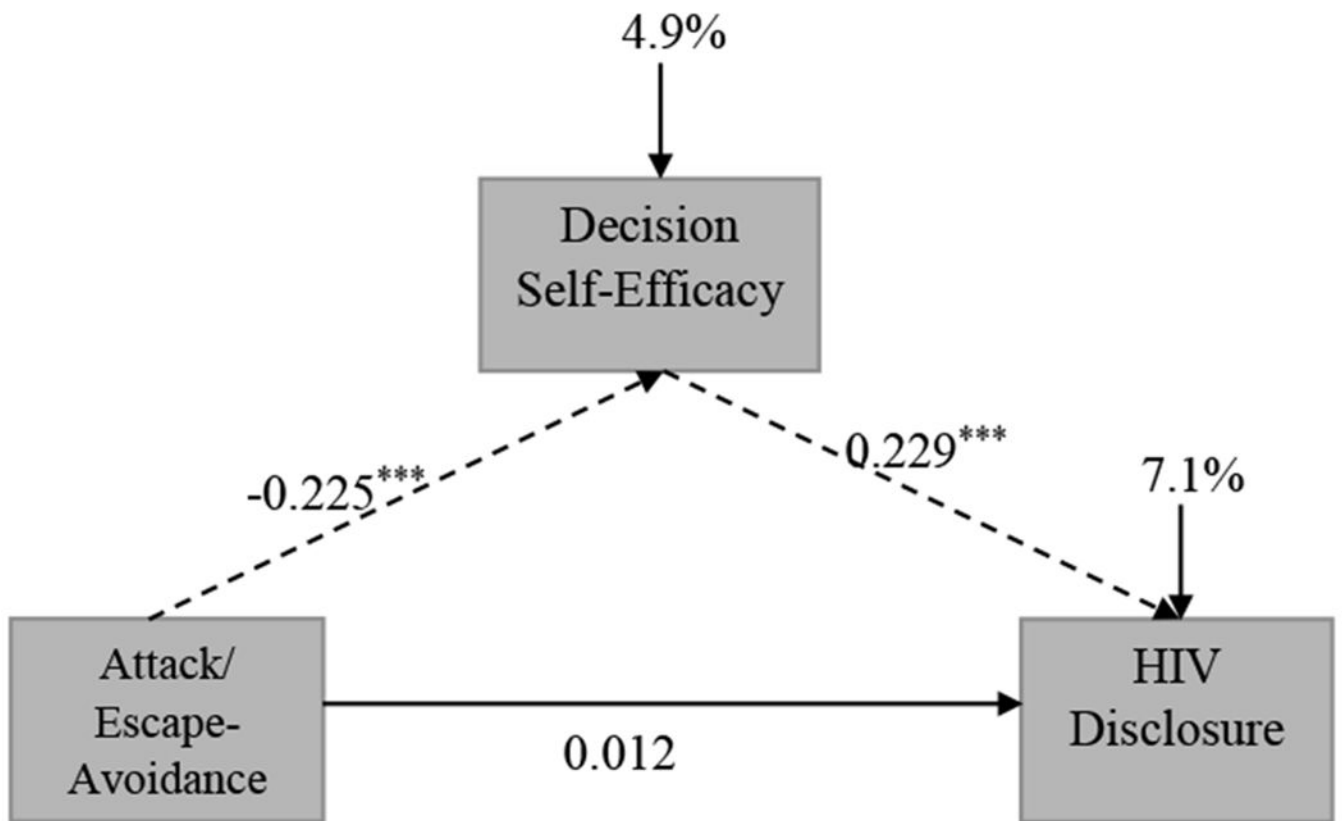


Figure 2. Mediation Diagram between Attack/Escape-Avoidance Coping, Decision Self-Efficacy, and HIV Disclosure among the Overall Study Population

Note: *** $p < 0.001$

Dashed arrows (--->) indicate statistical significance at $p < 0.05$.

Solid arrows (—>) indicate non-statistical significance at $p < 0.05$.

Values for proportion of variance explained are shown in percentages.

Table 1. Components Derived for The Ways of Coping Scale based on Principal Component Analysis with Promax (Oblique) Rotated Factor Pattern

Item Number	Item Description	Adaptive	Distancing	Attack/Escape-Avoidance
1	I just concentrated on what I had to do next - the next step.	0.89*	0.00	-0.02
2	I did something, which I didn't think would work, but at least I was doing something.	0.54*	0.02	0.16
4	I talked to someone to find out more about the situation.	1.00*	0.00	0.00
6	I tried not to burn my bridges, but leave things open somewhat.	0.82*	0.02	0.02
11	I looked for the silver lining, so to speak; tried to look on the bright side of things.	0.53*	0.03	-0.14
14	I accepted sympathy and understanding from someone.	0.79*	0.05	0.00
15	I was inspired to do something creative.	0.96*	0.00	-0.01
17	I got professional help.	0.78*	0.01	0.04
18	I changed or grew as a person in a good way.	0.85*	0.00	-0.03
19	I apologized or did something to make up.	0.67*	0.11	0.00
20	I made a plan of action and followed it.	0.97*	0.00	0.00
23	I came out of the experience better than when I went in.	0.91*	0.00	-0.02
24	I talked to someone who could do something concrete about the problem.	0.97*	0.00	0.00
27	I tried not to act too hastily or follow my first hunch.	0.91*	0.01	0.00
28	I found new faith.	0.88*	0.02	0.00
29	I rediscovered what is important in life.	0.98*	0.00	0.00
30	I changed something so things would turn out all right.	0.97*	0.00	0.00
33	I asked a relative or friend I respected for advice.	0.93*	0.00	0.01
36	I talked to someone about how I was feeling.	0.98*	0.00	0.00
37	I stood my ground and fought for what I wanted.	0.96*	0.00	0.00
39	I drew on my past experiences; I was in a similar position before.	0.31*	0.00	0.45
40	I knew what had to be done, so I doubled my efforts to make things work.	1.00*	0.00	0.00
42	I made a promise to myself that things would be different next time.	0.73*	0.05	0.01
43	I came up with a couple of different solutions to the problem.	0.98*	0.00	0.00

Item Number	Item Description	Adaptive	Distancing	Attack/Escape-Avoidance
44	I tried to keep my feelings from interfering with other things too much.	0.62 *	0.12	-0.01
45	I changed something about myself.	0.95 *	0.00	0.01
48	I prayed.	0.79 *	0.06	0.00
49	I went over in my mind what I could say or do.	0.84 *	0.00	0.03
50	I thought about how a person I would admire would handle the situation and used that as a model.	0.96 *	0.00	0.00
7	I hoped a miracle would happen.	0.01	0.64 *	0.12
8	I went along with fate; sometimes I just have bad luck.	0.00	0.57 *	0.21
9	I went on as if nothing had happened.	0.00	1.00 *	0.00
10	I tried to keep my feelings to myself.	0.01	0.97 *	0.00
12	I slept more than usual	0.00	0.60 *	0.20
16	I tried to forget the whole thing.	0.00	1.00 *	0.00
31	I avoided being with people in general	0.00	0.52 *	0.22
32	I didn't let it get to me; refused to think about it too much.	0.08	0.42 *	-0.15
34	I kept others from knowing how bad things were.	0.00	0.82 *	0.05
35	I made light of the situation; refused to get too serious about it.	0.14	0.64 *	0.00
41	I refused to believe it had happened.	0.00	0.83 *	0.05
46	I wished that the situation would go away or somehow would be over.	0.00	0.75 *	0.08
3	I tried to get the person responsible to change his or her mind.	0.24	0.00	0.53 *
5	I criticized or lectured myself.	0.00	0.08	0.82 *
13	I expressed anger to the person(s) who caused the problem.	0.00	0.05	0.91 *
25	I tried to make myself feel better by eating, drinking, smoking, using drugs or medication, and so forth	-0.01	0.03	0.91 *
26	I took a big chance or did something very risky.	0.00	0.01	1.00 *
38	I took it out on other people.	0.00	0.02	0.99 *
47	I had fantasies about how things might turn out.	0.03	0.23	0.44 *

* Loadings >0.3 and items in components and subscales

Table 2. Distribution of Sociodemographic Characteristics, Overall Coping, Decision Self-Efficacy and Disclosure Behavior

Characteristic	N (%)	Overall Coping		Decision Self-Efficacy		Disclosure Behavior		P-value ^a
		Mean (SD)	P-value ^a	Mean (SD)	P-value ^a	Mean (SD)	P-value ^a	
Age (Mean, SD)								
18-24	45.2 (11.4)	-0.140 ^b	0.024^c	0.019	0.759	-0.141 ^b	0.023^c	
25-34	13 (5.0)	77.2 (17.4)	0.074	37.9 (8.7)	0.146	17.2 (11.9)	0.157	
35-49	40 (15.3)	81.7 (18.8)		37.3 (10.9)		20.8 (12.7)		
50+	108 (41.2)	77.5 (22.0)		34.9 (10.5)		16.9 (12.0)		
	101 (38.6)	72.5 (19.2)		38.2 (10.5)		15.5 (10.4)		
Sex								
Male	147 (56.1)	75.0 (19.7)	0.290	37.5 (11.0)	0.165	19.8 (12.2)	-- ^d	
Female	115 (43.9)	77.7 (21.2)		35.7 (9.9)		13.0 (9.3)		
Sexual Orientation								
MSM	111 (42.4)	73.9 (18.4)	0.376	37.7 (11.0)	0.335	20.5 (11.9)	<0.001	
Heterosexual Men	36 (13.7)	78.4 (23.5)		36.9 (11.1)		17.9 (13.5)		
Heterosexual Women	97 (37.0)	77.3 (22.1)		36.2 (9.8)		12.8 (9.2)		
WSW	18 (6.9)	78.0 (15.9)		33.0 (10.1)		15.6 (10.5)		
Race								
Black	159 (61.2)	77.4 (22.1)	0.172	36.9 (10.5)	0.844	16.0 (11.4)	0.346	
White	91 (35.0)	73.2 (16.8)		36.1 (10.8)		18.2 (11.7)		
Other	10 (3.9)	81.0 (18.2)		36.4 (9.4)		19.1 (13.4)		
Ethnicity								
Hispanic	29 (11.1)	78.0 (15.2)	0.521	35.4 (12.1)	0.561	19.2 (13.9)	0.361	
Non-Hispanic	233 (88.9)	76.0 (21.0)		36.8 (10.4)		16.7 (11.3)		
Education								
Less than high school	64 (24.5)	76.1 (21.0)	0.332	34.7 (9.2)	0.131	15.3 (11.3)	0.134	
High School	78 (29.9)	79.4 (22.5)		36.0 (11.2)		18.2 (12.2)		
Some College	95 (36.4)	73.6 (18.1)		38.0 (10.5)		18.1 (11.3)		
Bachelor's/Post-grad	24 (9.2)	76.3 (20.9)		39.2 (11.2)		13.4 (11.0)		
Employed								

Characteristic	N (%)	Overall Coping		Decision Self-Efficacy		Disclosure Behavior		P-value ^a
		Mean (SD)	P-value ^a	Mean (SD)	P-value ^a	Mean (SD)	P-value ^a	
Full-time	30 (11.5)	79.0 (17.0)	0.428	39.7 (10.2)	0.242	17.7 (12.2)	0.939	
Part-time	27 (10.3)	72.0 (18.5)		36.0 (8.9)		16.7 (11.8)		
Student/Retired/Disabled/Unemployed	205 (78.2)	76.3 (21.1)		36.3 (10.8)		16.9 (11.5)		
Income								
\$0-\$500	87 (33.2)	75.5 (21.5)	0.929	36.0 (11.2)	0.698	15.4 (11.6)	0.237	
\$500-\$1,000	102 (38.9)	76.6 (19.9)		37.3 (9.7)		17.2 (11.8)		
\$1,001	73 (27.9)	76.4 (20.1)		36.6 (11.0)		18.5 (11.2)		
Time since diagnosis (Mean, SD)								
1 year	13.0 (8.6)	-0.083	0.181	-0.030	0.627	-0.054	0.384	
>1 year to 5 years	17 (6.5)	80.0 (15.7)	0.318	42.9 (9.5)		17.0 (10.7)	0.544	
>5 years to 10 years	42 (16.0)	78.9 (20.3)		34.1 (11.5)		15.5 (12.4)		
>10 years to 20 years	55 (21.0)	76.9 (22.6)		38.3 (11.0)		19.5 (12.3)		
>20 years	87 (33.2)	76.4 (21.8)		35.5 (10.4)		16.4 (11.0)		
	61 (23.3)	72.3 (17.2)		36.8 (9.1)		16.4 (11.5)		

^aP-values are based on the F statistic from the Welch's test for continuous variables

^bPearson correlation coefficients

^cP-value based on |r|

^dP-value comparison not obtained for men and women different questions were asked of men and women.

Bolded p-values are statistically significant at p<0.05

Direct Standardized Estimates for Associations Between Coping, Decision Self-Efficacy, and Disclosure Behavior Overall and by Sex

Table 3.

	Decision Self-Efficacy			Disclosure Behavior			Decision Self-Efficacy → Disclosure Behavior		
	Est	SE	p-value	Est	SE	p-value	Est	SE	p-value
Overall									
Overall Coping	0.140	0.061	0.023	0.009	0.061	0.886	0.225	0.059	< 0.001
Adaptive	0.282	0.057	< 0.001	0.000	0.062	0.988	0.226	0.061	< 0.001
Distancing	-0.094	0.063	0.138	0.017	0.062	0.784	0.228	0.059	< 0.001
Attack/Escape Avoidance	-0.225	0.061	< 0.001	0.012	0.064	0.849	0.229	0.060	< 0.001
Men									
Overall Coping	0.164	0.082	0.045	0.088	0.082	0.282	0.184	0.080	0.021
Adaptive	0.286	0.076	< 0.001	0.052	0.083	0.533	0.183	0.082	0.026
Distancing	-0.071	0.084	0.400	0.098	0.081	0.227	0.205	0.078	0.009
Attack/Escape Avoidance	-0.165	0.084	0.050	0.070	0.084	0.404	0.209	0.079	0.008
Women									
Overall Coping	0.082	0.093	0.375	-0.044	0.094	0.642	0.241	0.092	0.009
Adaptive	0.265	0.086	0.002	-0.007	0.096	0.942	0.239	0.095	0.012
Distancing	-0.156	0.093	0.095	-0.053	0.096	0.579	0.229	0.093	0.014
Attack/Escape Avoidance	-0.349	0.084	< 0.001	-0.120	0.100	0.230	0.196	0.098	0.046

Note: All results adjusted for age and time since diagnosis

Bolded p values are statistically significant at p<0.05

Table 4. Indirect Standardized Estimates of Mediation Pathways Between Coping, Decision Self-Efficacy, and Disclosure Behavior

Coping	Est	SE	p-value
	Overall		
Overall Coping	0.032	0.016	0.052
Adaptive	0.064	0.022	0.003
Distancing	-0.021	0.015	0.167
Attack/Escape Avoidance	-0.052	0.020	0.009
	Men		
Overall Coping	0.030	0.020	0.132
Adaptive	0.052	0.028	0.058
Distancing	-0.015	0.018	0.425
Attack/Escape Avoidance	-0.034	0.022	0.119
	Women		
Overall Coping	0.020	0.024	0.403
Adaptive	0.063	0.033	0.055
Distancing	-0.036	0.026	0.169
Attack/Escape Avoidance	-0.068	0.038	0.074

Note: All results adjusted for age and time since diagnosis
Bolded p values are statistically significant at p<0.05