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COPING IN NEWLY DIAGNOSED, SPANISH-SPEAKING MEN WHO HAVE SEX WITH MEN AND LIVE WITH HIV[**]

A Bayesian Approach

The use of coping strategies depends on the type of adversity, and HIV infection creates different difficult situations to cope with. However, most coping questionnaires do not consider its situational character. This study sought to analyze coping and its effectiveness in the case of newly diagnosed HIV-positive Spanish-speaking men who have sex with men (MSM), for which a short form of the Situated Coping Questionnaire for Adults (SCQA) was validated in this population. 115 such diagnosed Spanish-speaking MSM (mostly from Spain and Latin America) completed the SCQA along with anxiety, depression, health-related resilience, and disclosure measures. Four models were compared through Bayesian structural equation modeling to test factorial validity; reliability coefficients were obtained, and criterion validity was ascertained via correlation analyses. The model considering the type of situation was superior to the rest, reliability was adequate, and coping strategies were shown to be related to anxiety, depression, resilience, and degree of disclosure. The short form of the SCQA is a valid means of assessing situated coping among Spanish-speaking HIV-positive MSM and, when used with other measurement tools, can be informative about coping effectiveness.

Keywords: HIV, coping, person-situation interaction, anxiety, depression, resilience, disclosure, Spanish

1. Introduction

An HIV diagnosis constitutes a powerful stressor that poses a threat to the physical and mental health of the diagnosed individuals (BLASHILL et al. 2011) and thus needs to be coped with effectively. Coping is defined as a cognitive or behavioral response to something appraised as stressful (MOSKOWITZ et al. 2009). Newly diagnosed people living with HIV (PLHIV) indeed face many uncertainties in relation to their health and they also encounter a variety of psychosocial challenges (e.g., psychological, socio-cultural, financial; BUSEH et al. 2006).

In Spain, an estimated number of 145,000 people currently live with HIV (Ministerio de Sanidad Servicios Sociales e Igualdad 2018). Information from the Spanish data system of new HIV diagnoses revealed that there have been 44,066 new HIV diagnoses in this country since 2003. In 2016, 3,353 new HIV diagnoses were registered, with an estimated rate of 8.60 per 100,000 persons. Of these newly diagnosed individuals, 83.9% were men, with a median age of 36 years. Almost two thirds of these men (63.3%) had acquired the virus through male-to-male sexual relationships, and it is worth noting that there is no information regarding the transmission mode for an additional 16.3% of the men. By far, male-to-male is the most common mode of transmission. In fact, the proportion of new diagnoses among men who have sex with men (MSM) in Spain increased from 47.5% in 2009 to 55.9% in 2016. Of the new diagnoses in Spain in 2016, 63.3% involved Spaniards, with the second most common origin being Latin American countries (16.6%) (Área de Vigilancia de VIH y Comportamientos de Riesgo 2017).

In order to help newly diagnosed PLHIV, especially MSM, reach both psychological and physical well-being, it is necessary to know which coping strategies are effective in dealing with the associated stressors (MOSKOWITZ et al. 2009; ROESCH & WEINER 2001). In fact, literature has shown that coping can be a key factor for health prognosis and quality of life in adults with HIV (GOHAIN & HALLIDAY 2014). In this study, we aimed to examine coping behaviors in newly diagnosed men who have sex with men and live with HIV (MSMLHIV), which is the most common group of PLHIV in Spain. To this end, we shortened an existing coping questionnaire and studied the associations between its scores and other relevant psychological outcomes such as resilience, anxiety, and depression. This will provide researchers and clinicians with vital information for coping assessment and modification in this population.

Coping involves a constant change of cognitive and behavioral efforts (LAZARUS & FOLKMAN 1984). It is a complex process that not only depends on personal dispositions (i.e., individuals differ in their ability and selection of coping strategies), but also on the environment and its demands (e.g., the type of stressor; FOLKMAN & MOSKOWITZ 2004). This fact, though, does not imply a lack of generalization of coping strategies across time and situations (STEED 1998) – generalization or stability is related to personality traits or stable event characteristics, whereas variability is associated with the changing situational demands (MOSKOWITZ & WRUBEL 2005).

The context of HIV diagnosis offers a variety of changing situational demands that are bound to contribute to the cited variability in coping. HIV-related stressors change over the course of the infection (MOSKOWITZ et al. 2009) – therefore, the effectiveness of a given coping mechanism may depend on the nature of the current situation (DEGENOVA et al. 1994; MOSKOWITZ et al. 2009). As a case in point, non-disclosure is an effective strategy for newly diagnosed MSM (HOLT et al. 1998), as it enables them to focus on themselves and their immediate condition without worrying about or contending with the reactions of others. However, it can become ineffective over time, leading to isolation and depression (HOLT et al. 1998). Consequently, in MSMLHIV, coping needs to be studied within a clear temporal dimension. In view of this, we decided to examine coping in newly diagnosed MSM, since the diagnosis constitutes the point at which the cascade of stressors begins to build (MOSKOWITZ 2010).

Nonetheless, little research has tried to assess the use and effectiveness of different coping strategies while taking into account both personal dispositions and situational demands, especially among non-English speaking populations. In this sense, the Situated Coping Questionnaire for Adults (SCQA; ALONSO-TAPIA et al. 2016) is a 40-item Spanish-language coping measure designed to allow for this interaction and thus explore generalizability and variability. It includes some situations which reflect the type of stressors that PLHIV, including MSM, usually encounter (CARROBLES ISABEL et al. 2003). Since these types of coping studies addressing person-situation interaction are non-existent in the field of HIV research and no adequate measures are available, we aimed to validate a short form of this questionnaire for use in newly diagnosed Spanish-speaking MSMLHIV. Such validation will allow us and other researchers to examine the matter in this underserved population.

A vast number of coping strategies exist that are named in the general coping literature (e.g., rumination, isolation), so researchers have organized them in global classifications. Studies in the HIV literature usually rely on the approach and avoidance distinction (MOSKOWITZ et al. 2009). Approach coping is characterized by engagement with the stressor and enhancement of a sense of control over it and/or adaptation to it, and includes strategies like acceptance, problem solving, direct action, fighting spirit, planning, positive reappraisal, and seeking social support. Avoidance responses involve disengagement from the stressor such as alcohol or drug disengagement, behavioral disengagement, denial, distancing, escape/avoidance, or social isolation (MOSKOWITZ et al. 2009; ROESCH & WEINER 2001). Global classifications have some advantages such as an efficient analysis and discussion of findings (MOSKOWITZ et al. 2009). However, specific strategies have been suggested to be more informative than global classifications regarding coping effectiveness in the case of HIV-related stress (MOSKOWITZ et al. 2009), a consideration that we sought to take into account in this study.

Literature on coping effectiveness in PLHIV has most frequently relied on the association between coping and negative psychological outcomes such as depressive mood or anxiety (MOSKOWITZ et al. 2009). Two coping meta-analyses – one specifically regarding HIV, the other one in relation to chronic illnesses in general – found

that approach coping was effective (i.e., related to better psychological outcomes), whereas avoidance coping was ineffective (i.e., related to worse psychological outcomes) (MOSKOWITZ et al. 2009; ROESCH & WEINER 2001). Additionally, the strategy of isolation has been associated with non-disclosure of seropositivity (LEE et al. 2002). Disclosure, for its part, has been proposed as a facilitator of more effective coping (i.e., approach) and psychological adjustment in MSM, as it allows access to instrumental and emotional support (HOLT et al. 1998), which in turn is negatively correlated with depression, anxiety, and hopelessness (LEE et al. 2002).

In PLHIV in Spain, approach coping has been associated with better well-being, higher immune function, and higher positive affect, while avoidance coping appears to be related to worse well-being, higher negative affect, and lower perceived social support (CARROBLES ISABEL et al. 2003; SANJUÁN et al. 2012). However, of these two cited studies, the first focused primarily on heterosexual men and women and the second, while studying a sample composed by a male majority, did not report on the sexual orientation or sexual behavior of the participants. As noted, MSM constitute the most numerous group of PLHIV in Spain; moreover, in the case of MSM, HIV stigma – one of the major psychosocial challenges that PLHIV face – is layered upon the stigma associated with homosexuality and promiscuity, resulting in an intensified stigmatization in this group (GOHAIN & HALLIDAY 2014; LEE et al. 2002), which is why MSMLHIV should be a major research focus.

The relationship to positive psychological outcomes can be likewise interesting and useful. Resilience is a positive psychological outcome that has recently received some attention in the field of HIV research, including Spanish-speaking MSM (GARRIDO-HERNANSAIZ et al. 2017). It is defined as the ability to maintain a healthy and stable equilibrium (BONANNO 2005), and it has also been related to coping in several clinical and non-clinical populations (ALONSO-TAPIA et al. 2016; LEIPOLD & GREVE 2009). However, its relationship to coping in PLHIV in general and in MSMLHIV in particular remains understudied, thus this piece of research sought to provide data in this regard.

This study aimed to examine how effective the different coping strategies are in the context of a recent HIV diagnosis in MSM by studying how they are related to psychological outcomes, more accurately to depression, anxiety and resilience. To do so, we elaborated and validated a more concise version of the SCQA in a sample of newly diagnosed Spanish-speaking MSMLHIV. To ascertain the measure's validity, we explored its factorial structure and relationship to criterion variables. Relationships are expected between the degree of disclosure and the coping strategies of help seeking and isolation (a positive and a negative relationship, respectively), for the reasons stated above (HOLT et al. 1998; LEE et al. 2002). Lastly, as PLHIV are a hard-to-reach population (YUAN et al. 2014) – newly diagnosed individuals even more so – and big samples are thus difficult to obtain, a Bayesian approach was employed. This approach allows for testing sample invariance in samples smaller than $N = 200$ (MIOČEVIĆ et al. 2017; MUTHÉN & ASPAROUHOV 2012).

2. Methods

2.1. Questionnaire development

The SCQA was chosen as it allows measurement of the interaction between personal dispositions and situational variability in coping responses (ALONSO-TAPIA et al. 2016). The SCQA includes 40 items that assess the use of eight different coping strategies (problem solving, positive thinking, help seeking, self-blame, rumination, emotional expression, isolation, and thinking avoidance) in the context of five types of stressful situations (work-related problems, personal relationships problems, own health issues, close person's health issues, and financial problems). It was proven reliable and valid in the original study, which included PLHIV (ALONSO-TAPIA et al. 2016), although 1) its strategies are not organized within the global classification of approach/avoidance used in HIV coping research; and 2) its 40 items make a lengthy instrument.

To address these problems, we first arranged the SCQA strategies as follows: problem solving, positive thinking and help seeking form approach coping (all involve both engagement with the stressor and sense of control or adaptation; MOSKOWITZ et al. 2009; ROESCH & WEINER 2001). The remaining strategies, which do not imply a sense of control or adaptation, form avoidance coping: rumination, emotional expression, isolation, thinking avoidance and self-blame (MOSKOWITZ et al. 2009; ROESCH & WEINER 2001). Since specific strategies are more useful to inform about effectiveness but global classifications also have some advantages mentioned above, we decided to follow the recommendation to use latent variable modeling, which allows simultaneous testing for the effects of the specific strategies and global coping classifications (MOSKOWITZ et al. 2009).

We also decided to shorten the SCQA. Even though lengthy instruments allow the benefits associated with comprehensive measurement, the aspect of burdensome length needs to be carefully considered, particularly if the measure is intended for participants potentially in the midst of a life crisis (FOLKMAN & MOSKOWITZ 2004; MOSKOWITZ et al. 2009). Thus, we resolved on removing the items pertaining to two of the five types of stressful situations considered, namely work-related problems and close person's health issues, as both are seldom mentioned in recent HIV literature. Moreover, some aspects of work-related problems can be captured by two of the three remaining stressful situations: relationships problems, which would capture stigma aspects that are very important for this population, and financial problems. The third type of stressful situation included in the final shortened version is the affected person's own health issues and it is key for MSMLHIV, as it captures the aspects related to physical health, treatment management, health worries, etc.

2.2. Instruments

2.2.1. Situated Coping Questionnaire for Adults – HIV Short Form (SCQA-HIV-SF)

This questionnaire assesses the extent of using the eight different coping strategies (problem solving, positive thinking, help seeking, self-blame, rumination, emotional expression, isolation, and thinking avoidance) in three different kinds of adverse situations, namely relationship problems with close people, own health issues and financial problems. This reduced version of the full SCQA is composed of 24 items answered on a five-point Likert scale (1 = *Strongly disagree*, to 5 = *Strongly agree*).

2.2.2. Health-related problems subscale of the Situated Subjective Resilience Questionnaire for Adults (ALONSO-TAPIA et al. 2018)

This four-item subscale measures subjective resilience in the face of the affected person's own health problems (e.g., "When I've had an important health issue, I've had a hard time overcoming the distress that it caused me"). Half of the items for each situation are negatively worded, and the subscale showed acceptable reliability in the original study (α = .72) and in our sample (α = .69).

2.2.3. Hospital Anxiety and Depression Scale (HADS; ZIGMOND & SNAITH 1983)

This self-report measure is comprised of 14 items with a four-point Likert-type scale (0 to 3), which form two seven-item subscales, one for anxiety (HADS-A) and one for depression (HADS-D). It has been especially recommended for PLHIV due to the absence of somatic items (SAVARD et al. 1998), and it has been validated in HIV-positive patients in several languages (e.g., SALE et al. 2014). The scores of the Spanish version (TEJERO et al. 1986) have shown adequate psychometric properties in different Spanish populations and have proven to be a good screening instrument to assess anxiety and depression (TEROL-CANTERO et al. 2015). Cronbach's alpha in the current sample was α = 0. 84 for the HADS-A and α = 0.78 for the HADS-D.

2.2.4. Disclosure

The degree of HIV disclosure was calculated as the sum of the responses to five items asking how many people the respondents had disclosed their HIV status to (each item asked about one of these five areas: emotional or sexual partners, family members, friends, co-workers, and health care providers). The items were answered on a five-point Likert scale (1 = *None*, 2 = *One person*, 3 = *Two people*, 4 = *Three or four people*, and 5 = *Five or more people*).

2.2.5. Sociodemographic variables

Participants reported their gender (male/female/other), age, country of origin, educational level, employment status, relationship status (single, married/living with partner, separated/divorced, widowed), time since diagnosis, and ART status (taking medication or not).

2.3. Procedure

A cross-sectional study was designed and was approved by the Institutional Review Board at the first author's University. Participants were gathered in two ways. First, 84 recently diagnosed MSM were referred to the study by healthcare workers of a healthcare center in Madrid, Spain, that specialized in sexually transmitted infections. Second, several local and national HIV associations and groups from Spanish-speaking countries were contacted online and asked to distribute information about the study as well as a link for participation through their online social networks. Thirty-one additional participants were recruited this way. The inclusion criteria consisted of a minimum age of 18 years, recent HIV positive diagnosis (less than a year), and being comfortable with reading and writing in Spanish. A total sample of 115 participants agreed to collaborate with the study and completed the questionnaires on an online survey platform. The descriptive statistics of the sample can be found in Table 1. The mean age was 32.83 ($SD = 8.37$) and a mean of 7.72 months ($SD = 1.19$) since the diagnosis had been given. Most participants were from Spain and Latin American countries, were single and employed, had obtained a university degree, and were on ART. Data were collected between April 2015 and November 2016.

Table 1
Sample characteristics

	N	%
Country of origin		
Spain	66	57.4
Latin-American countries	44	38.3
Other countries	5	4.3
Relationship status		
Single	88	76.5
Married/living with partner	15	13.1
Divorced/separated	12	10.4
Educational level		
Primary education	4	3.5
Secondary education	32	27.8
University degree	63	54.8
Post-graduate education	16	13.9

Employment status		
Employed	86	74.8
Between jobs	14	12.2
Other	15	13.0
ART status		
Taking ART	84	73.0
Not taking ART	31	27.0

Note: N = Number of participants. % = Percentage of participants.

2.4. Statistical analyses

The validation analyses were designed to partially parallel those implemented in the original development and validation study (ALONSO-TAPIA et al. 2016). In order to test the latent structure, a Bayesian approach was used, which has proved to have a better performance with small samples than the classical maximum likelihood estimation in confirmatory factor analysis (LEE & SONG 2004). Furthermore, it has also shown to be well-suited to skewed distributions of parameter estimates and it allows to test complex latent structures (MUTHÉN & ASPAROUHOV 2012). Given its recent emergence and potential in factor analysis, the Bayesian approach was applied to the study of the latent structure of the SCQA-HIV-SF.

Four models of different complexity were compared (see *Figure 1*). The aim of this comparison was to test the differential fit to the data of models that did or did not consider the global coping classification (i.e., approach/avoidance) and the situational character of coping. The first model (*Figure 1a*) consisted of the eight specific coping factors, allowing for correlations among them. The second model (*Figure 1b*) included the same eight specific factors and also as well as the two general coping dimensions (approach/avoidance), allowing a correlation between these general factors. The third model (*Figure 1c*) included the eight specific factors and also three situational factors accounting for the situational character of coping (relationships problems, the affected individual's own health issues and financial problems). Finally, the fourth model (*Figure 1d*) included the eight specific factors, the two general correlated coping dimensions, and the three situational factors.

The four models were estimated with the MCMC algorithm, setting four chains and 25,000 iterations (the first 12,500 were discarded as burn-in period). Model convergence was evaluated via potential scale reduction factor (PSR), taking a PSR value of 1.05 or lower as an evidence of good convergence (GELMAN et al. 2013). Informative priors were not used for the parameters of each model, since the latent structure of the SCQA-HIV-SF is different from the original SCQA, and its validation was based on a more heterogeneous sample (e.g., general population, cancer patients, PLHIV, parents of children with developmental problems). Thus, non-informative priors were used. In particular, a normal distribution with $\mu = 0$ and $\tau \approx \infty$ was used
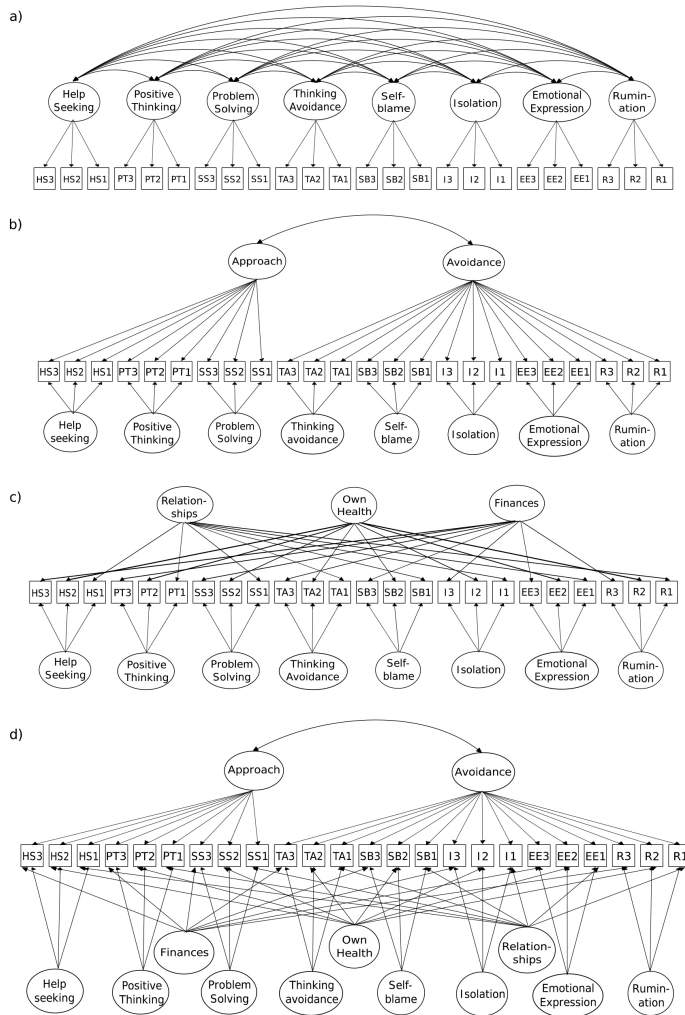
Figure 1
Confirmatory Factor Analysis of the four models tested for the SCQA-HIV-SF

for the loadings and intercept parameters, an Inverse Gamma distribution with α = –1 and β = 0 for the parameters out of the diagonal of the covariance matrix, and an inverse Whishart Distribution with $v = 0$ and $s = 3$ for the parameters in the diagonal of the covariance matrix. These priors are the default option used in MPlus (MUTHÉN & MUTHÉN 2010). Then, to assess model fit, the Deviance Information Criterion (DIC), the Bayesian Information Criterion, and the estimated number of parameters (pD) were obtained. The DIC and BIC are indices with comparative meaning, i.e., the model with the lowest DIC/BIC has the better fit to data.

The reliability of the global classification scales (i.e., approach and avoidance) was obtained in terms of internal consistency by means of the composite reliability index (CRI), which is calculated using factor estimates from confirmatory factor analyses. The CRI is more adequate than the most widely used Cronbach's alpha, as the latter will under-estimate the internal consistency when the scales are multidimensional and the tau-equivalence assumption is violated (GRAHAM 2006), which is the case here. Additionally, the mean inter-item correlation (a measure of consistency for scales with fewer than 10 items) was obtained for the specific factors (i.e., the eight strategies), adopting the recommended threshold of 0.30 (EISEN et al. 1979; NUNNALLY & BERNSTEIN 1994). Finally, to address criterion-related validity, Pearson correlations were obtained between the specific and general coping factors and as well as resilience, anxiety, depression, and degree of disclosure.

Analyses were carried out using SPSS 23 and MPlus 7 (MUTHÉN & MUTHÉN 2010) *statistical software.*

3. Results

3.1. Factor Analysis

Table 2 shows the fit indices for the four tested models. Model 4 (shown in *Figure 1d*) had the best fit to data, with a lower DIC and BIC values than the models without the situations or the general coping dimensions, thus showing the appropriateness of including a global coping classification and considering the situational aspects. The item loadings on the different factors for this model can be found in *Table 3*. Item loadings on each of the eight coping strategies factors were generally moderate to high, as were the item loadings on the general avoidance factor. Loadings on the general approach? factor ranged from low to high. The situational factors also proved to be relevant for some coping strategies. For instance, isolation had a moderately high weight on the affected individual's own health issues and financial problems situations, but not on their personal relationships problems. On the other hand, help seeking was very relevant in the own health issues situation, but not so much in the other two. The two general coping dimensions (i.e., approach and avoidance) were negatively correlated (r = –0.45).

Table 2
Model fit statistics for the four tested models

	DIC	*pD*	*BIC*	*PSR*
Model 1	8081.03	107.81	8336.41	1.03
Model 2	8035.67	89.14	8313.74	1.01
Model 3	8098.89	93.91	8364.95	1.01
Model 4	7936.05	121.18	8267.95	1.01

Note: DIC = Deviance Information Criterion. pD = Estimated number of parameters. BIC = Bayesian Information Criterion. PSR = Potential Scale Reduction factor.

Table 3
Item loadings (rows) on factors (columns) for Model 4

	HS	PS	PT	R	EE	I	TA	SB	RelP	OHI	FinP	App	Av
HS1	0.53 (0.11)											0.01 (0.11)	
HS2	0.71 (0.11)									−0.53 (0.28)		0.09 (0.10)	
HS3	0.37 (0.10)										0.03 (0.11)	0.33 (0.10)	
PS1		0.59 (0.12)							0.31 (0.12)			0.01 (0.11)	
PS2		0.66 (0.12)								0.21 (0.12)		0.22 (0.11)	
PS3		0.43 (0.11)									0.21 (0.10)	0.43 (0.10)	
PT1			0.37 (0.22)						−0.26 (0.11)			0.61 (0.12)	
PT2			0.42 (0.23)							−0.03 (0.08)		0.69 (0.12)	
PT3			0.19 (0.21)								0.11 (0.08)	0.85 (0.09)	
R1				0.30 (0.18)					0.39 (0.11)				0.66 (0.07)
R2				−0.05 (0.17)						0.13 (0.10)	0.58 (0.09)		0.69 (0.07)
R3				0.31 (0.19)									0.49 (0.09)
EE1					0.68 (0.11)				0.21 (0.13)				0.10 (0.11)
EE2					0.29 (0.10)					−0.14 (0.12)			0.40 (0.10)
EE3					0.73 (0.11)						0.39 (0.09)		0.23 (0.10)
I1						0.56 (0.14)			0.06 (0.12)				0.63 (0.07)
I2						0.23 (0.10)				0.72 (0.29)			0.50 (0.09)
I3						0.39 (0.12)					0.43 (0.09)		0.48 (0.09)
TA1							0.44 (0.12)		0.42 (0.13)				0.47 (0.09)
TA2							0.43 (0.12)			0.05 (0.10)			0.56 (0.08)
TA3							0.54 (0.14)				0.44 (0.10)		0.20 (0.11)
SB1								0.50 (0.12)	−0.01 (0.08)				0.73 (0.06)
SB2								0.44 (.011)		0.07 (0.07)			0.80 (0.06)
SB3								0.05 (0.10)			0.50 (0.09)		0.63 (0.07)

$$\rho_{Approach\text{-}Avoidance} = -0.45\ (0.11)$$

Note: The table shows the factor loadings estimates and their posterior SD in parentheses. HS = Help Seeking. PS = Problem solving. PT = Positive Thinking. R = Rumination. EE = Emotional Expression. I = Isolation. TA = Thinking Avoidance. SB = Self Blame. RelP = Relationship Problems. OHI = Own Health Issues. FinP = Financial Problems. App = Approach. Av = Avoidance.

3.2. Reliability

The mean inter-item correlations for the specific factors and CRI for the general coping dimensions are shown in Table 4. CRIs were high for the two general coping factors and all the mean inter-item correlations were larger than .30, indicating acceptable reliability of the specific factors.

Table 4
Reliability of coping strategies and dimensions and correlations with resilience, anxiety, depression, and degree of disclosure

Variables	**CRI**/MIIC	HR-R	HADS-A	HADS-D	Disclosure
Approach	**0.91**	0.27**	–0.42***	–0.40***	0.00
Avoidance	**0.98**	–0.40***	0.56***	0.41***	–0.26**
Rumination	0.38	–0.42***	0.42***	0.34***	–0.20*
Emotional Expression	0.38	0.06	0.19*	0.19*	0.02
Isolation	0.41	–0.31**	0.51***	0.43***	–0.23*
Self-Blame	0.61	–0.35***	0.51***	0.39***	–0.26**
Thinking Avoidance	0.39	–0.24**	0.11	0.04	–0.08
Help Seeking	0.34	0.03	–0.12	–0.10	0.37***
Problem solving	0.38	–0.07	0.11	0.04	–0.12
Positive Thinking	0.61	0.31**	–0.46***	–0.44***	0.01

Note: CRI = Composite Reliability Index. MIIC = Mean inter-item correlation. HR-R = Health-Related Resilience. HADS-A = Hospital Anxiety and Depression Scale – Anxiety subscale. HADS-D = Hospital Anxiety and Depression Scale – Depression subscale.
*: $p < 0.05$. **: $p < 0.01$. ***: $p < 0.001$

3.3. Criterion-related validity

The results of the Pearson correlations between specific/general coping factors and resilience, anxiety, depression, and degree of disclosure are presented in *Table 4*. Regarding the general coping dimensions, approach had a significant positive correlation with resilience and a negative one with anxiety and depression. Avoidance had strong correlations with health-related resilience (negative) and anxiety and depression (positive). With respect to specific coping strategies, rumination, isolation, and self-blame were negatively related to health-related resilience and positively related to anxiety and depression. Positive thinking followed the opposite

path: it was positively related to health-related resilience and negatively to anxiety and depression. Thinking avoidance was negatively related to resilience, whereas emotional expression was positively related to anxiety and depression. Problem solving and help-seeking showed no relationship with any of the three variables. Finally, the degree of disclosure was negatively related to the general avoidance coping dimension and to the specific strategies of rumination, isolation, and self-blame, and positively associated with help seeking.

4. Discussion

This study sought to shorten the SCQA and study the psychometric properties of the scores while taking into account the situational character of coping and the global approach/avoidance classification, in order to study coping effectiveness in newly diagnosed MSM. The model comparison highlighted the importance of considering the situation when assessing coping strategies, as happened with the original scale findings (ALONSO-TAPIA et al. 2016). This, along with the results in *Table 3*, supports certain variability in the use of coping strategies, associated with the different situational demands (MOSKOWITZ & WRUBEL 2005). The use of a global approach/avoidance classification was further supported by our data. The mean inter-item correlations provided support for the reliability of the scores of the specific factors (e.g., self-blame, rumination), and CRI values also indicated that the general factors (i.e., approach and avoidance) are reliable. These findings endorse the notion that both coping strategies (i.e., specific factors) and dimensions (i.e., general factors) can be useful and therefore one or the others should be used depending on their advantages and the research or clinical purpose.

Regarding the effectiveness of coping strategies, associations have been found with anxiety and depression, as previous HIV literature has shown (VARNI et al. 2012), and with resilience, as some authors had suggested (ALONSO-TAPIA et al. 2016; LEIPOLD & GREVE 2009). More specifically, approach coping was positively associated with health-related resilience and negatively with anxiety and depression, while avoidance coping was negatively related to health-related resilience and positively to anxiety and depression. The specific strategies of rumination, self-blame, and isolation were negatively related to health-related resilience and positively related to anxiety and depression. This is coherent with MOSKOWITZ and colleagues' (2009) claim that rumination and self-blame are associated with higher negative affect. Moreover, our findings show that this relationship exists not only with depression, but also with higher anxiety and lower resilience.

On the other hand, positive thinking was positively related to health-related resilience and negatively related to anxiety and depression. Additionally, higher thinking avoidance was associated with lower health-related resilience, and higher emotional expression was related to higher anxiety and depression. Again, the findings follow the expected direction/approach strategies correlate with better psychological outcomes and avoidance strategies with worse psychological outcomes

(Moskowitz et al. 2009; Roesch & Weiner 2001). Problem solving, emotional expression, and help-seeking, for their part, showed no relationship to any of these psychological outcomes.

Finally, a higher degree of HIV disclosure was related to lower isolation and higher help seeking, as expected (Holt et al. 1998; Lee et al. 2002), and also to lower self-blame, rumination, and avoidance coping in general, which seems a sensible finding, as blaming oneself and rumination imply a certain degree of being ashamed of oneself, which may prevent disclosure. This provides further support to the construct validity of the scales, since disclosure was associated with those theoretically related coping strategies.

Some limitations of the current study merit consideration, as they restrict the generalizability of the findings. First, the cross-sectional nature of the data prevents the establishment of a causal link. Second, regarding the self-selection bias, it is possible that only highly motivated individuals decided to collaborate, which would imply a bias in our results. Additionally, results should be generalized to non-MSM PLHIV with extreme caution. Third, regarding the recruitment method, those individuals not using online social networks or attending the healthcare center had little opportunity to be recruited into the study. Fourth, although Bayesian methods allow testing complex models with smaller sample sizes in comparison with classical maximum likelihood methods, further research with larger samples is needed to replicate the latent structure of the shortened scale. In addition, the default non-informative priors from MPlus were used in this study. Although these distributions yield a plain distribution with zero as expected value, and a variance close to infinity, other distributions can be used for the model's parameters. Incorporating informative priors based on the empirical parameter estimates from previous research was not possible in this study due to the lack of previous studies with this shortened version. However, using the factor structure and the parameter estimates found in this study with MSMLHIV may be beneficial for future research, as it could facilitate the convergence of the models and improve their fit. The analyses made in the present study were a first step with the SCQA-HIV-SF, and further research is needed before implementing such information to the models. Lastly, all the instruments employed involved self-report, which could also affect the quality or reliability of the data, despite the wide validation of some of those instruments.

All things considered, our findings have clear implications with regard to psychological interventions in the case of newly diagnosed MSM. Such interventions should focus on reducing the use of avoidance strategies (i.e., rumination, emotional expression, self-blame, isolation, and thinking avoidance), while fostering the use of more effective coping strategies such as positive thinking and help-seeking, as some previous literature has suggested (Sanjuán et al. 2012). Moreover, by reducing self-blame, emotional expression, rumination, and isolation and promoting help seeking, disclosure could be facilitated and social support made thus more available. Additionally, the type of stressful situation needs to be taken into account, as the use of

coping strategies may not generalize across situations, and also may not be equally effective in all situations. Furthermore, some authors suggest that early interventions after HIV diagnosis may help achieve a better psychological status (RODKJAER et al. 2014), as the use of certain coping strategies may be promoted from the beginning, which could be a relevant strategy to help newly diagnosed MSM overcome the challenges posed by receiving a positive diagnosis.

In conclusion, the SCQA-HIV-SF constitutes a concise, reliable, and valid means of situated coping assessment in MSMLHIV, with a clear factor structure and meaningful associations with related constructs such as anxiety, depression, disclosure, or health-related resilience. Assessing situated coping for HIV-related issues could better guide the clinical treatment of depression and anxiety in MSMLHIV, as well as promote efforts toward increasing optimal functioning in these individuals.

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