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RESILIENCE IN PEOPLE LIVING WITH HIV:

ASSESSMENT, PREDICTORS, AND RELATED VARIABLES

RESILIENCIA EN PERSONAS QUE VIVEN CON VIH:

EVALUACIÓN, PREDICTORES Y VARIABLES RELACIONADAS

TESIS DOCTORAL

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*Para quien seca sus lágrimas sin darse por perdido
y, a pesar de la fatiga, sigue su camino.
Para quien lucha, para quien sigue vivo,
buscando un sentido. Los mayores héroes son desconocidos.*

—Nach Scratch, “Héroes”.

*Y un buen día te atreviste a confesarme
que tenías tanto miedo a que yo supiera
de tu realidad, y no comprendes ...*

*Que no es tu signo positivo
el que invierte en conflictivo
las cosas del querer:*

*Que eres tú quien me revuelve,
que eres tú quien me enamora,
tú quien me convierte en la mejor persona.*

*Y si tengo que gritarte lo que siento,
te digo que te quiero con tu suerte,
con tu mierda, con pasado, con presente,
con o sin enfermedad.*

Y tú no ves que quiero seguir comiéndote a besos ...

Y tú que no ves que quiero seguir comiéndote a besos.

*Y no comprendes que es tu risa,
no tu sangre, quien contagia de alegría
las esquinas, los rincones de mi vida*

*Que eres tú, que no es tu sangre,
quien invade de felicidad mis días*

—Rozalén, “Comiéndote a besos”

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Publications

This doctoral dissertation is based on the manuscripts referenced below and whose complete texts are included in the present work. Additionally, for articles that have been published, the publisher/journal 's versions are included in Appendix 5.

- Rodríguez-Rey, R., Alonso-Tapia, J., & Hernansaiz-Garrido, H. (2016). Reliability and Validity of the Brief Resilience Scale (BRS) Spanish Version. *Psychological Assessment, 28*(5), e101–e110. doi:10.1037/pas0000191
- Alonso-Tapia, J., Garrido-Hernansaiz, H., Rodríguez-Rey, R., Ruiz, M., & Nieto, C. (2017). Development and validation of the Situated Subjective Resilience Questionnaire for Adults (SSRQA). *Manuscript under review*.
- Alonso-Tapia, J., Rodríguez-Rey, R., Garrido-Hernansaiz, H., Ruiz, M. & Nieto, C. (2016). Coping assessment from the perspective of the person-situation interaction: Development and validation of the Situated Coping Questionnaire for Adults (SCQA). *Psicothema, 28*(4), 479–486. doi: 10.7334/psicothema2016.19
- Garrido-Hernansaiz, H., Rodríguez-Rey, R., & Alonso-Tapia, J. (2017). Differences in the use of coping strategies in high- and low-resilience individuals: A comparison among people living with HIV, cancer patients, parents of children with cancer and the general population. *Manuscript under review*.
- Hernansaiz-Garrido, H., & Alonso-Tapia, J. (2017). Internalized HIV-stigma and disclosure concerns: development and validation of two scales in Spanish-speaking population. *AIDS & Behavior, 21*(1), 93–105. doi:10.1007/s10461-016-1305-1
- Garrido-Hernansaiz, H., Alonso-Tapia, J., & Martín-Fernández, M. (2017). Situated Coping Questionnaire for Adults: Validation of a Short Form in HIV+ Spanish Adults from a Bayesian Approach. *Manuscript under review*.

- Garrido-Hernansaiz, H., Rodríguez-Rey, R., & Alonso-Tapia, J. (2017). Posttraumatic Growth Inventory: Factor Structure in Spanish-speaking People Living with HIV. *AIDS Care*. Advanced online publication. doi:10.1080/09540121.2017.1291900
- Garrido-Hernansaiz, H., & Alonso-Tapia, J. (2017). Associations among resilience, posttraumatic growth, anxiety and depression and their prediction from stress in newly diagnosed people living with HIV. *Journal of the Association of Nurses in AIDS Care*, 28(2), 289–294. doi:10.1016/j.jana.2016.12.005
- Garrido-Hernansaiz, H., Murphy, P. J., & Alonso-Tapia, J. (2017). Predictors of resilience and posttraumatic growth among people living with HIV: A longitudinal study. *Manuscript under review*.
- Garrido-Hernansaiz, H., & Alonso-Tapia, J. (2017). Predictors of anxiety and depression among newly diagnosed people living with HIV: A longitudinal study. *Manuscript under review*.
- Garrido-Hernansaiz, H., & Alonso-Tapia, J. (2017). Social support in newly diagnosed people living with HIV: Expectations and satisfaction along time, predictors and mental health correlates. *Manuscript under review*.

Publicaciones

Esta tesis doctoral se basa en las publicaciones referenciadas continuación y cuyos textos completos se encuentran incluidos en el presente trabajo. Asimismo, para aquellos artículos ya publicados, se incluye la versión de la revista o editorial en el Apéndice 5.

- Rodríguez-Rey, R., Alonso-Tapia, J., & Hernansaiz-Garrido, H. (2016). Reliability and Validity of the Brief Resilience Scale (BRS) Spanish Version. *Psychological Assessment, 28*(5), e101–e110. doi:10.1037/pas0000191
- Alonso-Tapia, J., Garrido-Hernansaiz, H., Rodríguez-Rey, R., Ruiz, M. & Nieto, C. (2017). Development and validation of the Situated Subjective Resilience Questionnaire for Adults (SSRQA). *Manuscrito en revisión*.
- Alonso-Tapia, J., Rodríguez-Rey, R., Garrido-Hernansaiz, H., Ruiz, M. & Nieto, C. (2016). Coping assessment from the perspective of the person-situation interaction: Development and validation of the Situated Coping Questionnaire for Adults (SCQA). *Psicothema, 28*(4), 479–486. doi: 10.7334/psicothema2016.19
- Garrido-Hernansaiz, H., Rodríguez-Rey, R., & Alonso-Tapia, J. (2017). Differences in the use of coping strategies in high- and low-resilience individuals: A comparison among people living with HIV, cancer patients, parents of children with cancer and the general population. *Manuscrito en revisión*.
- Hernansaiz-Garrido, H., & Alonso-Tapia, J. (2017). Internalized HIV-stigma and disclosure concerns: development and validation of two scales in Spanish-speaking population. *AIDS & Behavior, 21*(1), 93–105. doi:10.1007/s10461-016-1305-1
- Garrido-Hernansaiz, H., Alonso-Tapia, J., & Martín-Fernández, M. (2017). Situated Coping Questionnaire for Adults: Validation of a Short Form in HIV+ Spanish Adults from a Bayesian Approach. *Manuscrito en revisión*.

- Garrido-Hernansaiz, H., Rodríguez-Rey, R., & Alonso-Tapia, J. (2017). Posttraumatic Growth Inventory: Factor Structure in Spanish-speaking People Living with HIV. *AIDS Care*. Publicación online avanzada. doi:10.1080/09540121.2017.1291900
- Garrido-Hernansaiz, H., & Alonso-Tapia, J. (2017). Associations among resilience, posttraumatic growth, anxiety and depression and their prediction from stress in newly diagnosed people living with HIV. *Journal of the Association of Nurses in AIDS Care*, 28(2), 289–294. doi:10.1016/j.jana.2016.12.005
- Garrido-Hernansaiz, H., Murphy, P. J., & Alonso-Tapia, J. (2017). Predictors of resilience and posttraumatic growth among people living with HIV: A longitudinal study. *Manuscrito en revisión*.
- Garrido-Hernansaiz, H., & Alonso-Tapia, J. (2017). Predictors of anxiety and depression among newly diagnosed people living with HIV: A longitudinal study. *Manuscrito en revisión*.
- Garrido-Hernansaiz, H., & Alonso-Tapia, J. (2017). Social support in newly diagnosed people living with HIV: Expectations and satisfaction along time, predictors and mental health correlates. *Manuscrito en revisión*.

Abstract

Background and objectives: Facing a potentially traumatic situation constitutes an adverse event that sometimes leads to psychologically maladaptive outcomes, for instance anxiety or depression disorders. However, positive outcomes like resilience are also possible. Resilience is characterized by a successful adaptation over a short period of time, and knowing how people achieve resilience outcomes is of paramount importance so as to guide them and help them in times of need. Consequently, this thesis is concerned with studying the predictors of resilience and other possible psychological post-trauma outcomes. Specifically, the first set of studies in this thesis (corresponding to part 2) explores how resilience outcomes can be predicted from coping strategies in several clinical (e.g., cancer patients) and non-clinical populations, also studying the possible context-dependent nature of both resilience and coping.

Being diagnosed with a chronic illness such as HIV is a potentially traumatic experience which may have an impact on mental health, and people living with HIV indeed report higher levels of anxiety and depression than the general population. Accordingly, the second and third sets of studies in this thesis (parts 3 and 4) focus on this particular population and they aim to study the predictors of resilience and other relevant outcomes. Specifically, the predictive role of significant variables such as stress, stigma, coping, and social support is studied in relation to resilience, posttraumatic growth, anxiety, and depression.

Methods: In order to examine the relationship between resilience and coping (part 2), several measures were first adapted or developed due to the unavailability of adequate measures in Spanish language—the Brief Resilience Scale was adapted to Spanish, and the Situated Subjective Resilience Scale for Adults and the Situated Coping Questionnaire for Adults were developed and validated. To validate these instruments, participants

completed them along with other related measures and several analyses were performed, including correlation analyses, regression analyses, reliability analyses, and structural equations modeling (i.e., confirmatory factor analyses). Then, the relationships between coping and resilience were studied across different samples by means of analyses of variance and *t*-tests. The samples used in this set of studies included individuals for the general population, people living with HIV, cancer patients, parents of children with cancer, parents of children with developmental problems, and parents of critically ill children.

In order to examine the predictors of resilience and other mental health outcomes in people living with HIV, some methodological problems needed to be first solved. Thus, the studies in part 3 dealt with the development of stigma measures previously unavailable, the shortening of the previously validated coping scale, and the examination of the factor structure of the Posttraumatic Growth Inventory, which had not been studied in people living with HIV before. The analyses performed included exploratory factor analyses, correlations, reliability analyses, and structural equations modeling (i.e., exploratory and confirmatory factor analyses, and path analyses with latent variables). The samples were composed of Spanish-speaking individuals from Spain and Latin America.

Then, the studies in part 4 examined the predictors and correlates of resilience, posttraumatic growth, anxiety, and depression in people living with HIV. To this aim, a longitudinal study was conducted with assessments at two time-points: soon after diagnosis (approximately one month) and around six months later. Participants completed measures of stress, internalized stigma, disclosure concerns, coping, social support, health-related resilience, posttraumatic growth, anxiety, and depression. The analyses performed included structural equations modeling (i.e., path analyses with latent variables), correlations, and regression analyses. The samples were composed of newly diagnosed Spanish-speaking individuals from Spain and Latin America.

Results and conclusions: The first set of studies (part 2) showed that the adapted and developed measures were reliable and valid instruments, and that resilience and coping are, to some extent dependent on the context (i.e., the type of adversity). These studies also found that resilience and coping are associated with one another, and that this association may be different depending on the nature of the adversity. That is, some strategies were

associated with higher resilience for some populations (e.g., cancer, HIV) but not for others. These results suggest that it is imperative to explore which coping strategies work in each context, so as to be able to design tailored interventions for each population.

The results found in part 3 indicated, in the first place, that the stigma measures had excellent psychometric properties and were related to meaningful constructs. In the second place, the shortened coping scale was likewise found to be reliable and valid for use among people living with HIV. In the third place, the examination of the Posttraumatic Growth Inventory scores revealed a three factor model consistent with the original conceptualization of the construct that enables researchers to interpret this construct in people living with HIV.

The results from part 4 showed that newly diagnosed people living with HIV showed high rates of anxiety and depression eight months after diagnosis. Moderate to high resilience outcomes and posttraumatic growth were also common. Resilience was inversely related to anxiety and depression, and was unrelated to posttraumatic growth. Higher perceived stress around the time of diagnosis significantly predicted higher subsequent anxiety and depression and lower resilience outcomes. A perception of past resilience outcomes, internalized stigma, and coping strategies explained significant proportions of the variance in subsequent psychological outcomes: 42% for resilience, 16-29% for posttraumatic growth (depending on the factor), 58% for anxiety, and 45% for depression. Nonetheless, the specific coping strategies which emerged as significant predictors depended on the outcome considered. Additionally, social support showed a significant association with resilience, anxiety, and depression. These results indicate that certain outcomes could be promoted or discouraged by designing interventions which reduce the levels of stress and internalized stigma, increase the levels of social support, and modify the use of coping strategies.

Resumen

Antecedentes y objetivos: Hacer frente a una situación potencialmente traumática constituye un evento adverso que, en ocasiones, conlleva consecuencias psicológicas desadaptativas, como por ejemplo trastornos de ansiedad o depresión. No obstante, también son posibles las consecuencias positivas, como por ejemplo la resiliencia, caracterizada por una adaptación positiva ocurrida en un período de tiempo corto. Conocer cómo logran las personas alcanzar resultados de resiliencia es de suma importancia para poder ayudar y guiar en momentos de necesidad. Esta tesis, por consiguiente, se interesa por el estudio de los predictores de la resiliencia y de otras posibles consecuencias psicológicas postraumáticas. Concretamente, el primer conjunto de estudios de esta tesis (correspondientes a la parte 2) explora la forma en que es posible predecir la resiliencia a partir de las estrategias de afrontamiento, y lo hace en varias poblaciones tanto clínicas (p. ej., pacientes con cáncer) como no clínicas. Adicionalmente, esta parte estudia también la posible dependencia de contexto del afrontamiento y la resiliencia.

Ser diagnosticado de una enfermedad crónica como el VIH es una experiencia potencialmente traumática que puede tener un impacto en la salud mental. De hecho, las personas que viven con VIH presentan tasas de ansiedad y depresión mayores que la población general. Por lo tanto, el segundo y el tercer conjunto de estudios de esta tesis (partes 3 y 4) se centran en esta población específica y tienen por objetivo estudiar los predictores de la resiliencia y de otras consecuencias psicológicas relevantes. Concretamente, se estudia el papel de variables importantes como el estrés, el estigma, el afrontamiento y el apoyo social en relación a la resiliencia, el crecimiento postraumático, la ansiedad y la depresión.

Método: Con objeto de examinar la relación entre resiliencia y afrontamiento (parte 2), primero se adaptaron o desarrollaron varios instrumentos debido a la no disponibilidad de escalas adecuadas en lengua española: se adaptó la Escala Breve de Resiliencia al español y se desarrollaron y validaron el Cuestionario de Resiliencia Subjetiva Situada

para Adultos y el Cuestionario de Afrontamiento Situado para Adultos. Para realizar la validación de tales instrumentos, los participantes los completaron junto con otras escalas de variables relacionadas y se realizaron varios análisis incluyendo análisis de correlaciones, regresión y fiabilidad, y modelado de ecuaciones estructurales (i.e., análisis factoriales confirmatorios). Se estudiaron entonces las entre afrontamiento y resiliencia en diferentes muestras mediante análisis de varianza y pruebas *t*. Las muestras utilizadas en este conjunto de estudios incluyeron personas de la población general, personas que viven con VIH, pacientes con cáncer, padres de hijos con cáncer, padres de hijos con problemas del desarrollo y padres con hijos críticamente enfermos.

Con objeto de examinar los predictores de resiliencia y de otras consecuencias de salud mental en personas que viven con VIH, se hizo necesario resolver previamente ciertos problemas metodológicos. Por consiguiente, los estudios de la parte 3 abordaron el desarrollo de escalas de estigma que no estaban disponibles previamente, el acortamiento de la escala de afrontamiento previamente validada y el examen de la estructura factorial del Inventario de Crecimiento Postraumático, la cual no se había estudiado previamente en personas que viven con VIH. Los análisis realizaron incluyeron análisis factoriales exploratorios, de correlaciones, de fiabilidad y de modelado de ecuaciones estructurales (i.e., análisis factoriales exploratorios y confirmatorios y análisis de rutas con variables latentes). Las muestras se compusieron de personas hispanohablantes de España y Latinoamérica.

Los estudios de la parte 4 examinaron entonces los predictores y correlatos de la resiliencia, el crecimiento postraumático, la ansiedad y la depresión en personas que viven con VIH. Para ello se realizó un estudio longitudinal que contó con dos evaluaciones, una al poco tiempo del diagnóstico (aproximadamente un mes) y otra alrededor de seis meses más tarde. Los participantes completaron medidas de estrés, estigma internalizado, miedo a comunicar el diagnóstico, afrontamiento, apoyo social, resiliencia relacionada con la salud, crecimiento postraumático, ansiedad y depresión. Los análisis realizados incluyeron modelado de ecuaciones estructurales (i.e., análisis de rutas con variables latentes), análisis de correlaciones y de regresión. Las muestras se compusieron de personas recién diagnosticadas hispanohablantes de España y Latinoamérica.

Resultados y conclusiones: El primer conjunto de estudios (parte 2) mostró que los instrumentos adaptados y los desarrollados eran fiables y válidos y que la resiliencia y el afrontamiento dependen del contexto (i.e., del tipo de adversidad) hasta cierto punto. Estos

estudios también encontraron que la resiliencia y el afrontamiento están relacionadas y que dicha asociación puede variar en función de la naturaleza de la adversidad. Esto es, algunas estrategias se asociaron con mayor resiliencia en el caso de algunas poblaciones (p. ej., cáncer, VIH), pero no en el de otras. Estos resultados sugieren que es de enorme importancia explorar cuáles son las estrategias de afrontamiento que funcionan en cada contexto, con el fin de poder diseñar intervenciones específicas para cada población.

Los resultados encontrados en la parte 3 indicaron, en primer lugar, que los instrumentos de estigma tenían unas propiedades psicométricas excelentes y estaban relacionadas con constructos relevantes. En segundo lugar, la escala abreviada de afrontamiento igualmente mostró ser fiable y válida para el uso con personas que viven con VIH. En tercer lugar, el examen de las puntuaciones del Inventario de Crecimiento Postraumático reveló un modelo de tres factores que fue consistente con la conceptualización original del constructo. Este modelo permite a los investigadores interpretar este constructo en personas que viven con VIH.

Los resultados de la parte 4 mostraron que las personas que viven con VIH recién diagnosticadas mostraron altas tasas de ansiedad y depresión ocho meses después del diagnóstico. También fueron comunes los resultados de resiliencia y crecimiento postraumático moderados a altos. La resiliencia se relacionó inversamente con ansiedad y depresión y no mostró relación alguna con crecimiento postraumático. Un mayor grado de estrés percibido alrededor del diagnóstico predijo significativamente mayores niveles de ansiedad y depresión posteriores y menores niveles de resiliencia. La percepción de resultados pasados de resiliencia, el estigma internalizado y las estrategias de afrontamiento explicaron importantes proporciones de la varianza de las consecuencias psicológicas posteriores: 42% en el caso de resiliencia, 16-29% en el de crecimiento postraumático (en función del factor), 58% en el de la ansiedad y 45% en el caso de la depresión. No obstante, qué estrategias de afrontamiento específicas fueron predictores significativos dependió de la consecuencia considerada. Asimismo, el apoyo social mostró una asociación significativa con resiliencia, ansiedad y depresión. Estos resultados indican que ciertas consecuencias pueden promoverse o prevenirse mediante el diseño de intervenciones que reduzcan los niveles de estrés y estigma internalizado, incrementen el apoyo social y modifiquen el uso de las estrategias de afrontamiento.

Part 1

General Introduction

1.1. GENERAL PURPOSE OF THIS THESIS

Most adults endure at least one highly adverse circumstance throughout their lifespan (e.g., life-threatening illness, violent events, or the illness or death of a loved one; Bonanno, 2005b). Some people are unable to function normally afterward for a long time and consequently research has traditionally focused on the negative psychological outcomes of such potentially traumatic events, including anxiety, depression, or posttraumatic stress disorder (Bonanno, 2005b; Zautra, Hall, & Murray, 2010). Nonetheless, positive outcomes have been found after experiencing highly stressful circumstances, as the maintenance of relatively stable levels of healthy functioning (Bonanno, 2004). Such an outcome is known as resilience.

So, what makes some people achieve a resilient outcome instead of struggling to adapt? Finding the factors that help individuals achieve resilience seems highly relevant, as it can provide health caregivers with the necessary notions to assist people in achieving this outcome and thus prevent the negative impact arising from the exposure to an adverse event—or treat the negative impact if it is already established. The second section of this dissertation (Part 2) will deal with this subject, focusing on the relationship between coping strategies—the behaviors carried out by the individual to handle hardships—and resilience, and how these relationships may be different depending on the studied population.

It is known that being on the receiving end of a positive HIV diagnosis constitutes a difficult situation (Moskowitz, Hult, Bussolari, & Acree, 2009; Murphy & Hevey, 2013) and resilience following this aversive event has seldom been explored. On that account, the rest of the dissertation will be focused on this particular population. Before being able to study resilience and its predictors among people living with HIV, some instruments needed to be developed, refined, or validated in this population. The third section of this thesis (Part 3) will

tackle these methodological matters. Finally, the fourth section of this dissertation (Part 4) will investigate the psychological adaptation among newly diagnosed people living with HIV in terms of negative outcomes (i.e., anxiety and depression) and positive ones (i.e., resilient outcomes and posttraumatic growth). Specifically, the relationships among these outcomes will be explored and we will examine whether they can be explained on the basis of a number of relevant factors (e.g., stigma, coping).

1.2. RESILIENCE: AN INTRODUCTION

There is a growing body of literature dedicated to investigating resilience as a psychological construct. Researchers' interest in resilience has increased over the last few decades—as has the acknowledgement of its importance—focusing largely on research with children, with significant fewer studies devoted to resilience among adults (Luthar, 2006). As several authors have stated, the conceptualization of resilience has many complexities and it can be a difficult task (Laney, Warren, Watson, & Shalev, 2007; Luthar, 2006; Luthar, Sawyer, & Brown, 2006; Windle, 2011; Zautra et al., 2010). With numerous ways of understanding resilience being available in the literature, it is necessary that researchers explicitly choose and follow one of them. Hence, we start this dissertation by introducing the conceptualization of resilience that we will use and we also explain the similarities and differences with other conceptualizations of resilience and some related constructs.

1.2.1. Conceptualization of resilience

Resilience has been conceptualized in the literature as a protective personality trait, as a process, and as an outcome (Luthar, 2006; Zautra et al., 2010). We agree with Zautra et al. when they say that “resilience is best defined as an outcome of successful adaptation to adversity” (Zautra et al., 2010, p. 4), and we will now explain why. Although the word “resilience” has been given many meanings, its original meaning is “to jump or spring back”,

from the Latin verb *resilire*: *re-* “back” and *salire-* “to jump or leap” (Mukherjee & Kumar, 2016; Simpson, 2005). Therefore, resilience implies positive adaptation despite experiences of significant adversity (that is, despite life situations that usually produce maladjustment; Luthar, 2006). Such positive or successful adaptation could be both conceptualized as a personal ability or trait, as a process, or as an outcome.

From our perspective, certain factors or processes can predispose individuals to a resilient recovery, but do not constitute resilience itself. We again agree with Zautra et al.’s work: “Characteristics of the person and situation may identify resilient processes, but only if they lead to healthier outcomes following stressful circumstances” (Zautra et al., 2010, p. 4). Resilience defined as a process or trait may be a loose definition that encompasses many more processes or traits (e.g., coping, social support, community resources, self-efficacy, optimism) supposedly leading to good outcomes—but what qualifies as a “good outcome” is poorly specified and the resilience processes or traits still need to be identified and measured. The resilience processes or traits can only be identified as such if they actually lead to good outcomes, which is why we argue that the positive or successful adaptation is the central element of resilience and the one that identifies it as an outcome. Studying resilience as an outcome has practical interest for mental health promotion, as it enables researchers to study the processes, factors, or mechanisms associated with it and the nature and directionality of such relationships (i.e., risk or protective factors).

1.2.2. The multidimensionality of resilience

As an outcome, the degree of achieved resilience may change depending on the specific threat faced by the individual. According to researchers, a person may demonstrate varying degrees of resilience depending on the kind of adversity that they encounter (e.g., a life-threatening illness, war, a natural catastrophe; Luthar, 2006; Reaching IN... Reaching OUT, 2010; Southwick, Litz, Charney, & Friedman, 2011). This consideration is worth taking into

account, as resilience in the face of different types of adversities may be explained in different ways. Therefore, it is of great importance that researchers and clinicians assess resilience in the context of different types of adverse situations—or in the face of the specific adversity that the person has encountered—instead of using a general index which may not be entirely adequate to the particular situation. Studies testing the degree to which resilience generalizes across aversive contexts are also necessary.

1.2.3. Resilience and related constructs

Luthar (2006), in her review of 50 years of resilience research, tried to clarify the similarities and differences between resilience and different related concepts including competence, ego resiliency, and hardiness. We earlier defined resilience as the outcome of positive adaptation despite experiences of significant adversity, which means that two elements need to be present for resilience to occur: a significant risk or adversity and a positive adaptation in the face of such adversity (Luthar, 2006). Competence is defined as an effective performance in relevant tasks for the society where the individual lives. Thus, both resilience and competence refer to adjustment, but the latter does not presupposes the presence of a significant adversity (Luthar, 2006).

Ego resiliency (or just resiliency; Prince-Embury, 2007) is a personality trait of the individual reflecting general resourcefulness, sturdiness of character, and flexibility of functioning in response to varying environmental circumstances. This construct neither presupposes adverse conditions nor constitutes an outcome (Luthar, 2006). As for hardiness, it is defined as a general trait including three personality dispositions: commitment (feeling connected, having a purpose, being active, etc.), control (feelings of being able control what happens in one's environment), and challenge (welcoming change instead of perceiving it as disruptive). Hardiness also presupposes adversity—however, it does not refer to outcomes but to a specific set of personality traits (Luthar, 2006).

1.2.4. Resilience measurement

Researchers have argued that resilience measurement needs to move beyond its almost exclusive reliance on the simple absence of psychopathology (Bonanno, 2004, 2005a) and start mapping healthy functioning instead. Furthermore, the wide diversity of resilience conceptualizations and the semantic closeness of the construct with other related constructs has resulted in the availability of several resilience measures that are in fact measuring different aspects. For instance, the well-known Connor-Davidson Resilience Scale (Connor & Davidson, 2003), Resilience Scale (Wagnild & Young, 1993), and Resilience Scale for Adults (Friborg, Hjemdal, Rosenvinge, & Martinussen, 2003) assess the availability of protective factors or processes that facilitate resilience (e.g., optimism, self-efficacy), that is, what we have termed “ego resiliency”.

In fact, two systematic reviews conducted on the subject (Reaching IN... Reaching OUT, 2010; Windle, Bennett, & Noyes, 2011) agreed that most of the available measures are centered on factors favoring resilience instead of on the phenomenon itself. The Brief Resilience Scale (Smith et al., 2008) was the only measure identified in Windle et al.’s review (2011) which actually measured the perceived recovery from stressful circumstances. Notably, it does not rely on the absence of psychopathology and it presupposes both significant adversity and positive adaptation.

However, despite having been adapted to Dutch (Leontjevas, de Beek, Lataster, & Jacobs, 2014) and Malaysian (Amat, Subhan, Jaafar, Mahmud, & Johari, 2014), the Brief Resilience Scale was not available in Spanish, and so its adaptation and validation in this language became an objective of this dissertation. Additionally, we also aimed to develop a resilience measure that took into account the aforementioned multidimensionality of resilience (i.e., resilience in the face of different threatening contexts), as none were available.

1.3. OTHER OUTCOMES FOLLOWING SIGNIFICANT ADVERSITY

1.3.1. Positive outcomes: Recovery and posttraumatic growth

There are two constructs which involve significant adversity and positive adaptation and with which resilience has also been confounded in the literature. These are recovery and posttraumatic growth, both of which represent differentiated post-trauma outcomes. Recovery involves a disruption to normal functioning after the adverse event and a gradual return to pre-trauma levels, while resilience is characterized by relatively mild and short-lived disruptions and a stable trajectory of healthy functioning across time (Bonanno, 2005b). Recovery thus happens over a longer period of time compared with resilience.

Concerning posttraumatic growth (PTG), it is defined as a positive psychological change that occurs as the result of one's struggle with a potentially traumatic event (Tedeschi & Calhoun, 1995, 1996) and so it implies learning and growing after adversities. PTG involves not just a return to baseline functioning after a trauma but an actual improvement when compared to pre-trauma levels (Bonanno, 2005b). Therefore, resilience and PTG represent different phenomena, with literature showing inconsistent findings of positive, negative, and absent relationships between them (Westphal & Bonanno, 2007).

Nonetheless, PTG has indeed been frequently conflated with resilience in literature (Vera Poseck, Carbelo Baquero, & Vecina Jiménez, 2006; Westphal & Bonanno, 2007), partially because French authors view PTG as a part of the resilient outcome (i.e., resilience would involve not only a sustained trajectory of healthy functioning but also learning from the adverse experience and thriving from it). American authors, on the other hand, are more prone to keep the term resilience to refer only to the homeostatic return to the previous condition (Vera Poseck et al., 2006), and we will follow this latter school.

We decided to also study PTG in this dissertation due to three main reasons that we have outlined above: 1) PTG represents a positive outcome following a significant adversity, 2) it

has frequently been conflated with resilience in research, and 3) it is relevant to study the nature of the relationship between resilience and PTG. For this reason we will now introduce some aspects of PTG in more depth.

As resilience, PTG is a multidimensional construct, meaning that an individual can experience positive changes in some life areas but not in others (Calhoun, Cann, Tedeschi, & McMillan, 1998). Tedeschi and Calhoun—two of the authors who have contributed the most to this construct—identified three dimensions of PTG (Calhoun & Tedeschi, 1999; Tedeschi & Calhoun, 1996). These are positive changes in the self (i.e., increased confidence in one's skills to cope with adversity), positive changes in interpersonal relationships (i.e., stronger and closer relationships with others), and positive changes in philosophy of life (i.e., changes in priorities in one's scale of values and appreciation of things that were taken for granted before). These authors developed a measure based on these three dimensions that is now the most widely-used PTG instrument—the Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996). However, five dimensions emerged in their structure analysis: new possibilities, relating to others, personal strength, spiritual change, and appreciation of life.

Moreover, subsequent studies have yielded inconsistent results, with some of them reporting structures of one factor (Costa-Requena & Gil Moncayo, 2007; Milam, 2004), three factors (Powell, Rosner, Butollo, Tedeschi, & Calhoun, 2003; Rodríguez-Rey, Alonso-Tapia, Kassam-Adams, & Garrido-Hernansaiz, 2016; Weiss & Berger, 2006), four factors (Ho, Chan, & Ho, 2004; Taku et al., 2007) and five factors (J. A. Lee, Luxton, Reger, & Gahm, 2010; Morris, Shakespeare-Finch, Rieck, & Newbery, 2005). Therefore, it does not seem justifiable to assume that a three- or a five-factor structure of the PTGI is optimal and will hold across different trauma-exposed populations (Morris et al., 2005). Consequently, factor analyses need to be conducted before interpreting the PTGI scores in a population where its structure has not been studied before. On account of this, we decided to study its dimensionality in the trauma-

exposed population that will be the focus of this dissertation—people living with HIV. We will introduce this highly adverse context in the subsection 1.6 of this general introduction.

1.3.2. Negative outcomes: Anxiety and depression

The potentially traumatic events that most people face during their lives have negative effects in many people. Anxiety, confusion, difficulty in concentrating, depression, and alterations in their appetite or their sleep are some of the responses that many individuals present in the aftermath of a threatening adversity and sometimes it takes them years before they return to pre-trauma levels of functioning (Bonanno, 2005b). As a result, these negative outcomes have been the major focus of interest of the trauma literature (Hoffman & Kruczek, 2011; Southwick et al., 2011).

The extant literature has shown that positive and negative outcomes are usually related to each other following a traumatic event (Helgeson, Reynolds, & Tomich, 2006; Levine, Laufer, Stein, Hamama-Raz, & Solomon, 2009; Vera Poseck et al., 2006). Some studies have investigated the relationships among them, finding that high levels of resilience were linked to lower depression and anxiety (Fredrickson, Tugade, Waugh, & Larkin, 2003; Maestas, Sherer, Sander, Tulskey, & Nick, 2014; Seligman & Csikszentmihalyi, 2000; Skrove, Romundstad, & Indredavik, 2013). Likewise, a meta-analysis found no relationship between PTG and anxiety and only a weak relationship between PTG and depression (Helgeson et al., 2006).

Despite the abundant research on anxiety and depression—and some limited efforts on the study of their relationships with positive outcomes—little is yet understood about such relationships (Scali et al., 2012), especially in the case of particular trauma-exposed populations. Furthermore, resilience has usually been assessed as the availability of protective factors (Windle et al., 2011), and so the associations with resilience outcomes still remain to be examined. It will thus become an objective of this dissertation to explore this matter.

1.4. FACTORS INFLUENCING RESILIENCE OUTCOMES

As an outcome, resilience needs to be explained on the basis of its underlying mechanisms (Leipold & Greve, 2009; Luthar, 2006), that is, the elements that act as risk or protective factors. The achievement of a resilience outcome is susceptible of being impacted by many different aspects, including contextual factors and personal ones (Reaching IN... Reaching OUT, 2010). As Luthar (2006) explains, the emphasis needs to be on the “modifiable modifiers” (p. 754); in other words, the characteristics which are more amenable to change (e.g., coping behaviors) in contrast with those less susceptible to modifications (e.g., gender, age). We will now introduce some of the most relevant mechanisms that may influence resilience (and other positive and negative outcomes), giving primacy in our discussion to those which are more likely to be modifiable.

1.4.1. Contextual factors

Among the contextual factors, we have already mentioned that resilience is multidimensional, that is, the type of threat may influence the subsequent functioning levels of the individual (Luthar, 2006). Aside from the type of threat, other characteristics of the adverse context may also affect the achievement of a resilience outcome, such as the temporal dimension (i.e., the frequency and length of exposure to a particular adversity), the degree of exposure to the significant adversity, the source of the threat (i.e., external or internal), the severity of the traumatic situation, and the support provided by the environment (e.g., family, friends, health caregivers; Bonanno, Westphal, & Mancini, 2011; Reaching IN... Reaching OUT, 2010; Ungar, 2008). The effect of some of these factors (i.e., type of threat, frequency of exposure) will be studied in this dissertation but will not remain the focus of it. However, we will address in more detail the role of two contextual factors: severity of the adversity and social support.

With regard to the former, we will explore its role from the perspective of subjective stress perceived by the individual. By definition, people who perceive an adverse situation as less traumatic or stressful achieve higher resilience (Bonanno et al., 2011). Indeed, perceived stress has been identified as an important variable that impacts mental health. It has been associated with both positive and negative outcomes following threatening events. Specifically, higher levels of perceived stress have been linked to lower levels of resilience and higher levels of anxiety, depression, and PTG in a variety of trauma-exposed populations (Bonanno, Galea, Bucciarelli, & Vlahov, 2007; Chaudhury, Bakhla, & Saini, 2016; Helgeson et al., 2006; Remor, 2006; Westphal & Bonanno, 2007). Nevertheless, data regarding resilience and PTG is sometimes limited or non-existent, depending on the specific population.

In relation to social support, it refers to interpersonal interactions involving some kind of help (e.g., moral, financial, emotional, instrumental) which promotes health and well-being and protects from disease (Martos Méndez & Pozo Muñoz, 2011; Palomar Lever, Matus García, & Victorio Estrada, 2013). As happened with stress, we will deal with social support from the perspective of how it is perceived by the individual (Bisschop, Kriegsman, Beekman, & Deeg, 2004). If the person does not perceive social support, then it can hardly contribute to reduce stress levels and benefit the individual (Martos Méndez & Pozo Muñoz, 2011).

Social support has been identified as a protective factor in the physical and psychological adjustment to threatening experiences, representing an essential variable in the prevention of mental health disorders such as anxiety and depression (Burnham et al., 2016; McDowell & Serovich, 2007; Palomar Lever et al., 2013; Pichon, Rossi, Ogg, Krull, & Griffin, 2015; Turner-Cobb et al., 2002). Regarding its relationship with positive outcomes, social support has been associated with resilience (Bonanno et al., 2007; Kang & Suh, 2015; Yu et al., 2014), and moreover it has been considered a crucial element for the attainment of PTG (Helgeson & Lopez, 2010; Tedeschi & Calhoun, 2004; Yu et al., 2014).

1.4.2. Personal factors

Among the personal factors that can influence or predict resilience, some of the main ones are coping strategies, protective personality factors, and demographic variables (Bonanno et al., 2007; Luthar, 2006; Prince-Embury, 2007). Following our emphasis on the modifiable modifiers, we decided to focus our work on coping behaviors, which we will now introduce.

Researchers agree that the coping strategies used to deal with difficult situations have a significant influence on resilience (Folkman & Moskowitz, 2004; Skinner & Zimmer-Gembeck, 2007; Villasana, Alonso-Tapia, & Ruiz, 2016). Coping is defined as a cognitive or behavioral response to something appraised as stressful (Moskowitz et al., 2009). It implies “a constant change of cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (Lazarus & Folkman, 1984, p. 141).

Coping is a complex process that depends both on personal dispositions (i.e., individuals differ in their ability and selection of coping strategies) and the environmental demands of the stressor (e.g., the type of aversive problem; Folkman & Moskowitz, 2004). Therefore, each person may be prone to use different coping strategies depending on the type of threat. This implies a certain degree of generalization of coping strategies across time and situations—related to stable personal or event characteristics—and also a certain degree of variability—associated with the changing situational demands (Moskowitz & Wrubel, 2005; Steed, 1998). However, research has not tried to assess the use and effectiveness of different coping strategies while taking into account both personal and situational factors. It thus became an aim of this dissertation to develop a coping questionnaire which considered its multidimensionality and to test the relationships of coping with resilience outcomes, PTG, anxiety, and depression.

Since over 400 coping responses have been identified in the literature (Skinner, Edge, Altman, & Sherwood, 2003), researchers have organized them in higher order classifications

that allow for more manageable dimensions (Carver & Connor-Smith, 2010; Schwarzer & Schwarzer, 1996). Two well-known classifications widely used in the literature are the one including problem-focused coping and emotion-focused coping (Lazarus & Folkman, 1984) and the one distinguishing between approach coping and avoidance coping (Moskowitz et al., 2009). As both of them will be used along this dissertation, we will briefly describe them.

Concerning the first classification, problem-focused coping involves actively dealing with the problem (for instance, trying to solve it or learn from it) and has been related to better psychological outcomes (Alok et al., 2014; Herman & Tetrick, 2009). On the other hand, emotion-focused coping is aimed at dealing with the negative emotions generated by the aversive situation (for example, emotional venting or blaming oneself) and it is associated with poorer outcomes (Herman & Tetrick, 2009). In addition to these two coping dimensions, literature has extensively addressed a third dimension labeled social-focused coping (Folkman & Moskowitz, 2004). It tackles the interpersonal aspects of coping (such as seeking help or avoiding social contact) and its relationship with mental health outcomes is unclear, as mixed results have been found (Folkman & Moskowitz, 2004).

Regarding the second global coping classification, approach coping involves engagement with the stressor and enhancement of a sense of control over it and/or adaptation to it (e.g., trying to solve the problem, seeking social support, reappraising the problem in a positive manner). It has generally been related to better psychological outcomes (Moskowitz et al., 2009; Roesch & Weiner, 2001). Avoidance coping, for its part, is characterized by disengagement from the stressor (e.g., drinking alcohol or using drugs, isolating oneself, denying the problem) and is generally related to worse psychological outcomes (Moskowitz et al., 2009; Roesch & Weiner, 2001).

1.5. PAST RESILIENCE AS A PREDICTOR OF POST-TRAUMA OUTCOMES

As we previously noted, most people undergo one or more highly adverse events during their life (Bonanno, 2005b). Thus, most people have a perception of the degree of resilience outcomes that they achieved following past adverse events. Such perception of past resilience outcomes may be a powerful predictor of how people will manage in the face of present or future adversities. We could expect those who perceive that they adjusted well in the past to bounce back from a current adversity better than those who feel that they did not adjust so well in the past.

Therefore, the perception of past resilience outcomes could help predict future outcomes of resilience, PTG, anxiety, and depression. Indeed, self-reports of resilience have been linked to PTG, anxiety, and depression in literature (Murphy & Hevey, 2013; Seligman & Csikszentmihalyi, 2000; Yu et al., 2014). For this reason, we believe that attention should be paid to people's perceptions of their resilience outcomes after past adversities (i.e., perceived past resilience). Assessing this variable can be useful in predicting how individuals will adapt to a significant stressor in terms of resilience, PTG, anxiety, and depression. Such prediction, consequently, can help identify those persons who might need guidance in order to achieve a positive adaptation.

Summarizing, this dissertation aims 1) to study the multidimensionality of resilience, PTG, and coping; 2) to examine how some personal and contextual factors may impact resilience and other post-trauma outcomes (i.e., the predictors of resilience); and 3) to investigate how resilience relates to other positive and negative post-trauma outcomes. While some of the studies will deal with several populations, from a certain point the focus of this dissertation will be resilience in the face of HIV diagnosis. We will describe this high-risk context in the following section.

1.6. HIV DIAGNOSIS: A SIGNIFICANT ADVERSITY

Being diagnosed with a severe or chronic illness is a potentially traumatic experience and, as such, one that may lead to resilience or other post-trauma outcomes (Moskowitz, 2010; Reaching IN... Reaching OUT, 2010). Indeed, receiving an HIV diagnosis is a threatening life event which may have an impact on mental health—people living with HIV report higher levels of anxiety and depression than the general population (Chaudhury et al., 2016). Nevertheless, positive mental health outcomes such as resilience and PTG have also been found in this population (De Santis, Florom-Smith, Vermeesch, Barroso, & DeLeon, 2013; Milam, 2004; Murphy & Hevey, 2013; Westphal & Bonanno, 2007). This being the case, this thesis will explore resilience and its predictors and correlates in people living with HIV. We will now describe the epidemiology of HIV infection in Spain, the context of HIV diagnosis and its effects, the role of HIV-related stigma, and the state of the art of resilience and PTG research among people living with HIV.

1.6.1. Epidemiology of HIV infection in Spain

In 2012, an estimated number of 150,000 people lived with HIV in Spain (Ministerio de Sanidad Servicios Sociales e Igualdad, 2014). Information from the Spanish data system of new HIV diagnoses (Área de Vigilancia de VIH y Comportamientos de Riesgo, 2016) revealed that there have been 39,350 new HIV diagnoses in this country since 2003.

In 2015, 3,428 new HIV diagnoses were notified, with an estimated rate of 9.44 per 100,000 persons. Of these newly diagnosed individuals, 85.9% were men, with a median age of 36 years. Over half of them (53.6%) had acquired the virus through male-to-male sexual relationships. Male-female sexual relationships accounted for 25.4% of the new diagnoses, and injection drug users represented an additional 2.8% (Área de Vigilancia de VIH y Comportamientos de Riesgo, 2016). Almost a third of the newly diagnosed (30.3%) were native

of other countries, mainly from Latin America (16%). Late diagnoses represented nearly half of all diagnoses (46.5%; a late diagnosis indicates a number of CD4 T lymphocytes lower than 350 cells/ μ l in the first determination test conducted after diagnosis).

1.6.2. The context and psychological effects of HIV diagnosis

The highly effective antiretroviral therapy (ART) has allowed people living with HIV who can access it to have a life expectancy similar to HIV-negative individuals (UNAIDS, 2016) and to be sexually non-infectious to others when viral suppression is achieved (Rodger et al., 2016). Thus, HIV infection is now a manageable chronic condition (Feigin, Sapir, Patinkin, & Turner, 2013; Prado, Lightfoot, & Brown, 2013) and health care systems are consequently changing the focus from prolonging lives to improving quality of life (Buseh, Kelber, Stevens, & Park, 2008; Drewes, Gusy, & von Rden, 2012; Gakhar, Kamali, & Holodniy, 2013). However, HIV still constitutes a huge stressor that threatens both physical and mental health, as it brings about enormous psychosocial challenges (Blashill, Perry, & Safren, 2011; Gohain & Halliday, 2014).

HIV-positive individuals encounter many uncertainties with regard to their health, including HIV-associated opportunistic infections and side effects of HIV medication (Buseh, Kelber, Hewitt, Stevens, & Park, 2006; Edo & Ballester, 2006; Gakhar et al., 2013). Moreover, the HIV-positive individual is faced with a chronic and incurable disease which involves several adjustments to personal life (Edo & Ballester, 2006). These adjustments include regular hospital visits, starting an indefinite treatment, adhering to such treatment, and taking steps to avoid infecting others and avoid getting re-infected (Edo & Ballester, 2006). Besides health-related adjustments, learning about one's HIV positive diagnosis generates a great emotional impact on the person, who now needs to deal with other psychosocial challenges concerning interpersonal relationships (i.e., telling others about their HIV; disruption in the couple, familial, and social area), financial status (e.g., missing days of work to go to the hospital,

possible loss of their job), and stigmatization and discrimination (Buseh et al., 2006; Edo & Ballester, 2006; Gakhar et al., 2013; Teva, la Paz Bermúdez, Hernández-Quero, & Buela-Casal, 2005).

As a result of facing those psychosocial challenges, people living with HIV are more likely to experience depression, stress, stigma, suicidal ideation, isolation, and marginalization (Heywood & Lyons, 2016; Willie et al., 2016; Wu & Li, 2013). In Spain, HIV-positive individuals have reported higher levels of anxiety and depression and lower levels of self-esteem and perceived social support following diagnosis than cancer patients and the general population (Edo & Ballester, 2006). Furthermore, depression and anxiety have been stated to worsen HIV-related health outcomes, as they are associated with poor HIV medication adherence, lower CD4 counts, rapid disease progression, and increased mortality (Wouters, Booyesen, Ponnet, & Baron Van Loon, 2012). Therefore, addressing the aforementioned challenges remains key to attain a better quality of life for adults living with HIV in terms of both mental and physical health.

1.6.3. The role of HIV stigma

We have briefly mentioned that one of the challenges that people living with HIV face is stigmatization and discrimination. From the moment that the epidemic started when the first cases were detected in the United States in 1981, HIV-positive persons have been stigmatized and they continue to be so throughout the world (Gohain & Halliday, 2014). In fact, stigma and discrimination surround the infection to a degree unmatched by any other medical conditions such as diabetes or cancer (Fife & Wright, 2000; Holzemer et al., 2009; Su et al., 2013). In Spain, there is still a pervasive negative view of the HIV infection and HIV-positive persons are discriminated against in different areas of their lives (Molero, Fuster, Jetten, & Moriano, 2011).

HIV stigma refers to the socially constructed and shared knowledge about the devalued status of HIV-infected people, who as a result are subject to prejudice, discounting,

discrediting, and discrimination (Steward et al., 2008). It is based on the view that 1) the individual is responsible for contracting the virus because the primary modes of transmission of the infection are behaviors that are considered voluntary and avoidable; 2) HIV is regarded as an unalterable and fatal condition; 3) HIV is highly contagious, and contagious conditions always have greater stigma attached to them; and 4) the advanced stages of AIDS involve physical decline and sometimes death, which are more apparent to others and thus more stigmatized. Moreover, HIV stigma is layered upon the stigmas associated with homosexuality, drug use, and sexual promiscuity, which results in an intensified stigmatization (Gohain & Halliday, 2014; Herek, 1999; R. S. Lee, Kochman, & Sikkema, 2002).

Research has profusely showed the relationship between stigma and adverse physical and psychological outcomes. High levels of HIV stigma have been associated with less involvement in HIV counseling, delayed healthcare seeking, lower treatment adherence, faster disease progression, higher depression and anxiety, and lower satisfaction with life (Bharat, 2011; Leserman, 2008; Pellowski, Kalichman, Matthews, & Adler, 2013; Phillips, Moneyham, & Tavakoli, 2011; Prachakul, Grant, & Keltner, 2007; Rao et al., 2012; Rao, Kekwaletswe, Hosek, Martinez, & Rodriguez, 2007; Sayles, Wong, Kinsler, Martins, & Cunningham, 2009; Vyavaharkar et al., 2010). In addition, sometimes individuals internalize the shame, blame, hopelessness, guilt, and fear of discrimination associated with being HIV-positive, thus stigmatizing themselves (Brouard & Wills, 2006; Gohain & Halliday, 2014). This is known as self-stigma or internalized stigma and it seems to be an especially important contributor to the prediction of anxiety and depression (R. S. Lee et al., 2002).

Social stigma and fear of HIV disclosure are indeed key challenges for people living with HIV (Clucas et al., 2011; Hatzenbuehler, Phelan, & Link, 2013; Teva et al., 2005). HIV stigma constitutes an additional source of stress leading to decreased levels of social support (Gohain & Halliday, 2014; Su et al., 2013)—the willingness to disclose one's positive

serostatus is reduced by the fear of rejection and persecution (Herek, 1999), which increases the social isolation of HIV-positive individuals and prevents them from receiving social support. Furthermore, stigma has an influence on coping behaviours, increasing the use of maladaptive coping strategies such as rumination and suppression (Hatzenbuehler et al., 2013).

We mentioned above the important role that perceived stress, coping, and social support play in relation to psychological outcomes. This also holds true for the specific case of adults living with HIV (Gohain & Halliday, 2014), where coping and social support can be key determinants of stress management, health prognosis, and quality of life. Therefore, as a central aspect of HIV infection that affects such important variables, stigma will be a central element of this doctoral thesis and will be studied not only in relation to anxiety and depression but also to resilience and PTG.

1.6.4. Research on resilience and PTG among people living with HIV

Given the tremendous burden that HIV and related mental health disorders represent for people living with HIV—greater than for other medical conditions such as cancer (Edo & Ballester, 2006)—it is crucial to identify pathways to positive psychological outcomes such as resilience and PTG. Both of these have been explored in the context of illness to date but only to a certain extent. By a long way, the illness in which resilience and PTG have been more explored in the context of health psychology is cancer, which has received the greatest attention both in resilience studies (Moskowitz, 2010) and PTG research (Helgeson & Lopez, 2010; Helgeson et al., 2006). Conversely, resilience and PTG in HIV-positive individuals have been generally less studied.

Regarding resilience, there is a growing body of literature examining strengths and resources in adults living with HIV, but there is still very little information on the subject (De Santis et al., 2013), especially on resilience as an outcome. Most research on the topic has been of qualitative nature and, paralleling the rest of the resilience literature, a wide variety of

conceptualizations have been used, sometimes conflating resilience with regular recovery or PTG (e.g., De Santis et al., 2013; Westphal & Bonanno, 2007). For instance, resilience in people living with HIV has been evaluated as an absence of mood disorders (Rabkin, Remien, Katoff, & Williams, 1993) or PTSD (Hooberman, Rosenfeld, Rasmussen, & Keller, 2010), rather than as an outcome involving positive adaptation and which can be directly measured. Resilience has also failed to be defined, being deduced in qualitative studies by the interviewer under unknown criteria (Bletzer, 2007), and also inferred from focus groups (Poindexter & Shippy, 2008) and narratives (Siegel & Meyer, 1999).

Furthermore, a study which summarised the works carried out to that date regarding resilience and HIV (De Santis, 2008) found eight other studies, all of them with different definitions of resilience and none of which made reference to the time dimension, which differentiates resilience from normal recovery (Bonanno, 2005b). The definitions were disparate and somewhat vague, from “adaptation” to “coping”, “success in life”, “protection from risk factors”, “strengthening and empowerment”, “period of uncertainty”, and “moving forward”. Some studies have also examined resilience as a set of protective factors (Fumaz et al., 2015; Hooberman et al., 2010) and a review of resilience in the physically ill (which included HIV-infected individuals) also used a broad concept of resilience that included hardiness, PTG, positive adaptation, and adaptive behaviour (Stewart & Yuen, 2011). All this confusion evidences the need that researchers adopt and operationalize specific definitions of resilience based on previous literature on psychological resilience. Moreover, resilience should also be studied from the perspective of the persons living with HIV and not only be based on researcher perceptions (De Santis, 2008).

Concerning PTG, studies have focused on examining the prevalence of growth following adversity and its implications for psychological and physical well-being (Helgeson et al., 2006; Milam, 2004; Sawyer, Ayers, & Field, 2010; Willie et al., 2016). Much less

research has been dedicated to investigate the origins of PTG (Helgeson & Lopez, 2010), specifically in the context of HIV diagnosis, where PTG seems to be a reality (Milam, 2004; Murphy & Hevey, 2013; Sawyer et al., 2010).

As mentioned, PTG has been far less studied in this population than in cancer patients, and while some studies have explored the possibility of PTG in the HIV context (Littlewood, Vanable, Carey, & Blair, 2008; Luszczynska, Sarkar, & Knoll, 2007; Siegel & Schrimshaw, 2007; Siegel, Schrimshaw, & Pretter, 2005; Updegraff, Taylor, Kemeny, & Wyatt, 2002), they have generally used either qualitative interviews or a wide variety of PTG instruments (Helgeson & Lopez, 2010), making results difficult to compare. Unlike resilience, PTG has indeed been studied as an outcome and also from the perspective of the person experiencing the threatening event. Nevertheless, it does seem necessary to add further evidence with regard to PTG in HIV-positive individuals, in general, and concerning the factors that can contribute to predict PTG in this population, in particular.

Furthermore, as we previously stated, the associations between resilience and PTG are unclear in literature (Westphal & Bonanno, 2007) and in addition resilience has usually been measured as the availability of protective factors (Windle et al., 2011). Also, scant information is available regarding the relationships among positive and negative post-trauma outcomes (Scali et al., 2012). Thus this thesis will explore this matters in the context of HIV diagnosis.

1.6.5. Diagnosis as the inflection point: the context of this thesis.

In adulthood, traumatic events are usually isolated and of relatively brief duration; the individual thus typically experiences the event in the context of otherwise normal circumstances (Bonanno, 2004, 2005a). That is the case of the receipt of a positive HIV diagnosis. Diagnosis constitutes a crucial point for studying resilience and other post-trauma outcomes, since it “is generally the point at which the cascade of stressors associated with chronic illness begins to build” (Moskowitz, 2010, p. 465). In the particular case of HIV, the

period immediately following the receipt of diagnosis is characterized by increases in symptoms of depression and anxiety (Moskowitz, 2010).

What is more, there is broad consensus that it is far more prudent to encourage the development of resilience outcomes rather than treating already developed disorders (Luthar, 2006). Also, knowledge about what factors are associated with resilience in specific threatening circumstances can be critical in pointing to the particular aspects that need attention in the context of particular types of adversity (Luthar, 2006). It is thus of paramount importance to detect individuals with a high risk of developing negative outcomes in the aftermath of an aversive event. This way, adequate preventive interventions can be implemented to foster the achievement of a resilience outcome in the particular adverse situation.

In line with the above, we decided to longitudinally study both positive (resilience and PTG) and negative (anxiety and depression) post-trauma outcomes following the diagnosis of HIV. Our aim is to detect early factors associated with later negative outcomes, so that individuals at high risk may be identified, and to detect factors associated with resilience and PTG, so that these positive outcomes can be promoted instead. The following section will explain the different parts of this dissertation and the specific objectives associated with each of them.

1.7. ORGANIZATION OF THIS DOCTORAL DISSERTATION

This doctoral thesis includes 11 articles which are organized in three sets of studies. These correspond to Parts 2, 3, and 4, respectively. We will now introduce each of these sections and their corresponding research articles, as well as the remaining final section.

1.7.1. Part 2: Assessment and predictors of resilience

The second part of this thesis is entitled “Assessment and predictors of resilience” and it has three main objectives: 1) to adapt and develop Spanish-language measures to assess resilience outcomes in diverse populations, 2) to develop a Spanish-language measure to assess

factors related to resilience (i.e., coping), and 3) to explore the degree to which different clinical and non-clinical populations use different coping strategies and how these relate to higher or lower degrees of resilience outcomes. This section consists of four studies, of which the first three were also the starting point of the dissertation of Rocío Rodríguez Rey:

1. **Reliability and validity of the Brief Resilience Scale (BRS) Spanish version.** This study aims to adapt the Brief Resilience Scale to Spanish language and to ascertain its reliability and validity by examining its relationships with other resilience measures and related constructs and by analyzing the sensitivity of its scores.
2. **Development and validation of the Situated Subjective Resilience Questionnaire for Adults (SSRQA).** This study deals with the development of a resilience outcomes measure which takes into account both personal and situational aspects by considering five different adverse contexts. It examines the reliability and the structural, convergent, and discriminant validity of the measure.
3. **Coping assessment from the perspective of the person-situation interaction: Development and validation of the Situated Coping Questionnaire for Adults (SCQA).** The purpose of this study is to develop a coping questionnaire designed to take into account both individual and situational aspects by considering five different adverse contexts. It studies the reliability of the measure and its structural and criterion validity.
4. **Differences in the use of coping strategies in high- and low-resilience individuals: A comparison among people living with HIV, cancer patients, parents of children with cancer, and the general population.** The main objective of this article is to study the associations between coping strategies and resilience outcomes and to explore if these associations are different among different clinical and non-clinical populations.

Two other research papers were developed in the context of this section. They have not been included in this dissertation as they were not as relevant for the remaining two parts. The titles of these two papers are “Personality factors underlying resilience: Development and validation of the Resiliency Questionnaire for Adults” and “Prediction of subjective resilience from coping strategies and protective personality factors”. Both of them were also included in Rocío Rodríguez Rey’s doctoral dissertation.

1.7.2. Part 3: Solving assessment problems for research with Spanish-speaking HIV-positive populations

The third section of this thesis receives the title of “Solving assessment problems for research with Spanish-speaking HIV-positive populations”. It has three core objectives, namely: 1) to develop a HIV stigma measure in Spanish language, 2) to adapt an existing coping assessment instrument to this population, and 3) to validate the Posttraumatic Growth Inventory in this population. Paralleling these objectives, this section is composed of the following three studies:

5. **Internalized HIV stigma and disclosure concerns: Development and validation of two scales in Spanish-speaking populations.** The objective of this study is to develop two scales related to HIV stigma in Spanish language—an internalized stigma scale and a disclosure concerns one—and to ascertain the reliability and validity of their scores.
6. **Situated coping questionnaire for adults: Validation of a short form in HIV+ Spanish-speaking adults from a Bayesian approach.** The purpose of this study is to shorten the SCQA and to validate the short form in a sample of HIV+ individuals, studying its reliability and structural validity from the novel Bayesian approach and examining its relationships to related psychological constructs (e.g., resilience, degree of disclosure).

7. **Posttraumatic Growth Inventory: Factor Structure in Spanish-Speaking People Living with HIV.** This study aims to examine the scores of the Posttraumatic Growth Inventory in Spanish-speaking HIV+ individuals and to provide researchers and clinicians with a factor structure of this tool which can guide understanding and interpretation of this construct in this particular population.

1.7.3. Part 4: Resilience, posttraumatic growth, anxiety, and depression in people living with HIV

The fourth section of this dissertation is entitled “Resilience, posttraumatic growth, anxiety, and depression in people living with HIV” and its main objective is to examine positive and negative mental health outcomes following HIV diagnosis (i.e., resilience, PTG, anxiety, and depression), how they are associated with one another, and how they are related to and can be predicted from perceived past resilience and other relevant psychological variables (e.g., internalized stigma, coping strategies, social support). Four studies form this last section, whose objectives are described below:

8. **Associations among resilience, posttraumatic growth, anxiety, and depression and their prediction from stress in newly diagnosed people living with HIV.** The purposes of this piece of research were twofold: 1) to study the relationships among anxiety, depression, resilience, and posttraumatic growth in newly diagnosed people living with HIV and 2) to examine how peri-diagnosis-perceived stress might explain their later development.
9. **Predictors of resilience and posttraumatic growth among people living with HIV: A longitudinal study.** This study seeks to longitudinally investigate the role that perceived past resilience, internalized stigma, and coping strategies play in the prediction of positive mental health outcomes—resilience and PTG—after HIV diagnosis.

10. **Predictors of anxiety and depression among newly diagnosed people living with HIV: A longitudinal study.** The objective of this study is to longitudinally investigate the role that perceived past resilience, internalized stigma, and coping play in the prediction of negative mental health outcomes—anxiety and depression—after HIV diagnosis.
11. **Social support in newly diagnosed people living with HIV: Expectations and satisfaction along time, predictors, and mental health correlates.** This study investigates 1) how social support arising from several sources (i.e., partners, family, friends, work-related people and healthcare providers) evolves following HIV diagnosis, 2) what variables can predict it (i.e., internalized stigma, disclosure concerns, coping, disclosure), and 3) its relationship with anxiety, depression, resilience, and PTG.

1.7.4. Parts 5 and 6: General Discussion

The fifth and sixth parts of this dissertation are entitled “General discussion”. These sections aim to describe the main findings of the abovementioned studies and to examine the links among them, as well as identifying the general limitations and implications of this thesis and describing future lines of research. This section will appear in both English (Part 5) and Spanish (Part 6).

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Part 2

Assessment and Predictors of Resilience

2.1. RELIABILITY AND VALIDITY OF THE BRIEF RESILIENCE SCALE (BRS) SPANISH VERSION

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2.1.1. Abstract

Resilience is defined as the ability to recover from stress. However, all resilience measures with exception of the Brief Resilience Scale (BRS) assess resources that make resilience possible instead of recovery. The purpose of this study was to translate the BRS to Spanish and to analyze the reliability and validity of its scores. The psychometric properties of its scores were examined in a heterogeneous sample of 620 Spanish adults. Confirmatory factor analyses were carried out to study its scores' evidence of structural validity. Besides, to study its scores' evidence of convergent, discriminant, and predictive validity in relation to other resilience questionnaires (Connor Davidson Resilience Scale 10-item version, Situated Subjective Resilience Questionnaire for Adults and Resiliency Questionnaire for Adults) and to variables such as emotions (Modified Differential Emotions Scale), coping (Situated Coping Questionnaire for Adults), anxiety and depression (Hospital Anxiety and Depression Scale), posttraumatic growth (Posttraumatic Growth Inventory), perceived stress (Perceived Stress Scale), and posttraumatic stress (Davidson Trauma Scale), correlation and regression analyses were conducted. To study its sensitivity, we assessed the effect of sociodemographics and the ability of the scale to identify high-risk populations by conducting analyses of variance and Pearson correlations. The BRS scores showed adequate reliability ($\alpha = .83$; intraclass coefficient = .69). Confirmatory factor analyses showed that the Spanish version of the BRS is mono-factorial ($\chi^2/df = 2.36$; standardized root mean square residual = .036; goodness-of-fit index = .980; comparative fit index = .984; incremental fit index = .984; root mean square error of approximation = .067). They also showed adequate evidence of the scores' convergent, concurrent, and predictive validity. The Spanish version of the BRS is a reliable and valid means to assess resilience as the ability to bounce back.

Keywords: resilience assessment, coping, Brief Resilience Scale, adults, stress

2.1.2. Introduction

Resilience has been defined in many different ways, but it originally refers to positive adaptation or recovery despite experiences of significant adversity, that is, despite life situations that usually produce maladjustment (Luthar, 2006). Thus, resilience refers to the ability to face stressful circumstances functioning above the norm (Tusaie & Dyer, 2004). However, as a recent systematic review on resilience scales has revealed, most of resilience measures assess the availability of protective factors that facilitate resistance to psychopathology (Windle, Bennett, & Noyes, 2011). That is the case of the well-known resilience measures Connor Davidson Resilience Scale (Connor & Davidson, 2003) and the Resiliency Scales (Prince-Embury, 2007). Both of them are aimed to assess personal characteristics such as optimism or self-efficacy that enhance individual adaptation, instead of the ability to bounce back itself.

The Brief Resilience Scale (BRS), developed by Smith et al. (2008), was the only measure included in the aforementioned systematic review whose aim was assessing individuals' ability to recover from stressful circumstances. The BRS has also been translated to Dutch (Leontjevas, de Beek, Lataster, & Jacobs, 2014), its scores showing adequate reliability ($\alpha = .83$; Intraclass Correlation Coefficient [ICC] = .94), and to Malaysian (Amat, Subhan, Jaafar, Mahmud, & Johari, 2014), with adequate psychometric properties as well ($\alpha = .93$).

As the authors of the original scale noted, this ability to bounce back may be particularly important for people who are already dealing with stressful life events, such as health-related problems. This being so, they included in their sample—apart from undergraduate students—cardiac rehabilitation patients and women with and without fibromyalgia, finding a greater degree of resilience in women without fibromyalgia compared to those with fibromyalgia.

Nonetheless, in a later work Smith, Tooley, Christopher, and Kay (2010) did not include in their sample individuals in a health condition.

As for the translations, the sample in Leontjevas et al.'s study (2014) was mostly composed of older women in rehabilitation in a nursing home, and most of them were taking medication for pain and scored high on the Hospital Anxiety and Depression Scale (Zigmond & Snaith, 1983). The Malaysian translation study (Amat et al., 2014), however, was carried out with undergraduate students. Based on the fact that in the original study the resilience assessed through the BRS was higher in patients without fibromyalgia than in patients with this condition, we may hypothesize that groups under higher levels of stress would score lower on the BRS. However, as the remaining studies have only included healthy or unhealthy individuals, the BRS has not been systematically tested in heterogeneous samples under different levels of stress. It is not clear, then, whether there is any relation between degree of stress due to the situation and resilience scores and what its nature could be. Consequently, it seems necessary to compare the resilience scores of different groups who face different health-related stressors.

Some of the aforementioned studies also addressed gender and age differences in resilience. In the original study (Smith et al., 2008), male cardiac patients showed more resilience than female ones, but no difference was found in the undergraduate students subsample. Smith et al. (2010) also reported no difference in their sample of undergraduate students, suggesting a lack of clarity on this matter. Regarding age, it was found to correlate with higher resilience (Smith et al., 2010), but no other research using the BRS has provided data in this respect.

With regard to the availability of resilience measures in the Spanish language, it is noteworthy that, of the three measures included in the review by Windle et al. (2011), only one of them is currently available in such language. It is the Connor-Davidson Resilience Scale 10-

item version, validated both in undergraduate students (Notario-Pacheco et al., 2011) and fibromyalgia patients (Notario-Pacheco et al., 2014). However, this measure, as it has previously been stated, does not measure resilience itself but protective factors for resilience. Thus, there is no measure of resilience understood as the ability to bounce back for the general Spanish population or for Spanish individuals in health conditions.

That is why, as the BRS has proven to be the only available scale for actually measuring resilience in its original meaning, and since the Spanish psychological community lacks such a kind of resilience measure, the objective of the present study was to adapt the BRS to Spanish language. We aimed as well to ascertain the psychometric properties of its scores in a heterogeneous sample (healthy individuals and individuals facing a health-related stressor). The translation and the first attempt of validation of this measure in Spanish language would provide the Spanish psychological and health communities with a tool for research and clinical practice, as well as would continue to provide the scientific community with data on the psychometric properties of this measure's scores in different languages, cultures, and health-related samples.

2.1.3. Methods

Participants

The psychometric properties of the Spanish version of the BRS were examined in a sample of 620 adults: parents of children admitted on intensive care ($n = 196$), parents of oncology outpatient children ($n = 62$), parents of children with intellectual disabilities or development disorders ($n = 28$), oncology outpatients ($n = 22$), HIV-positive individuals who had been diagnosed more than three months ago ($n = 63$), and general population ($n = 249$).

We used this heterogeneous sample of Spanish adults in order to establish group comparisons in the level of resilience of people facing different specific health-related

stressors. As we expected that participants under higher levels of stress would score lower in resilience, we hypothesized that the higher resilience group would be the general population.

The sub-samples that we expected to show lower resilience were the parents of outpatient cancer children, the parents of critically ill children, and the oncology outpatients because all of them face a life-threatening condition for themselves or for their child. The fact that these three groups experience high stress has been reported by several studies (Balluffi et al., 2004; Farber, Weinerman, & Kuypers, 1985; Vrijmoet-Wiersma et al., 2008).

Regarding the HIV-positive individuals, research suggests that, whereas an HIV diagnosis increases stress, after 6 to 8 weeks individuals tend to return to a psychological status close to the one they had prior to diagnosis (Perry et al., 1990). This is why we expected that the level of resilience of this sample would be slightly lower than the resilience level of the general population, but higher than in the three sub-samples that have a higher degree of stress.

Regarding the sub-sample of parents of children with disabilities or developmental disorders, they have to face significant difficulties, so they experience more stress in comparison to parents of normally developing children (Peer & Hillman, 2014). However, as that situation does not imply an immediate threat to their child's life, we may expect that this group will show intermediate levels of resilience, that is, higher than the parents of outpatient oncology children and critically ill children and cancer patients, but lower than the general population.

Of the total sample, 67.4% were women and 32.6% were men. Regarding age, 32.7% of the sample was in the age interval between 31 and 40 years, 28.5% between 41 and 50 years, 26% between 20 and 30 years, 10.6% between 51 and 60 years, and 2.1% were above 60 years old. For the analysis of the BRS structure, the sample was randomly divided in two subgroups, one for the initial analysis and the other to be used for cross-validation. For the rest of analyses, different subsamples were used.

Instruments

- *Socio-demographics*: We assessed age, gender, marital and employment status, and education level in all samples.
- *Medical variables*: In the group of parents of critically ill children, we assessed the severity of the child's condition using the Paediatric Index of Mortality II (PIM2; Slater, Shann, & Pearson, 2003), whose scores had shown adequate psychometric properties. This rating index, which predicts mortality risk in the Pediatric Intensive Care Unit (PICU) during the first 24 hours of admission, was completed by one of the physicians who had treated every child during the PICU's hospitalization. It contains 10 questions regarding medical aspects of the child when admitted to the PICU (such as systolic blood pressure, pupillary reactions to bright light, or mechanical ventilation). A higher score indicates a higher mortality risk as assessed by the physician. As additional severity measures, parents were asked about length of admission, being the child on mechanical ventilation or not during admission, and being the admission elective or not. To assess parental perception of the child's severity, parents were asked the following questions: (a) "Did you think that your child could die at any point of his/her PICU's admission?" (yes/no) and (b) "How severe do you think that your child's condition has been during his/her hospitalization?" in a Likert scale response format ranging from 0 to 7.
- Spanish translation of the *Brief Resilience Scale* (BRS; Smith et al., 2008). This is a 6-item self-report scale with a 5-point response scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). A higher score indicates a higher degree of resilience. The English version scores load into one factor and showed good internal consistency (α ranging from .80 to .91) and test-retest reliability (ICC ranging from .61 to .69). Adequate convergent and discriminant evidence of the test's scores validity was also reported (Smith et al., 2008).

- *Connor Davidson Resilience Scale* 10-item version (10-item CD-RISC; Campbell-Sills & Stein, 2007; Connor & Davidson, 2003). This measure is composed of 10 items with five response options ranging from 0 (*never*) to 5 (*almost always*) and a direct scoring (the higher the score, the higher the resilience). The scores of the Spanish version showed adequate reliability when used in samples of university students ($\alpha = .85$; ICC = .71; Notario-Pacheco et al., 2011) and of fibromyalgia patients ($\alpha = .88$; ICC = .89; Notario-Pacheco et al., 2014) and in our sample ($\alpha = .88$).
- *Perceived Stress Scale* (PSS; Cohen, Kamarck, & Mermelstein, 1983). This is a 14-item questionnaire with a 5-point response scale ranging from 0 (*never*) to 5 (*very often*). A higher score indicates higher stress. The Spanish translation's scores demonstrated adequate reliability ($\alpha = .81$; test-retest, $r = .73$), concurrent evidence of validity, and sensitivity (Remor, 2006). They also showed good reliability in our sample ($\alpha = .84$).
- *Modified Differential Emotions Scale* (mDES; Fredrickson, Tugade, Waugh, & Larkin, 2003). This measure contains 10 items to assess positive emotions and 10 items to assess negative emotions, rated from 1 (*very slightly or not at all*) to 5 (*extremely*). Higher scores indicate greater levels of positive or negative emotions. The psychometric properties of the Spanish translation's scores (Páez, Bobowik, Carrera, & Bosco, 2011) are not available, but in the original scale, the internal consistency evidence of both the Positive ($\alpha = .79$) and the Negative emotions subscales ($\alpha = .79$) was acceptable, as well as in our sample ($\alpha = .82$ for both subscales).
- *Davidson Trauma Scale* (DTS; Davidson et al., 1997): This is a self-report measure that assesses the 17 *DSM-IV* symptoms of PTSD, with its 17 items being rated on 5-point frequency Likert scale ranging from 0 (*not at all*) to 4 (*every day*) and severity scales

ranging from 0 (*not at all distressing*) to 4 (*extremely distressing*). Higher scores indicate a higher degree of PTSD. Its Spanish adaptation's scores (Bobes et al., 2000) showed adequate reliability ($\alpha = .90$; ICC = .87), as they did in our sample ($\alpha = .96$).

- *Hospital Anxiety and Depression Scale* (HADS; Zigmond & Snaith, 1983). This is a 14-item, self-reporting screening scale that contains two 7-item Likert scales, one for anxiety and one for depression. It has a 4-point response format and higher scores indicate higher anxiety and depression. The scores of the Spanish version (Quintana et al., 2003) showed adequate test–retest reliability (presented correlation coefficients above .85), internal consistency ($\alpha = .86$ for both anxiety and depression), and concurrent evidence of validity. Cronbach's alpha in our sample was excellent ($\alpha = .90$).
- *Posttraumatic Growth Inventory* (PTGI; Tedeschi & Calhoun, 1996). This questionnaire contains 21 items with a 6-point rating scale to evaluate positive changes in the aftermath of crisis. Higher scores indicate higher post-traumatic growth. It was adapted to Spanish (Weiss & Berger, 2006) and first validated in a sample of Spanish oncology patients (Costa-Requena & Gil Moncayo, 2007). Reliability is high in both the scores of the English ($\alpha = .90$; test-retest $r = .71$) and the Spanish versions ($\alpha = .95$), as well as in our sample ($\alpha = .96$).
- *Situated Subjective Resilience Questionnaire for Adults* (SSRQA; Alonso-Tapia, Garrido-Hernansaiz, Rodríguez-Rey, Ruiz, & Nieto, 2016a). This is a 20-item scale based on a similar tool for adolescents (Alonso-Tapia, Nieto, & Ruíz, 2013). It considers five problem areas (work, close person relationships, own health, close person's health, and economy) and has a 5-point response format ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The higher the score is, the higher the degree of resilience. Its scores have shown good reliability for the whole scale ($\alpha = .90$) and subscales (α ranging

from .71 to .83) and acceptable validity. The score for the whole scale had also good reliability in our sample ($\alpha = .85$).

- *Situated Coping Questionnaire for Adults* (SCQA; Alonso-Tapia, Rodríguez-Rey, Garrido-Hernansaiz, Ruiz, & Nieto, 2016). This is a questionnaire that comprises 40 items that take into account eight different coping strategies—rumination, emotional expression, isolation, self-blame, help-seeking, solution-seeking, positive thinking, and thinking avoidance—divided in two factors—emotion-centered coping and problem-centered coping. All coping strategies are assessed across the same five problem areas of the SSRQA. The scale has a 5-point response scale format ranging from 1 (*never*) to 5 (*almost always*) and the same scoring direction as the SSRQA. Its scores have shown adequate reliability both in the original study ($\alpha = .79$ for the whole scale and α ranging from .71 to .88 for the coping strategies subscales) and in our sample ($\alpha = .78$).
- *Resiliency Questionnaire for Adults* (RQA; Alonso-Tapia, Garrido-Hernansaiz, Rodríguez-Rey, Ruiz, & Nieto, 2016b). This is a 36-item questionnaire with a 5-point response format ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) is based on the Resiliency Scales for Children and Adolescents (RSCA; Prince-Embury, 2007). We elaborated four items for each of the 10 subscales of the RSCA (Optimism, Self-Efficacy, Adaptability, Trust, Support, Comfort, Tolerance, Sensitivity, Recovery, and Impairment) except for the Recovery subscale. That was because from our point of view this scale assesses not a personality factor favoring resilience, but resilience itself. The 10 subscales load on three factors: sense of mastery, sense of relatedness, and emotional reactivity. Higher scores indicate a higher degree of resilient personality. Its scores showed an adequate reliability ($\alpha = .91$).

Not all the subsamples answered all the questionnaires. Figure 2.1 shows which subsamples completed each measure and at which time.

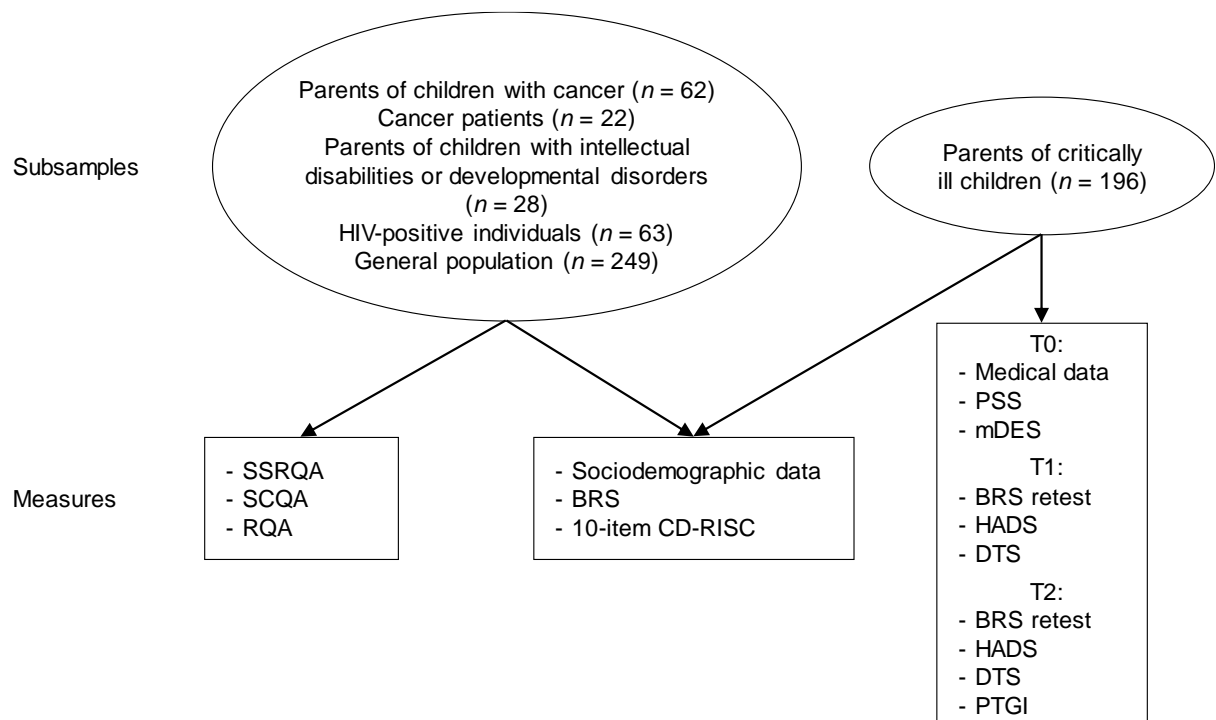


Figure 2.1. Measures completed by each subsample.

Note. Parents of critically ill children had three assessments: T0 (the first one), T1 (three months after T0) and T2 (six months after T0). n = number of individuals in each subsample. SSRQA = Situated Subjective Resilience Questionnaire for Adults. SCQA = Situated Coping Questionnaire for Adults. RQA = Resiliency Questionnaire for Adults. BRS = Brief Resilience Scale. 10-item CD-RISC = 10-item version Connor-Davidson Resilience Scale. PSS = Perceived Stress Scale. mDES = Modified Differential Emotions Scale. HADS = Hospital Anxiety and Depression Scale. DTS = Davidson Trauma Scale. PTGI = Posttraumatic Growth Inventory.

Procedure

A native English-speaking bilingual translator translated the BRS from English to Spanish. After that, two native Spanish-speaking bilingual psychologists revised this translation independently and agreed on a final common translation. Finally, this common version was back-translated (Spanish to English) by a different bilingual native Spanish-speaking psychologist to ensure the equivalence of the translation. The translation resulted in the Spanish version of the BRS, which was administered to the 620-adult sample above described with the aim of assessing its scores' psychometric properties.

The study was approved by two ethical committees (from the hospital where the sample of parents of critically ill children was collected and from the university).

All data were collected between January 2013 and March 2014.

Regarding data collection procedure, different subsamples were approached in different ways. With respect to the subsample of parents of critically ill children, a total of 300 parents admitted for > 12 h in a PICU were approached in the first 48 hr after their child's discharge from intensive care by a trained researcher in psychology. All parents were fully informed about the study and its purposes, potential risk and benefits, and confidentiality, and were asked to participate. Of them, 196 (65.33%) agreed to participate and completed the questionnaires in paper and pencil format. Reasons for not participating were not giving their consent (74.04%), not speaking Spanish (25%), and in one case suspect of maltreatment or negligence as the cause of the hospitalization of the child (0.96%).

Three months postdischarge they were contacted again by post, email, or telephone and were asked to complete the BRS retest and the other questionnaires for validation purposes. In this second measurement, 158 parents (80.61% of those who completed the first assessment) answered the questionnaires. Reasons for not continuing in the study were not sending back the questionnaires completed after one month of having recontacted each parent (42.11%), the explicit desire to leave the study (21.05%), inability of the researchers to contact them (e.g., they didn't answered the phone; 26.32%), death of the child (7.89%), and death of one participant (2.63%). Six months postdischarge they were contacted again and 143 parents replied the last set of questionnaires (90.5% of those who completed the second assessment). Reasons for not completing this last set of questionnaires were not sending back the questionnaires completed after one month of having recontacted each parent (80%) and inability to contact them (20%).

For data collection of the rest of clinical samples, the researchers contacted several different NGOs (for HIV-positive individuals, for adult cancer patients, for children with cancer and their families, and for parents for children with disabilities or developmental disorders and their families) and asked them to send to the potential sample an email that contained

information about the study and a link to the informed consent and the questionnaires. Those who received the email and decided to participate completed the questionnaires online. The sample of general population was recruited by email using a snowball approach in which students and colleagues were asked for collaboration to spread the questionnaire.

Statistical analyses

Descriptive statistics (mean, standard deviation, and range) were calculated for all variables. To determine the BRS factor structure, a confirmatory factor analysis (CFA) was conducted (see Figure 2.2). Wording half the items positively and the other half negatively serves to avoid the acquiescence bias (Cronbach, 1950) but, on the other hand, it generates the wording effect by which the items often form two factors even when the content of these items is consistent (Alonso-Tapia & Villasana, 2014; Marsh, 1996; Wu, 2008). Thus, we included two first-order factors in our model to account for this effect. Estimates were obtained using the maximum likelihood method after examining whether data were adequate for the analysis. To assess model fit, absolute fit indexes (χ^2 , χ^2/df , standardized root mean square residual [SRMR], goodness of fit index [GFI]), relative fit indexes (incremental fit index [IFI]), and noncentrality fit indexes (comparative fit index [CFI], root mean square error of approximation [RMSEA]) were used, as well as criteria for acceptance or rejection based on the degree of adjustment described by Hair, Black, Babin, and Anderson (2010).

Then, a multigroup confirmatory analysis was carried out in order to cross-validate the results of the previous analysis. The proposed theoretical model was used as a base for comparing without restrictions the equality of parameters between samples. Several theoretical models were compared to this one, in which for the different sets of parameters equality between groups prevailed. The relative fall in the goodness of fit was assessed by means of the difference in the chi-square statistic between the model with imposed restrictions and the model without them.

The reliability was examined in terms of internal consistency of the scores (evaluated by Cronbach's alpha) in all groups and test-retest reliability (examined by Pearson's correlation and ICC for absolute agreement) in the group of parents of critically ill children.

To address convergent and concurrent evidence of validity, correlations between BRS scores and CD-RISC, PSS, mDES, SSRQA, SCQA, and RQA scores were calculated. Predictive validity was assessed in the group of parents of critically ill children by calculating the correlations between BRS scores and HADS, DTS, and PTGI scores assessed at T1 and T2.

Sensitivity of the scale was assessed by two strategies. In the first place, we studied the effect of sociodemographic variables (age, gender, education level, and marital status) on BRS scores, to test whether the effect of these variables was in the same direction that had been found in previous studies. To do so, we conducted analyses of variance (ANOVAs) in which gender, age, education level, and marital status were the independent variables and BRS score the dependent variable.

The second strategy we used to test sensitivity was to address the ability of the scale to detect populations under different levels of health-related stress, which is supposed to be related to the degree of resilience (Smith et al., 2008). To do so, an ANOVA was first conducted using the total BRS score as the dependent variable and category—parents of children with cancer, parents of children with disabilities, parents of critically ill children, cancer patients, HIV-positive individuals, and general population—as the independent variable. We also examined the following aspects in the parents of critically ill children: a) the effect of the severity of the child's condition on BRS scores by calculating Pearson's correlation coefficients between the BRS and the PIM2, the length of admission, and the perceived severity, and b) the effect of mechanical ventilation and unexpected admission on BRS scores by conducting ANOVAs.

All analyses were carried out with SPSS v.21 package, except the CFA, which was conducted with AMOS v.21 package, and the ICC, calculated with R (R Core Team, 2014).

2.1.4. Results

Descriptive results of the resilience measures

The mean score of the BRS for the complete sample was 3.01 ($SD = .87$; range 1–5). For the 10-item CD-RISC it was 28.38 ($SD = 6.82$; range 0–40) and for the SSRQA it was 55.37 ($SD = 14.12$; range 23–100).

Factor structure

Figure 2.2 shows the standardized estimates of the confirmatory model and Table 2.1 the unstandardized estimates and the standard errors. All the estimated loadings were significant ($p < .001$). Regarding the fit statistics, chi-square statistic was significant, probably due to the size of the sample (Hair et al., 2010), but the ratio χ^2/df ($\chi^2/df = 2.36 < 5$), the SRMR ($.036 < .08$), the RMSEA ($.067 < .08$), the GFI ($.980 > .90$), the CFI ($.984 > .90$), and the IFI ($.984 > .90$) were well inside the limits that allow the model to be accepted. Thus, confirmatory factor analyses showed that the BRS scores are mono-factorial, although two first-order factors are presented in the model to account for the aforementioned wording effect.

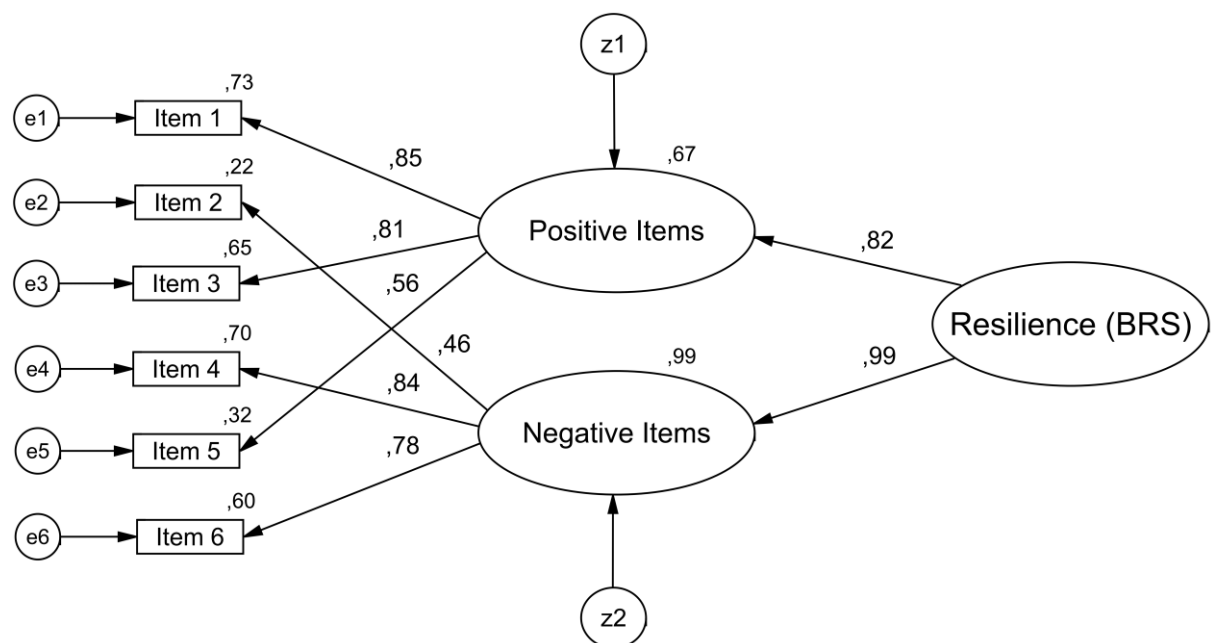


Figure 2.2. Factor analysis of the Brief Resilience Scale (BRS).

Table 2.1. Confirmatory Factor Analysis of the Factor Model.

Item	Unstandardized estimates	SE
BRS-positive items ← Resilience	1.000	
BRS-negative items ← Resilience	1.132***	.100
BRS-Item 1 ← BRS-positive items	1.000	
BRS-Item 3 ← BRS-positive items	0.969***	.067
BRS-Item 5 ← BRS-positive items	0.664***	.068
BRS-Item 2 ← BRS-negative items	0.533***	.071
BRS-Item 4 ← BRS-negative items	1.046***	.081
BRS-Item 6 ← BRS-negative items	1.000	

Note. Estimates represent the regression weights. BRS = Brief Resilience Scale. *SE* = Standardized Error.
*** $p < .001$.

Multi-group cross-validation analyses

To offer additional guarantees for the factor structure of the BRS scores, we conducted a multigroup cross-validation analysis using the two subsamples. Comparison statistics included in Table 2.2 show that fit is not significantly reduced even if restrictions on measurement weights, structural weights, structural covariances, structural residuals, and measurement residual are imposed. Therefore, it may be concluded that the model is well estimated and that it should not be rejected.

Reliability analyses

The BRS scores showed adequate internal consistency ($\alpha = .83$). Test-retest was conducted in the group of parents of critically ill children. Pearson's T0-T1 correlation was .636, T1-T2 was .755, and T0-T2 was .665 ($p < .001$ for all correlations). The ICC was calculated for the 143 parents that completed the three assessments and had a value of .69 (95% confidence interval = .62 to .76).

Table 2.2. BRS Cross Validation of the Model Using Multi-group Analyses With Two Samples.

Model	<i>df</i>	χ^2	<i>p</i>
Measurement weights	4	1,730	.785
Structural weights	5	1,732	.885
Structural covariances	6	2,200	.900
Structural residuals	7	2,364	.937
Measurement residuals	13	11,875	.538

Note. Table shows the Chi-square differences for model comparison against the unconstrained multi-sample model. *Df*= degrees of freedom. *p* = level of significance.

Convergent and concurrent validity

Correlations between the BRS scores and the rest of related measures are included on Table 2.3. The correlation was positive and significant ($p < .001$) with other resilience measures, positive emotions, problem centered coping, sense of mastery, sense of relatedness, and emotional reactivity, and negative with stress, negative emotions, and emotion centered coping. Thus, we can conclude that the questionnaire has adequate convergent and concurrent evidence of validity.

Predictive validity

Correlations between the BRS score and anxiety, depression, and PTSD assessed 3 and 6 months after discharge are presented in Table 2.4. All of them are significant at $p < .001$ and negative, so we can conclude that the BRS scores have adequate predictive evidence of validity, as they predict recovery from an important life stressor. Regarding positive outcomes, their relation to the BRS scores have remained unexplored so far despite the fact that Smith et al. (2008) suggested the necessity of examining it. We explored it and found no significant correlation between the BRS scores and posttraumatic growth 6 months after a child's discharge from intensive care.

Table 2.3. Convergent and Concurrent Evidence of Validity of the Brief Resilience Scale.

Measure	<i>n</i>	Pearson's correlation with BRS
10-item CD-RISC	620	.560**
SSRQA Total score	424	.723**
SSRQA Work problems	424	.608**
SSRQA Economic problems	424	.466**
SSRQA Health related problems	424	.528**
SSRQA Close person's health problems	424	.550**
SSRQA Relationships problems	424	.583**
PSS	196	-.538**
mDES Positive Emotions	196	.359**
mDES Negative Emotions	196	-.417**
SCQA Emotion-centered coping	424	-.514**
SCQA Problem-centered coping	424	.305**
RQA Sense of Mastery	424	.604**
RQA Sense of Relatedness	424	.367**
RQA Emotional Reactivity	424	.552**

Note. 10-item CD-RISC = 10-item version Connor-Davidson Resilience Scale. SSRQA = Situated Subjective Resilience Questionnaire for Adults. PSS = Perceived Stress Scale. mDES = Modified Differential Emotions Scale. SCQA = Situated Coping Questionnaire for Adults. RQA = Resiliency Questionnaire for Adults. BRS = Brief Resilience Scale. *n* = number of participants that completed each measure.

** $p < .01$.

Sensitivity of the scale to gender and age effects

Regarding gender differences, men had a significant higher level of resilience ($M = 19.02$; $SD = 5.26$) than women ($M = 17.63$; $SD = 5.16$) in our study, as the ANOVA showed ($F = 9.85$; $p = .002$). Similarly to gender differences, ANOVA showed significant differences between age groups ($F = 2.308$; $p = .05$). As DMS test in Table 2.5 shows, mean differences were significant between the age group 20–30 ($M = 17.10$) and the age groups 31–40 ($M = 18.52$), 41–50 ($M = 18.27$) and > 60 ($M = 18.08$), so that the younger group showed a lower level of resilience than the rest.

Table 2.4. Predictive Validity of the Brief Resilience Scale.

Measure	<i>n</i>	BRS
HADS (3 months)	158	-.548**
HADS-A (3 months)	158	-.506**
HADS-D (3 months)	158	-.517**
DTS (3 months)	158	-.519**
HADS (6 months)	143	-.441**
HADS-A (6 months)	143	-.393**
HADS-D (6 months)	143	-.454**
DTS (6 months)	143	-.371**
PTGI (6 months)	143	-.092

Note. HADS = Hospital Anxiety and Depression Scale. HADS-A = Hospital Anxiety and Depression Scale, Subscale Anxiety. HADS-D = Hospital Anxiety and Depression Scale, Subscale Depression. DTS = Davidson Trauma Scale. PTGI = Posttraumatic Growth Inventory. BRS = Brief Resilience Scale. *n* = number of individuals that completed each measure.

** $p < .01$ level.

Table 2.5. Differences in BRS by Age: ANOVA & DMS Test.

Age (I)	Age (J)	Mean differences (I-J)	<i>p</i>	95% CI	
				<i>LL</i>	<i>UL</i>
20-30	31-40	-1.421*	.010	-2.501	-.341
	41-50	-1.131*	.047	-2.246	-.017
	51-60	-1.167	.126	-2.662	.328
	>60	-3.048*	.043	-5.998	-.097
31-40	41-50	.2898	.589	-.762	1.342
	51-60	.2543	.731	-1.195	1.704
	>60	-1.626	.276	-4.554	1.301
41-50	51-60	-.035	.962	-1.511	1.440
	>60	-1.916	.201	-4.857	1.024
51-60	>60	-1.881	.235	-4.986	1.224

Note. *p* = level of significance. CI = Confidence Interval. *LL* = lower limit. *UL* = upper limit.

* $p < .05$.

Sensitivity of the scale to educational level, marital status and work status.

Regarding educational level, we expected that it would be related to higher resilience (Frankenberg, Sikoki, Sumantri, Suriastini, & Thomas, 2013), although no data about the relation between marital and work status and self-reported resilience have been reported. ANOVAs showed that only the effect of the educational level was significant ($F = 3.85$; $p = .022$). DMS test showed that the BRS scores were significantly different only between the primary education group ($M = 16.61$) and the university education group ($M = 18.48$; $p = .008$).

Sensitivity of the scale to detect high-risk populations

Accordingly to Smith et al.'s results (Smith et al., 2008), we hypothesized that groups under higher levels of stress would score lower on resilience. Following this, we predicted that the group scoring higher would be the general population and the groups scoring lower would be cancer patients, parents of children with cancer, and parents of critically ill children. ANOVA and DMS test showed that differences in the level of resilience were only significant between parents of critically ill children who showed the highest degree of resilience ($M = 18.76$) and parents of children with cancer who showed the lowest degree of resilience ($M = 16.54$; $p = .004$).

In the group of parents of critically ill children, we expected that a higher severity of the child's condition would be related to lower levels of resilience, as the situation they face is more stressful. Results showed that none of the severity indices assessed (PIM2, length of admission, elective vs. emergency admission, mechanical ventilation, and parental perceived severity) had any relation to the BRS score.

2.1.5. Discussion

The purpose of the current study was to ascertain the psychometric properties of the scores of the Spanish BRS in a heterogeneous sample of the Spanish population. Our study suggests that the Spanish version of the scale showed adequate psychometric properties in terms of reliability, validity, and sensitivity of its scores.

Regarding reliability, it was found that the BRS scores demonstrated good internal consistency and test–retest reliability, with similar values to those obtained in the English version (Smith et al., 2008). In that sense, it is noteworthy that the calculations for the test–retest reliability in our sample took into account three measurements separated by periods of 3 months, and yet the resulting value is equal to the higher value obtained in the original work, which corresponded to a retest after just one month.

With respect to the factorial construct evidence of validity, our data—obtained through confirmatory factor analyses—clearly supported the mono-factorial structure previously found. Furthermore, our analyses to test concurrent and convergent evidence of validity showed that the BRS scores are significantly related to those questionnaires measuring similar constructs. In this respect, it should be mentioned that the highest correlation was with the SSRQA, which, like the BRS and unlike other measures (such as the 10-item CD-RISC and the RQA), was designed to measure resilience as the ability to bounce back and not as the presence of protective factors. Our work has also provided information about the predictive evidence of validity of the BRS, showing that resilience scores can predict a better or worse health outcome in terms of anxiety, depression, and posttraumatic stress.

Regarding sensitivity analyses, in our sample, higher BRS scores appear to be related to male gender, older age, higher educational level, and type of adverse situation. With respect to age and gender, the BRS original study found no gender differences in undergraduate students, but male cardiac patients showed a greater resilience (Smith et al., 2008). Also, Smith et al.

(2010) found a weak correlation between being male and having a higher BRS score and also a weak positive correlation between resilience and age. Moreover, previous general resilience literature (not necessarily measured with the BRS) has yielded mixed results regarding the effects of gender and age in resilience and a recent meta-analysis has found no robust result on this matter (Lee et al., 2013). This lack of clarity is likely to be due to the small homogenous samples used in the different studies (Lee et al., 2013). It could be, then, that our results just add up to that controversy without providing further clarity. Nonetheless, our sample was not small and homogenous, as was the case of the studies included in the aforementioned meta-analysis, thus it could also be that our results point in a direction that must be explored in future research. However, for the moment our results regarding sensitivity of the scale to detect gender and age effects should be treated with caution, since there are no previous conclusive data that support them.

As for the educational differences, they were only found between the primary education group and the university level group as expected, which provides some evidence about the sensitivity of the BRS scores. This fact would speak in favor of educational policies that foster higher levels of education, as those are related to a higher degree of resilience (Frankenberg et al., 2013).

Regarding the sensitivity of the scale to detect high-risk group differences, these differences were found only between two high-risk groups, in the sense that parents of critically ill children reported significantly higher resilience than cancer patients, although no differences were found among the rest of subsamples. These data do not support our hypothesis that populations under a higher level of health-related stress would score lower in resilience. Furthermore, in the parents of critically ill children, severity of the child's condition was not related to resilience as hypothesized. As only one study (Smith et al., 2008) had previously explored differences among healthy individuals and individuals with health related conditions

and none had included stressors related to having a child with an illness or a disability, the relation between the degree of stress produced by the health-related stressors and the degree of resilience that people report should be further explored. Thus, our data about the sensitivity of the scale scores to detect high-risk populations are not conclusive.

The lack of conclusiveness about the sensitivity of the scale deserves additional consideration. We are aware that our hypotheses about the expected resilience levels in each group were based on the idea that people under higher stress levels would score lower in resilience, as has been suggested in previous research (Smith et al., 2008). Consequently, we expected that participants facing health-related conditions related to higher stress levels in literature would score lower in resilience, while groups under lower stress would score higher in resilience. However, it is possible that the relation between stress and resilience is more complex, as it may be influenced by many other factors such as the kind of coping strategies a person uses (Alonso-Tapia, Garrido-Hernansaiz, et al., 2016a; Alonso-Tapia, Rodríguez-Rey, et al., 2016; Villasana, Alonso-Tapia, & Ruiz, 2016). Thus, the inability of the Spanish version of the BRS to identify populations under higher or lower stress may depend more on the lack of clarity about the relation between stress level and resilience level than on a lack of sensitivity of this scale. Consequently, sensitivity data does not invalidate the potential usefulness of the BRS as an instrument for detecting the specific degree of resilience of each particular person and its stability or variation along time. Moreover, our study suggests that the relation between stress severity and resilience should be further explored.

Our study has several clinical implications. First, it provides the Spanish population with the adaptation of the only measure that specifically assesses resilience in its original meaning and not as protective factors (Smith et al., 2008; Windle et al., 2011). This scale, as it has been validated in a heterogeneous sample, can be used in clinical settings to assess resilience in both individuals with and without a health-related stressor, though further evidence of validity in

other samples is still required. Our research has also contributed knowledge to the resilience studies by showing that the measurement of subjective resilience is able to predict the development of adverse psychological reactions months after a traumatic event. This is of paramount importance to the field of Health Psychology because the BRS can also be used in the clinical practice to detect individuals at high risk of developing a psychopathological reaction after a potentially traumatic event. If we were able to detect these individuals, we could implement preventive psychological interventions. Finally, because the sample used for the BRS validation is heterogeneous and include both healthy adults and adults under a health-related stressor, we hypothesize that data from future representative samples of the general population would not differ significantly from those reported above.

To conclude, our study also presents some limitations. It could be claimed that participant recruitment possibly resulted in only those highly motivated fulfilling the scales. This may imply a bias in our results, since it could be that the most motivated are at the same time the most resilient. Also, in spite of the fact that we tried to include in our study a variety of subsamples, some of them—particularly the cancer patients and the parents of children with disabilities or development disorders—are small. We recommend bigger subsamples for future research, which will allow better comparisons among groups and the development of normative studies which provide data specific to each type of population for the use of the scale in clinical settings.

In conclusion, the Spanish BRS is a reliable means of assessing resilience both for clinical and research purposes and in a variety of different samples. So, not only the quality of the translation, but also the quality of the psychometric properties of its scores based on a large heterogeneous sample makes this version preferable to other resilience scales that are currently available in Spanish. Besides these reasons, it is necessary to remember that the BRS is the only widely used scale that measures resilience as the ability to bounce back instead of as the factors contributing to it (Windle et al., 2011).

2.1.6. References

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2.2. DEVELOPMENT AND VALIDATION OF THE SITUATED SUBJECTIVE RESILIENCE QUESTIONNAIRE FOR ADULTS

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2.2.1. Abstract

Although resilience varies depending on the adverse situation faced by the individual, to date resilience questionnaires do not consider its situational character. This study aims to develop and validate the *Situated Subjective Resilience Questionnaire for Adults* (SSRQA), which assesses resilience in five different adverse contexts. A total of 584 Spanish adults completed the SSRQA, the Brief Resilience Scale, the 10-item Connor-Davidson Resilience scale, and measures of optimism and self-efficacy. A final sample of 348 was used in the analyses. Confirmatory factor analysis results showed that the SSRQA structure fits the situational model well and better than the non-situational version. The general scale and the situational subscales were shown to be reliable, and all were significantly and positively correlated with other resilience measures and, to a lower degree, with personality measures of optimism and self-efficacy. Degree of exposure to each adverse situation was negatively correlated with resilience in the face of that situation, supporting a vulnerability to stress model. The SSRQA has been demonstrated to be a reliable and valid situated measure for resilience towards different adverse contexts.

Keywords: resilience assessment; contextual assessment; person-situation interaction; structural equation modelling; exposure to adversity

2.2.2. Introduction

People face different kinds of adverse situations during their lives. However, not all of them develop maladjustment; some are able to achieve positive adaptation following experiences of significant adversity. Those people are said to show resilience. Luthar's review (2006) showed that it is usual for individuals exposed to different adversities to develop positive adaptation. Research on resilience could provide ways to help people achieve resilient outcomes. However, the diversity of conceptualizations and some methodological problems (e.g., Luthar, Cicchetti, & Becker, 2000) make progress difficult.

Accordingly to Luthar (2006) and Leipold and Greve (2009), we understand resilience as the phenomenon of bouncing back after a significant adversity. Therefore, to measure resilience, it is necessary to measure the phenomenon itself, that is, the degree of positive adaptation reached after significant adversity. Moreover, resilience is not an "all or none" concept, since people can demonstrate varying degrees of resilience towards different kinds of adversities (Luthar, 2006; Reaching IN... Reaching OUT, 2010). For this reason, researchers should be able to assess resilience in different types of adverse situations to test whether an index of positive adaptation when facing a specific adverse context generalizes to others, but such a measure does not seem to be available.

The methodological review of resilience measurement scales carried out by Windle, Bennet, and Noyes (2011) concluded that most of them are focused on factors favoring resilience but do not measure resilience itself, except for the Brief Resilience Scale (Smith et al., 2008). However, this scale does not take into account different risk contexts but considers adversity in general without any specification (e.g., "*I tend to bounce back quickly after hard times*"). Nonetheless, since different resilience outcomes are possible depending on the type of adverse situation, a suitable scale is needed to ascertain the degree to which subjective resilience is specific for each kind of adversity or whether it generalizes across situations.

Consequently, we decided to develop and validate a subjective resilience scale for adults that explicitly dealt with different adverse situations. In order to study its convergent and discriminant validity, we resolved on examining its relationship with other well-known resilience scales and with other constructs which have been found to be related to resilience: coping (problem-, emotion-, and social-focused coping; Alonso-Tapia, Rodríguez-Rey, Garrido-Hernansaiz, Ruiz, & Nieto, 2016; Leipold & Greve, 2009; Luthar, 2006), optimism (Sabouripour & Roslan, 2015; Segovia, Moore, Linnville, Hoyt, & Hain, 2012), and self-efficacy (Benight & Cieslak, 2011; Keye & Pidgeon, 2013).

We also decided to assess the degree to which each adverse situation had been experienced, with the aim of exploring the relationship between past adverse experiences of certain types and resilience when faced with them. There is an ongoing debate regarding the link between prior stress exposure and a better or worse response to future adversities (Bonanno, Brewin, Kaniasty, & La Greca, 2010). The inoculation model proposes a protective effect of experiencing stressful situations with regard to future adaptation in adverse events, whereas the sensitization model postulates a vulnerability effect (Masten & Narayan, 2012). Also, the possibility of nonlinear models has been suggested, where moderate degrees of challenge would be beneficial in preparing an organism for future challenges better than either no exposure or too much exposure (Seery, Holman, & Silver, 2010). Extant literature has provided support for all models (Masten & Narayan, 2012). Consequently, we expect a relationship between resilience and severity of experienced adversity, but we cannot specify its direction.

To summarize, this study seeks to develop and validate a resilience questionnaire in Spanish language that takes into account different adverse situations. Such validation will be in terms of structural, convergent, and discriminant validity. An additional objective is to test whether resilience in the face of each type of adverse situation is related to the degree of exposure to such situation. We do not have a hypothesis regarding the direction of the relationship, given the mixed findings in the literature.

2.2.3. Methods

Participants

The initial sample for this study was composed of 584 adults from Spain. To ensure diversity regarding the degree of experienced stress, three subsamples of different populations were recruited: a general population subsample ($n = 328$) and two additional subsamples: 149 adults with health issues (e.g., HIV, cancer, heart disease) and 107 parents of children with severe problems (e.g., cancer, intellectual disability, autism, deafness, osteogenesis imperfecta). It is well-known that facing health problems or being a parent of a child with a health-related condition or a disability may be an important source of stress (e.g., Conti, Maccauro, & Fulcheri, 2011; Vrijmoet-Wiersma et al., 2008).

Instruments

Situating Subjective Resilience Questionnaire for Adults (SSRQA). The questionnaire, designed for this study, assesses the extent to which a person's subjective resilience generalizes across situations or varies depending on the kind of adverse situation. Four experts with theoretical knowledge working in the field of resilience and health psychology suggested 20 relevant items in Spanish, four for each of the five kinds of adverse situations (work-related problems, problems with close relationships, own health issues, health issues of a close person, and financial problems). The experts selected these situations based on literature on coping with adversity (Alonso-Tapia, Rodríguez-Rey, et al., 2016; Mattlin, Wethington, & Kessler, 1990) and their own professional experience. A psychometric expert reviewed the phrasing of the items and made improvements. Half of the items were positively worded and the other half negatively worded in order to avoid acquiescence bias. Respondents were asked to rate items on a 5-point agreement Likert scale (1 = *Strongly disagree*, 5 = *Strongly agree*). Subscale and scale scores were designed to be calculated by recoding the inverse items and adding item response values.

Brief Resilience Scale (BRS; Rodríguez-Rey, Alonso-Tapia, & Hernansaiz-Garrido, 2016). This is the Spanish adaptation of the questionnaire by Smith et al. (2008), which assesses subjective resilience as the ability to bounce back from adversity. It consists of 6 items rated on a five-point Likert scale (1 = *Strongly disagree*, 5 = *Strongly agree*), and showed adequate internal consistency within the Spanish validation sample ($\alpha = .83$) and the sample for this study ($\alpha = .85$). Scores are calculated as the sum of the item responses, after recoding its three inverse items.

Connor Davidson Resilience Scale 10-item version (10-item CD-RISC; Campbell-Sills & Stein, 2007). This measure assesses resilience as the personal qualities that enable one to thrive in the face of adversity. It includes 10 items with five response options (0 = *Never*; 4 = *Almost always*), all of which are positively worded. The scale scores, which are calculated as the sum of the item responses, shows adequate reliability among Spanish university students ($\alpha = .85$; Notario-Pacheco et al., 2011) and fibromyalgia patients ($\alpha = .88$; Notario-Pacheco et al., 2014), and within the sample for this study ($\alpha = .89$).

Likert scales for assessing the degree of experienced adversity. Participants indicated the degree to which they had experienced problems in each of the areas assessed in the SSRQA using a 5-point Likert scale (1 = *Never*; 5 = *Almost always*).

Situated Coping Questionnaire for Adults (SCQA; Alonso-Tapia, Rodríguez-Rey, et al., 2016). This questionnaire comprises 40 items, which take into account three coping styles: problem-focused coping (e.g., problem solving, positive thinking, and thinking avoidance; $\alpha = .86$ in this sample), emotion-focused coping (e.g., rumination, emotional expression, and self-blame; $\alpha = .88$) and social-focused coping (e.g., help seeking, self-isolation; $\alpha = .89$). Respondents rated the items on a 5-point agreement Likert scale (1 = *Never*, 5 = *Almost always*). Higher scores indicate higher use of the coping style.

Optimism and Self-efficacy. These personality characteristics were measured using four items for each of them (e.g., ‘In general, I tend to think that things will turn out well’, ‘In general, I think I am a person who can overcome problems successfully’). These items, which were rated on a 5-point Likert scale (1 = *Strongly disagree*, 5 = *Strongly agree*), were derived from two scales measuring optimism and self-efficacy within the Resiliency Questionnaire for Adults (Alonso-Tapia, Garrido-Hernansaiz, Rodríguez-Rey, Ruiz, & Nieto, 2016). Reliability in this sample was adequate for both optimism, $\alpha = .77$, and self-efficacy, $\alpha = .71$.

Procedure

Ethics approval for this study was granted by the Research Ethics Committee at the authors’ University. To collect the general population data, University workers were asked to support the project by sending acquaintances an invitation to participate. Several NGOs were contacted regarding the collection of the health-distressed samples data, and were asked to send out invitation emails, which contained information about the study and a link to the informed consent and the questionnaires. Those willing to participate completed the questionnaires online.

Data analysis

To ensure that answers to the SSRQA were appropriate (i.e., participants need to have experienced adversity to report on their bouncing back from it), we selected participants who reported having experienced adversity in the five areas considered. Thus those participants who reported having never experienced adversity in at least one of the five areas considered were removed from the sample. A final sample of 348 participants who had experienced some degree of adversity in the five areas was used for the analyses (184 adults from the general population, 97 adults with health issues, and 67 parents of children with medical conditions). Of this final sample, 64.9% were women. Regarding age, 26.4% were aged 20–30 years, 24.7% were 31–40 years, 29.9% were 41–50 years, 16.4% were 51–60 years, and 2.6% were over 60. As for

educational level, 6.0% had a primary education, 17.9% a secondary education, 9.5% a professional training, 51.1% an undergraduate degree, and 15.5% a graduate degree. Over half the participants were married or lived with their partner (54.0%), 38.2% were single, 5.8% were separated/divorced, and 2.0% were widowed. The majority of the participants were employed (62.9%), 20.7% were unemployed at the time, and the rest (16.4%) were in different situations (e.g., student, retired).

In relation to testing factorial validity, five models were specified and analyzed through Structural Equations Modeling to determine which model explained the factorial structure of the SSRQA best, and whether any of the subsequent additions worsened the fit to data rather than help explain them. All models include the items of the scale as the central element. Model 1 (M1) introduces a general resilience factor, while Model 2 (M2) considers instead five correlated situated resilience factors. Model 3 (M3) is a hierarchical model that combines the five situated resilience first-order factors with a general resilience second-order factor. Model 4 (M4) uses a bi-factor model to combine the general resilience factor and the assessment method, with two factors named “positive” (which include all the items positively worded) and “negative” (which include all the items negatively worded).

This fourth model was specified due to respondents’ tendency to reply differently to positively and negatively worded items, thus these items often form two separate factors, even when their content is consistent. This is known as the wording effect (e.g., Wu, 2008). It does not constitute a methodological artifact, since people respond in a different way to positively and negatively worded items because they are sensitive to the apparent implications of content (i.e., negatively worded items make threats more salient as people have different sensitivities to stressful contexts; Boyce & Ellis, 2005). This is a consideration that some authors in different areas of research are beginning to address (e.g., Aguado et al., 2015).

Finally, Model 5 (M5) includes all the elements: five situated resilience first-order factors, a general resilience second-order factor, and the two assessment method factors. This

model used a combination of hierarchical and bi-factor models, which allowed for the disentanglement of the sources of variance (Guftafsson & Åberg-Bengtsson, 2010), thus it is our hypothesis that it will demonstrate the best fit.

The sample was randomly divided into two subgroups ($n_1 = 174$; $n_2 = 174$). Each model was tested using confirmatory factor analysis using the first subsample, while model fit was compared to distinguish the effect of allowing for the general character, the situational dimension, and the assessment method of resilience. Following this, a multi-group analysis was carried out to cross-validate the results of the best model across both randomized subsamples (i.e., an invariance test to ascertain if the model is estimated similarly in both subsamples). Our expectation was that the model would demonstrate invariance.

As variables were ordinal, we used the weighted least squares mean and variance adjusted (WLSMV) estimation method. Absolute fit indexes (χ^2 , χ^2/df), relative fit indexes (TLI) and non-centrality fit indexes (CFI, RMSEA) were used to assess model fit, as well as criteria for acceptance or rejection based on the degree of adjustment—ratio $\chi^2/df < 3$; RMSEA $< .08$; CFI and TLI $> .90$ (Hair, Black, Babin, & Anderson, 2010). Finally, Chen's criteria (Chen, 2007) were used for the invariance test. In accordance with these criteria, given a sample size greater than 300, a decrease greater than .010 for CFI and an increase greater than .015 for RMSEA would indicate non-invariance (i.e., the model is not estimated similarly in both samples). These analyses were performed with Mplus 7.2 (Muthén & Muthén, 2012).

Reliability of each specific scale and that of the overall scale were calculated using Cronbach's α coefficient. ANOVAs were performed to test mean differences across the three subsamples. Correlations of the SSRQA scale's and subscales' scores with BRS and 10-item CD-RISC scores were obtained to ensure the convergent validity of the measure. Stronger relations between BRS and SSRQA scores were expected as they share the understanding of resilience as the ability to bounce back. To tackle discriminant validity, the SSRQA scale's and

subscales' scores were correlated with several related constructs: coping (problem-focused, emotion-focused, and social-focused), optimism, and self-efficacy. Likewise, correlations were calculated to explore the relationship between degree of exposure to adverse situations and resilience in the face of these situations. Lastly, to explore the possibility of non-linear associations between degree of exposure and resilience, a quadratic solution was calculated for each situation and compared to a linear solution. These analyses were performed with SPSS 23.

2.2.4. Results

Factor structure (model comparison) and cross validation analysis

Each of the five models of the SSRQA were tested with the first randomized subsample. Table 2.6 shows the fit statistics for each model. As can be seen, the models including the type of adversity (M2, M3) and the assessment method (M4) had a better fit than the model including only a general resilience factor (M1). However, the best fit was obtained when all elements were considered (M5; see Figure 2.3)—chi-square statistic was significant probably due to the sample size (Hair et al., 2010), but the remaining indices fell within the standard limits of acceptance.

Table 2.6. Goodness of fit statistics of different models and of multi-group cross-validation analysis of the best model.

	χ^2	<i>df</i>	<i>p</i>	χ^2/df	CFI	TLI	RMSEA
M1 ¹	849.96	170	.000	4.99	.79	.76	.15
M2 ¹	401.64	160	.000	2.51	.92	.91	.09
M3 ¹	441.25	165	.000	2.67	.91	.90	.10
M4 ¹	646.89	150	.000	4.31	.84	.80	.14
M5 ¹	275.14	145	.000	1.90	.96	.95	.07
M5 ²	688.40	344	.000	2.00	.95	.94	.08

Note. ¹ $n_1 = 174$. ² Cross-validation analysis, $n_1 = 174$, $n_2 = 174$.

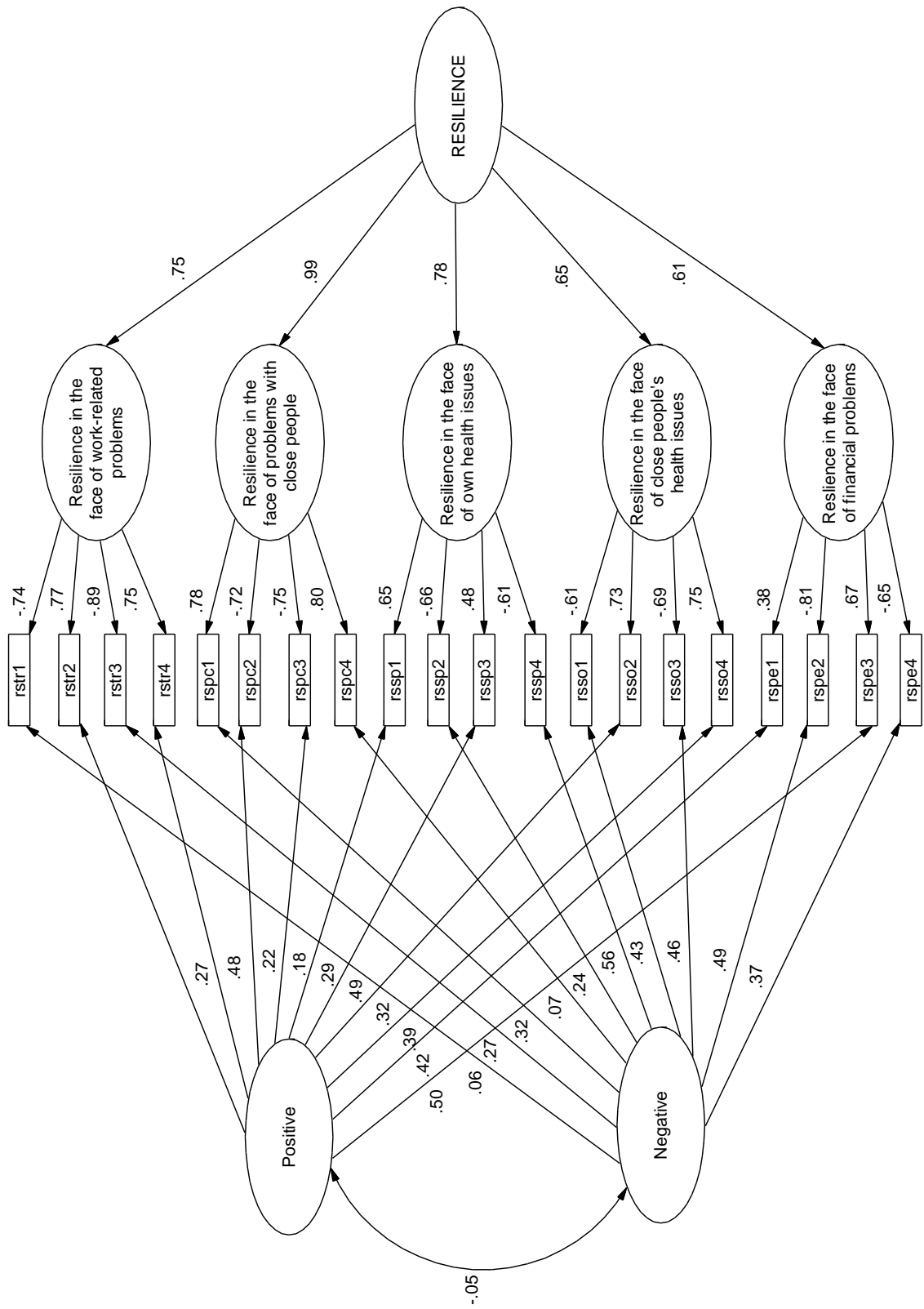


Figure 2.3. Goodness of fit statistics of different models and of multi-group cross-validation analysis of the best model.

Model 5 was then tested for invariance using both subsamples with a cross-validation analysis, showing very similar fit indices (see Table 2.6). Moreover, as the model syntax was the same in the two cases, results show that fit levels are adequate when restrictions are imposed for equality in measurement weights, structural weights, structural covariances, structural residuals, and measurement residuals. Furthermore, according to Chen's criteria, when testing M5 with one group and in cross validation, CFI change did not decrease more than .010 and RMSEA did not increase more than .015, thus indicating invariance. This means that the tested model fits the data similarly in both randomized subsamples, which would support the sample invariance of the model.

Reliability

Regarding reliability, Cronbach's α of the scores of the general resilience scale was very satisfactory ($\alpha = .90$). The subscales also showed acceptable to good reliability, being $\alpha = .84$ for the work resilience subscale, $\alpha = .80$ for the close person relationship resilience subscale, $\alpha = .72$ for the own health resilience subscale, $\alpha = .78$ for the close person's health resilience subscale, and $\alpha = .71$ for the finances resilience subscale.

Differences across samples

No mean differences emerged across samples for general resilience and for resilience in the face of work problems, own health issues, and financial problems ($p > .05$). A marginally significant difference emerged for resilience in the face of close people relationship problems ($F[2,347] = 3.26, p = .040$), but post-hoc Bonferroni analysis indicated no differences. There was a significant difference for resilience in the face of close people's health issues ($F[2,347] = 3.10, p = .046$), and post-hoc Bonferroni analysis revealed that those with health issues showed more resilience when a loved one had an important health issue ($M = 11.22$) than the general population adults ($M = 10.05$).

Convergent validity

Correlations among the scores of the general SSRQA scale, the situated subscales, the BRS, and the 10-item CD-RISC are shown in Table 2.7. All correlations were positive and significant ($p < .01$), showing that the questionnaire has adequate evidence of convergent validity. It is noteworthy that the scores of the general SSRQA scale and its subscales had higher correlations with the scores of the BRS than with the scores of the 10-item CD-RISC. This matches our expectations, as the BRS, like the SSRQA, assesses resilience as the ability to bounce back, while the CD-RISC assesses resilience as the personal qualities that enable one to thrive in the face of adversity. Moreover, the lower correlations among the scores of the SSRQA subscales indicate that, although related, they are measuring different constructs.

Table 2.7. Convergent and discriminant validity: SSRQA's correlations with resilience measures and other related constructs.

	SSRQA	W	CPR	OH	CPH	F
BRS	.75***	.63***	.56***	.57***	.57***	.52***
CD-RISC	.51***	.42***	.37***	.42***	.39***	.34***
SSRQA		.81***	.76***	.78***	.74***	.73***
SSRQA-W			.61***	.49***	.44***	.53***
SSRQA-CPR				.46***	.43***	.37***
SSRQA-OH					.54***	.49***
SSRQA-CPH						.41***
PFC	.37***	.27***	.21***	.33***	.31***	.30***
EFC	-.55***	-.42***	-.39***	-.43***	-.41***	-.46***
SFC	.10	.05	.06	.09	-.01	.18**
Optimism	.51***	.39***	.37***	.43***	.34***	.42***
Self-efficacy	.40***	.27***	.30***	.31***	.29***	.36***

Note. BRS = Brief Resilience Scale. CD-RISC = 10-item Connor-Davidson Resilience Scale. SSRQA = Situated Subjective Resilience Questionnaire for Adults. W = Work resilience subscale. CPR = Close person relationship resilience subscale. OH = Own health resilience subscale. CPH = Close person's health resilience subscale. F = Finances resilience subscale. PFC = Problem-focused coping. EFC = Emotion-focused coping. SFC = Social-focused coping.

*** $p < .001$. ** $p < .01$.

Discriminant validity

Correlations among the scores of the general SSRQA scale and the situated subscales with coping, optimism and self-efficacy are also shown in Table 2.7. These relationships were generally weaker (especially in the cases of problem-focused coping, social-focused coping, and self-efficacy) than those between the SSRQA and the BRS, providing evidence of discriminant validity. The correlations of the SSRQA with emotion-focused coping and optimism were similar to those with the 10-item CD-RISC. As noted before, the 10-item CD-RISC evaluates personality characteristics predisposing to resilience, including optimism. It thus makes sense that the relationships between the SSRQA and the CD-RISC are similar to the relationships between the SSRQA and other personal resources like optimism.

Relationship between experienced adversity and resilience

Table 2.8 shows the correlations between the situated resilience scale score and the degree to which the different types of adverse situations have been experienced. All the correlations between corresponding elements (e.g., resilience in the face of work-related problems and the degree to which work-related problems have been experienced) were inverse and significant, and higher than those between non-corresponding elements (e.g., resilience in the face of work-related problems and the degree to which one's own health problems have been experienced), which were mostly non-significant or very low. As an exception, resilience in the face of close people relationship problems had a greater association with the degree of experienced work-related problems than with the degree of experienced problems with close people relationships.

In order to study the possible nonlinear relation between the degree of exposure to each situation and resilience in each of these situations, the quadratic and linear associations between degree of exposure to each of the five situations, and resilience in the face of each situation, were calculated. These results are shown in Table 2.9 and Figure 2.4. In all cases, the difference between how the linear and quadratic relations explained the data was negligible. Thus, the data do not support the idea of a U-shaped inverse relation between stress exposure and adaptation.

Table 2.8. Correlations between the degree of experience for each adversity and the SSRQA subscales.

		Degree of resilience in front of problems related to:				
		Work	Close people	Own health	Close person's health	Finances
Degree of experienced adversity related to:	Work	-.30***	-.27***	-.10	-.07	-.19***
	Close people	-.18**	-.22***	-.05	-.04	-.13*
	Own health	-.10	-.09	-.14*	-.06	.04
	Close person's health	-.13*	-.16**	-.11*	-.28***	-.09
	Finances	-.15**	-.10	-.06	-.04	-.28***

Note. SSRQA = Situated Subjective Resilience Questionnaire for Adults.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2.9. Linear and quadratic relations between the degree of experienced adversity related to each situation (IV) and resilience in each situation (DV).

		Model	R ²
		DV: Resilience in front of work problems	
	Work	Linear	.089***
		Quadratic	.091***
		DV: Resilience in front of problems with close people	
IV: Degree of experienced adversity related to	Close people	Linear	.047***
		Quadratic	.050***
		DV: Resilience in front of own health problems	
IV: Degree of experienced adversity related to	Own health	Linear	.018*
		Quadratic	.026*
		DV: Resilience in front of close person's health problems	
IV: Degree of experienced adversity related to	Close person's health	Linear	.080***
		Quadratic	.080***
		DV: Resilience in front of economic problems	
IV: Degree of experienced adversity related to	Finances	Linear	.078***
		Quadratic	.091***

Note. IV = Independent variable. DV = Dependent variable.

* $p < .05$. *** $p < .001$.

2.2.5. Discussion

The results have provided evidence that supports the initial expectations about the structure of the SSRQA. The confirmatory factor analyses showed that non-situational models are unable to explain data which refer to different situations, while the situated model with a general resilience factor, and which takes into account the differential sensitivity to positively and negatively worded items (M5), demonstrated the best fit. Moreover, the cross-validation analysis indicated that this model was consistent across the two randomized subsamples. These results provide support for the hypothesized situational model with a general resilience factor.

Thus, situations play an important role in determining the degree in which individuals demonstrate resilience in the aftermath of an adversity. Accordingly, resilience cannot be considered a relatively general tendency, as it depends on the specific demands (Luthar, 2006; *Reaching IN... Reaching OUT*, 2010). However, resilience also tends to generalize across contexts to some extent. This may be due to the fact that strategies for dealing with a particular problem may be first learned in a specific context, and then transferred to other situations over time. The lack of total generalization across situations may be due to the fact that not all kinds of adversity can be successfully dealt with in the same way.

Reliability was acceptable to good for the subscales scores, and very good for the general scale's scores. Convergent validity of the scale's and subscales' scores was supported by their correlations with the scores of the BRS and the 10-item CD-RISC. The correlations with the BRS scores were higher, as was expected based on the fact that they have a similar understanding of resilience as the ability to bounce back (Smith et al., 2008). The 10-item CD-RISC, on the other hand, was designed to measure personal qualities that enable one to thrive in the face of adversity (Windle et al., 2011). In accordance with this, the correlations of CD-RISC's scores with BRS' and SSRQA's were lower.

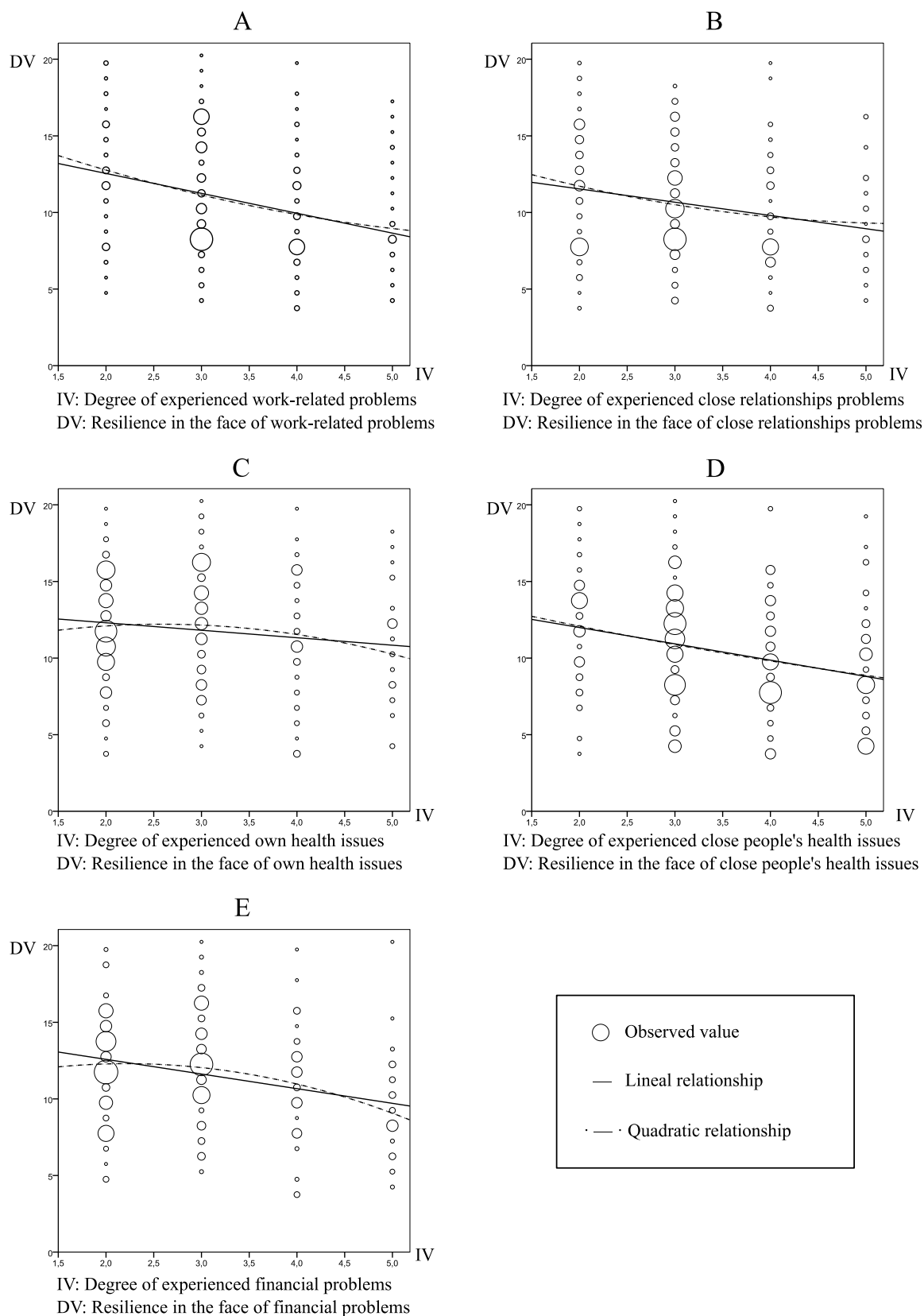


Figure 2.4. Linear and quadratic relationships between degree of kind of experienced adversity (Independent variable—IV) and degree of resilience in front of such adversity (Dependent variable—DV).

Note. Circle size represents the quantity of observed values.

Discriminant validity was supported by the weaker associations that the general scale's and the subscales' scores had with coping and personality factors in comparison with the BRS. Some of those associations were similar in strength to the ones found with the 10-item CD-RISC, which again was expected as the latter measures personality traits. The associations followed the expected direction in all cases: positive for problem-focused coping (Alonso-Tapia, Rodríguez-Rey, et al., 2016), optimism (Sabouripour & Roslan, 2015; Segovia et al., 2012), and self-efficacy (Benight & Cieslak, 2011; Keye & Pidgeon, 2013), negative for emotion-focused coping (Alonso-Tapia, Rodríguez-Rey, et al., 2016), and very weak or non-significant for social-focused coping (Alonso-Tapia, Rodríguez-Rey, et al., 2016).

The degree to which people have experienced a particular kind of adversity was negatively correlated with subjective resilience in the face of that situation, but was generally not associated with resilience in the face of other situations. These correlations, though low, were significant. This fact implies that the SSRQA measures multiple, context-specific resilience constructs, speaking in favor of the scales' ability to discriminate different degrees of resilience in different adverse situations. Also, the negative associations found would indicate that repeated exposure to adversity could undermine resilience, which would be congruent with the sensitization model (Bonanno et al., 2010). However, as these analyses are correlational, it could also mean that the individuals who perceived themselves as less resilient also perceived the adversities they had faced as greater or more frequent. Concerning these negative associations, the data did not support the idea that a curvilinear inverse U-shaped model would explain them better than a linear one (Seery et al., 2010). Nevertheless, this finding is limited by the fact that the data are retrospective, and thus very susceptible to bias (Masten & Narayan, 2012). Furthermore, only a number of adverse situations were considered, so these findings need to be further replicated and also investigated in adverse situations different from the ones included the SSRQA.

The findings of this study have important implications, both for research and clinical practice. Since resilience depends on both the difficult situation and the individual, measures

that include different situations should be used to accurately assess to which degree an individual shows resilience in different contexts. Moreover, these instruments might be useful to better predict adaptation following a specific threat. This situated questionnaire took into account both the general tendency of the individuals and their situational specificity, constituting an innovative resilience measure. Hence, paths for future research suggest the development of questionnaires that address different or more particular threatening situations typically faced by specific populations (e.g., people with health conditions, individuals with financial difficulties). This would generate both a general indicator of resilience in the face of that threat (e.g., HIV diagnosis, having a child admitted to pediatric intensive care) and specific indicators of resilience towards different aspects of that threatening event (e.g., disclosing HIV diagnosis, seeing the child surrounded by machines). This could allow for the improvement of adaptation prediction, which could guide the implementation of preventive psychological interventions and modify the maladaptive recovery path and foster resilience.

This study presents with some limitations. First, online recruitment and participation limited the access to the study to those individuals with access to—and knowledge about—computers, emails and web-browsing, which could imply a sample biasing (e.g., more than 70% of the sample had university education). Second, as the data are correlational, causal relationships cannot be established, therefore longitudinal studies are needed. Third, as already mentioned, the measure included five possible adverse situations, thus being narrow in range and thus requires expansion. Finally, while this study included a sample from the general population, people with health related conditions and individuals whose children have a health-related problem, it was not necessarily representative of people experiencing the other three difficult situations (financial, work-related, or close relationships problems). Further research should address these limitations.

In conclusion, we believe that the Subjective Situated Resilience Questionnaire for Adults is a reliable measure with a well-defined structure that is valid for measurement purposes in Spanish populations.

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2.3. COPING ASSESSMENT FROM THE PERSPECTIVE OF THE PERSON-SITUATION INTERACTION: DEVELOPMENT AND VALIDATION OF THE SITUATED COPING QUESTIONNAIRE FOR ADULTS (SCQA)

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2.3.1. Abstract

Background: Although coping strategies are considered to contribute to resilience to adversity, their use is not stable, but varies depending on the specific adversity. However, to date, most of the questionnaires assessing coping do not consider its situational character. The objective of this study is to develop and validate the Situated Coping Questionnaire for Adults (SCQA), which assesses coping in the face of five different kinds of adverse contexts to take into account its situational dimension.

Methods: A total of 430 Spanish adults (256 from the general population, 77 people suffering from cancer or HIV, and 97 parents of children with cancer or developmental problems) completed the SCQA and two resilience questionnaires (the Brief Resilience Scale and the 10-item Connor-Davidson Resilience Scale) for validation purposes.

Results: Confirmatory factor analyses showed the superiority of the person-situation model; the situation influences the degree to which people use specific coping strategies; however, coping is also stable to some extent. Regression analyses showed that coping strategies contribute to predict resilience, supporting the validity of the SCQA. The questionnaire and its sub-scales showed adequate reliability.

Conclusion: The SCQA is deemed a reliable and valid means of situated coping assessment for use in several populations.

Keywords: Coping strategies; coping assessment; resilience; person-situation interaction; bi-factor models.

2.3.2. Introduction

Since people differ in the way they cope with stressful situations, and as not all coping strategies are equally effective, it is important to assess the types of coping strategies that individuals use to help them cope with stress. The assessment of coping, however, is not an easy task, as it is a complex concept with a long history (Carver & Connor-Smith, 2010; Folkman & Moskowitz, 2004). Despite its complexity, most researchers and practitioners agree that coping, by its very nature, is not a trait, as it implies “a constant change of cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (Lazarus & Folkman, 1984, p. 141). Nevertheless, this fact does not imply a lack of generalization of coping strategies across time and situations, though the results of studies on temporal stability and situational consistency are not convergent (Kohlmann, 1993; McCrae, 1984; Steed, 1998).

Coping has often been assessed with standardized general scales, which assume that people use the same strategies to cope with stressful situations over time and across situations. This assumption reduces the complexity of coping assessment (Kato, 2015; Schwarzer & Schwarzer, 1996), as it implies assuming that the weight of the situation in determining coping responses is almost negligible, which may not be the case (Schwarzer & Schwarzer, 1996; Steed, 1998). On the other hand, some researchers have used scales for specific situations, such as chronic pain, marriage, emergency work, finance, parenting, occupation, etc. (Steed, 1998), or other assessment procedures, such as self-recording or narrative interviews (McCrae, 1984). This type of assessment can be more precise in some ways, but it makes it more difficult to assess trans-situational consistency. Both types of procedures (general and situational) have their limitations, which we attempt to overcome in this study by developing a questionnaire which considers both the situational and personal dimensions of coping.

Research on the relation between coping strategies and different stressful situations has focused either on studying the influence of a particular situation on the degree of use of different coping strategies, or on studying the differences in the degree of use of a particular coping strategy in different stressful situations (Mattlin, Wethington, & Kessler, 1990). The combination of both, different strategies and different situations, has not yet been considered in research. Nevertheless, different situations can activate an individual's preferred coping strategies to different degrees, depending on the differential person's coping history in every stressful situation. That is, each person is probably prone to using different coping strategies in different problem situations. This fact would constitute an additional source of variability in coping questionnaires and could contribute to improve the prediction of coping effects. Given the practical interest in improving this prediction, as well as the methodological relevance of controlling the source of variability introduced by the situation when assessing coping strategies, we decided to develop a coping questionnaire which takes into account the person-situation interaction and to study its potential contributions to coping assessment and understanding. We posit, therefore, that it is possible to use coping assessment general scales without missing the role that the type of situation plays in determining how people cope with stress. This can be done by systematically varying and combining coping strategies and situations in the design of the scale, and by testing the adequacy of such models using bi-factor structural equations (Guftafsson & Åberg-Bengtsson, 2010). Nevertheless, in order to build the questionnaire, it is necessary to first decide which coping strategies and stressful situations to include in such a scale.

Although coping responses are virtually infinite (Skinner, Edge, Altman, & Sherwood, 2003), researchers have tried to organize the variety of coping strategies in different taxonomies, such as hierarchical models with higher order categories that allow organizing the different specific coping strategies in more manageable dimensions or styles. Different coping

styles have been proposed (Carver & Connor-Smith, 2010; Schwarzer & Schwarzer, 1996), but a well-known distinction, put forward by Lazarus and Folkman (1984), is between problem-focused and emotion-focused coping (PFC and EFC, respectively). PFC is directed at the stressor to evade it or to diminish its impact, whereas EFC pursues minimizing distress. This two-dimension model, which will be tested in our study and compared with other models, comprises a myriad of coping strategies within the coping styles. A selection of strategies to be included in our assessment instrument is thus necessary.

A recent meta-analysis of coping measures (Kato, 2015) showed that some of the strategies included in the reviewed scales have good predictive power for positive and negative outcomes. Regarding the positive outcomes, well-being correlates with active coping and planning (that is, trying to solve the problem; $r = .25$), positive reinterpretation and growth (positive thinking; $r = .32$), seeking social support (help-seeking; $r = .24$), and acceptance (not thinking about the problem when it is unsolvable; $r = .18$). On the other hand, negative affect is related to thinking repetitively about the problem (rumination; $r = .38$), behavioral disengagement (isolation; $r = .40$), and focusing on venting emotions (emotional expression; $r = .28$). Lastly, depression, anxiety, and general distress correlate with self-blame ($r = .43$, $r = .32$ and $r = .43$, respectively). Based on these findings, we decided to include the above mentioned coping strategies in our questionnaire. They will be organized first in the two coping styles proposed by Lazarus and Folkman (1984). However, help-seeking and isolation tackle social-focused coping (SFC), which has been extensively addressed in literature (Folkman & Moskowitz, 2004). They could then constitute a third dimension, and we consequently decided to also test a model with three coping styles.

Regarding stressful situations, researchers have tried to characterize them depending on the type of stress involved—threat, loss or challenge (McCrae, 1984)—or on their objective characteristics—work-related problems, problems with close persons' relationships, own

health problems, close persons' health problems, and economic problems (Mattlin et al., 1990). As we intended to build a coping questionnaire that considered typical stressful situations, we decided to utilize the latter classification, which corresponds to the types of problems that are more cited in the literature as stressful.

The different coping strategies and styles materialize in specific behaviors (Kato, 2015). Some of these behaviors are more effective to solve certain kinds of problems than others; thus, the utilization of more adaptive coping strategies will result in positive adaptation or recovery despite experiences of significant adversity, which is the definition of resilience (Leipold & Greve, 2009; Luthar, 2006). Therefore, we decided to use resilience as a criterion variable to study the validity of our measure. The utilization of the PFC style has been found to be related to better outcomes (Alok et al., 2014), and thus we expect a positive relation with resilience. Regarding the EFC style, it has been found to be associated with poorer outcomes (Herman & Tetrick, 2009), and thus we expect it to have a negative relation with resilience. Lastly, concerning SFC, mixed results have been found in relation to its association with positive and negative outcomes (Folkman & Moskowitz, 2004) and thus we will explore the direction of such relation in our study.

In summary, the main objective of this study is to develop a situated coping questionnaire, and to test whether it is possible to use a general coping scale considering the role of the type of situation. To achieve the intended objective, we will compare six factor models for which the sources of variance will be the inclusion or not of higher order coping styles and situations. Our general hypothesis is that coping styles and the situation both contribute to explain coping behaviors. Therefore, we expect that the models that consider the situations and the higher order coping styles will show a better fit to data than the same models without the type of situation. We will also explore the psychometric properties of the questionnaire, in terms of reliability and criterion-related validity.

2.3.3. Methods

Participants

The study sample consisted of 430 adults. Three different groups of participants were recruited in order to gather a sample with enough variability in relation to the degree of stress they had confronted. The first subsample ($n = 256$), termed “general population”, was composed by people who might have experienced stress, but that as a group could not be assigned to a particular category of people at risk. The second subsample ($n = 77$) were adults who were suffering from VIH or cancer, and the third ($n = 97$) were parents of children with serious problems: either cancer or developmental or sensorial problems. We included these clinical samples because it is well-known that facing health problems or being a parent of a child with a health-related condition or a disability can be an important source of stress (e.g., Conti, Maccauro, & Fulcheri, 2011; Vrijmoet-Wiersma et al., 2008). Of the total sample, 69.8% were women. Regarding age, 33.3% of the sample was in the age interval between 20 and 30 years, 22.8% between 31 and 40 years, 26.3% between 41 and 50 years, 14.9% between 51 and 60 years, and 2.8% were above 60 years old. As for educational level, 70.46% had a university degree and 29.53% had primary, secondary, or professional education.

Instruments

The Situating Coping Questionnaire for Adults (SCQA). This questionnaire was developed for this study. Four experts with theoretical knowledge who worked in the field of coping examined the coping literature. They then worked together to develop an item for each of the eight selected coping strategies (rumination, emotional expression, self-blaming, self-isolation, thinking avoidance, help seeking, problem solving, and positive thinking) in each of the five selected types of adverse situations (work-related problems, problems with close people –family, friends–, own health problems, close person’s health problems, and economic problems). Thus, 40 items were written in Spanish which assess to what extent the coping strategies used by adults generalize across situations or vary depending on the type of faced

adverse situation. Later, a psychometric expert reviewed the items phrasing and made improvements. The items are answered on a 5-point Likert scale, in which participants determined the degree of agreement with each statement (1 = *Never*, 5 = *Almost always*).

10-item Connor-Davidson Resilience Scale (10-item CD-RISC; Campbell-Sills & Stein, 2007). This measure assesses resilience as the personal qualities that enable one to thrive in the face of adversity. It is composed of 10 items with five response options (0 = *Never*; 5 = *Almost always*) and a direct scoring (the higher the score, the higher the resilience). The scores of the Spanish version showed adequate reliability when used in samples of university students ($\alpha = .85$; intraclass correlation coefficient, ICC = .71; Notario-Pacheco et al., 2011), and fibromyalgia patients ($\alpha = .88$; ICC = .89; Notario-Pacheco et al., 2014).

Brief Resilience Scale (BRS; Smith et al., 2008). It is a 6-item self-report resilience scale with a 5-point response scale ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*). A higher score indicates a higher degree of resilience, understood as the ability to bounce back from stress. The English version scores loaded on one factor, and showed good internal consistency (α ranging from .80 to .91) and test-retest reliability (ICC ranging from .61 to .69). As for the Spanish version (Rodríguez-Rey, Alonso-Tapia, & Hernansaiz-Garrido, 2016), it also showed adequate internal consistency ($\alpha = .83$) and test-retest reliability (ICC = .69).

Procedure

Ethics approval for this study was granted by the Research Ethics Committee at the authors' University. To gather the participants, several nongovernmental organizations were contacted and asked to send the potential participants an email containing information about the study, along with a link to the informed consent and the questionnaires. The sample of general population was recruited by email using a snowball approach in which students and University colleagues were asked for collaboration to spread out the link to the informed consent and the questionnaire. Those willing to participate completed the questionnaires online.

Data analysis

The database contained no missing data, since the online platform did not allow participants to continue with unanswered items. Analyses were performed to identify participants without variance, and none was found.

Factorial validity. We developed and compared six models, all of which included the eight coping strategies considered in our questionnaire. Model 1 (M1) included neither coping styles nor the types of stressful situations, and the coping strategies were allowed to correlate. Model 2 (M2) included two coping styles (PFC and EFC) and Model 3 (M3) included three (PFC, EFC and SFC), but they did not take into account the situations. Model 4 (M4) considered the five types of stressful situations, but did not include coping styles, allowing for correlations among first-order strategies. Model 5 (M5) included two coping styles and the five situations. Finally, Model 6 (M6) included three coping styles and the five situations. M4, M5 and M6 followed Guftafsson & Åberg-Bengtsson's (2010) proposal, who suggested that it is possible to use a combination of hierarchical and bi-factor models to disentangle sources of variance when trying to measure a construct. In this type of models, the score on each item may depend, on the one hand, on the degree in which the person is prone to use a particular strategy in different situations and, on the other hand, on the degree in which a particular situation activates the different coping strategies. If people tend to use certain strategies no matter the situation—if their use generalizes across situations—then the coping strategies category would explain most of the item variance. Nevertheless, depending on the degree in which the type of situation matters, the item variances would be explained by each situation.

The six models were estimated through confirmatory factor analyses. As Likert scores can be considered as ordered categorical scores, estimates were obtained using the weighted least squares means and variance adjusted method (WLSMV). Absolute fit indexes (χ^2 , χ^2/df), relative fit indexes (TLI) and non-centrality fit indexes (CFI, RMSEA) were used to assess model fit, as well as criteria for acceptance or rejection based on the degree of adjustment described by Hair, Black, Babin, and Anderson (2010).

Reliability. McDonald's ω coefficients were calculated for each specific SCQA scale and for the three general styles, as they are adequate when measures are ordered categorical indicators (McDonald, 1999).

Criterion validity. Several regression analyses were performed with resilience as criterion (assessed by the BRS and the CD-RISC) and the three coping styles and eight strategies as predictors. No evidence was found of multicollinearity between the independent variables (all VIF and tolerance values were, respectively, < 2.5 and $> .40$; Allison, 1999). Residuals were examined for non-normality, heteroscedasticity and influential outliers (via Cook's distance D), and none seemed problematic.

Analyses were carried out with SPSS v.22 and MPlus-7.3 (Muthén & Muthén, 2012).

2.3.4. Results

Factorial validity

Table 2.10 shows fit indexes for the six models, and Figures 2.5, 2.6, and 2.7 show the standardized estimates and squared multiple correlations of M1, M4 and M6. All the weights (λ) related to coping strategies and styles were significant ($p < .001$) for all models.

For M1, M2 and M3, chi-square statistics were significant, but the ratios χ^2/df and RMSEA were inside the limits that allowed the models to be accepted, except for M2. The remaining indices fell short of the limits of acceptance. This was an expected result, as our hypothesis was that the type of adverse situation would have an influence. A comparison of M2-M3 and M5-M6 shows that a three-dimension organization of coping strategies is preferable to a two-dimension one, which is also supported by the high correlation between the two strategies conforming the third factor, SFC ($r = -.76$; see Figure 2.5). As can be seen in Table 2.10, the situated models had better fit than their analogous non-situated ones. M4 had the best fit of all, and most of the weights related to each situation (see Table 2.11), but not all, were significant. M6, also situated but including three coping styles, had a slightly worse fit to the data than M4, but much better than

M5. Due to the usefulness and manageability of higher order classifications, we decided to include the three coping styles shown in M6 (PFC, EFC, and SFC) in the following analyses with the purpose of providing the psychometric properties of their scores.

Reliability

McDonald's ω coefficients, computed for the coping styles and strategies of this instrument, were as follows: EFC style, $\omega = .92$; PFC style, $\omega = .98$; SFC style, $\omega = .97$; rumination, $\omega = .94$; emotional expression, $\omega = .91$; self-blaming, $\omega = .93$; problem solving, $\omega = .91$; positive thinking, $\omega = .94$; thinking avoidance, $\omega = .90$; help seeking, $\omega = .94$; and self-isolation, $\omega = .93$.

Criterion validity

Table 2.12 shows the results of the regression analyses. As expected, EFC and PFC contributed significantly to predict general resilience in the expected direction, no matter which resilience questionnaire was used. SFC, however, only had a significant weight in the case of CDRISC. When the specific coping strategies were used as predictors, general resilience was predicted significantly (explained variance ranges between 33% and 51%), with rumination (negatively) and positive thinking (positively) being the strategies that most contributed to predict resilience in all situations.

Table 2.10. Goodness of fit statistics for the confirmatory factor analyses of the different models.

	χ^2	<i>df</i>	<i>p</i>	χ^2/df	TLI	CFI	RMSEA
M1 (8f)	1805.62	712	< .001	2.53	.89	.88	.06
M2 (8f1, 2F2)	3082.36	731	< .001	4.21	.76	.75	.08
M3 (8f1, 3F2)	2086.85	732	< .001	2.85	.86	.85	.06
M4 (8f1, 5FS)	1482.27	672	< .001	2.20	.92	.91	.05
M5 (8f1, 2F2, 5FS)	2147.14	695	< .001	3.08	.85	.83	.07
M6 (8f1, 3F2, 5FS)	1755.17	694	< .001	2.53	.89	.88	.06

Note. *N* = 430; M = Model; f1 = first order factors; F2 = second order factors; FS = situational factors; *df* = degrees of freedom; *p* = level of significance.

Table 2.11. SCQA Model 4 standardized weights and significance of the relation of situations with items assessing the use of each kind of coping strategy.

<i>Stressful situation</i>	<i>Coping strategy</i>							
	RM	EE	SB	SI	HS	TA	PS	PT
WRP	.77***	-.15**	.02	-.12*	.20	-.16	-.05	-.11*
PCP	.58***	-.12*	.24***	-.18***	.17**	-.20***	.18**	.23***
OHP	.52***	.51***	.46***	.26***	-.22***	.08	.10	-.16**
CPHP	.23***	.29***	.29***	.50***	-.43***	.32***	-.08	-.20***
EP	.47***	.15**	.36***	.25***	.16**	.13*	.50***	.28***

Note. RM = Rumination. SI = Self-isolation. EE = Emotional Expression. SB = Self-blame. TA = Thinking Avoidance. HS = Help-seeking. PS = Problem Solving. PT = Positive thinking. WRP = Work-related problems; PCP = Problems with close people; OHP = Own health problems; CPHP = Close person's health problems; EP = Economic problems.

*** $p < .001$. ** $p < .01$. * $p < .05$.

Table 2.12. Regression analyses. Predictors: coping styles and strategies. Criteria: BRS and 10-item CD-RISC.

Criterion	R^2	<i>Coping styles</i>							
		EFC	PFC	SFC					
BRS	.31***	-.44***	.26***	ns					
CDRISC	.42***	-.25***	.51***	.10**					
		<i>Coping strategies</i>							
		RM	EE	SB	SI	HS	TA	PS	PT
BRS	.33***	-.37***	-.11**	ns	ns	ns	ns	ns	.30***
CDRISC	.51***	-.12**	-.11**	ns	ns	.08*	ns	.16***	.52***

Note. The model shows the standardized coefficients and their significance. BRS = Brief Resilience Scale. CDRISC = 10-item Connor-Davidson Resilience Scale. PFC = Problem-focused coping; EFC = Emotion-focused coping. SFC = Social-focused coping. RM = Rumination. SI = Self-isolation. EE = Emotional Expression. SB = Self-blame. TA = Thinking Avoidance. HS = Help-seeking. PS = Problem Solving. PT = Positive thinking. ns = non significant.

*** $p < .001$. ** $p < .01$. * $p < .05$.

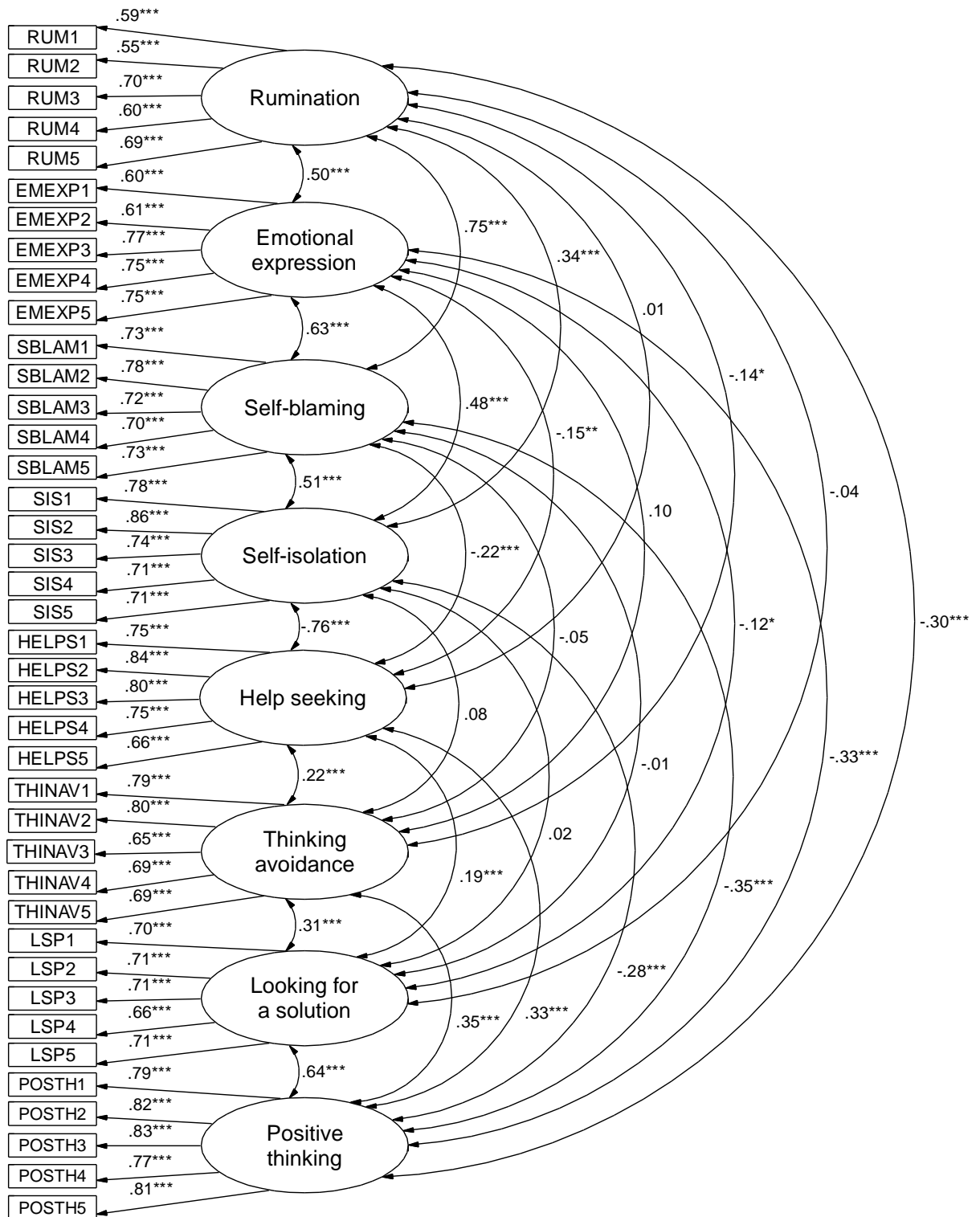


Figure 2.5. SCQA Model 1. Initial confirmatory standardized solution.

Note. *** $p < .001$. ** $p < .01$. * $p < .05$.

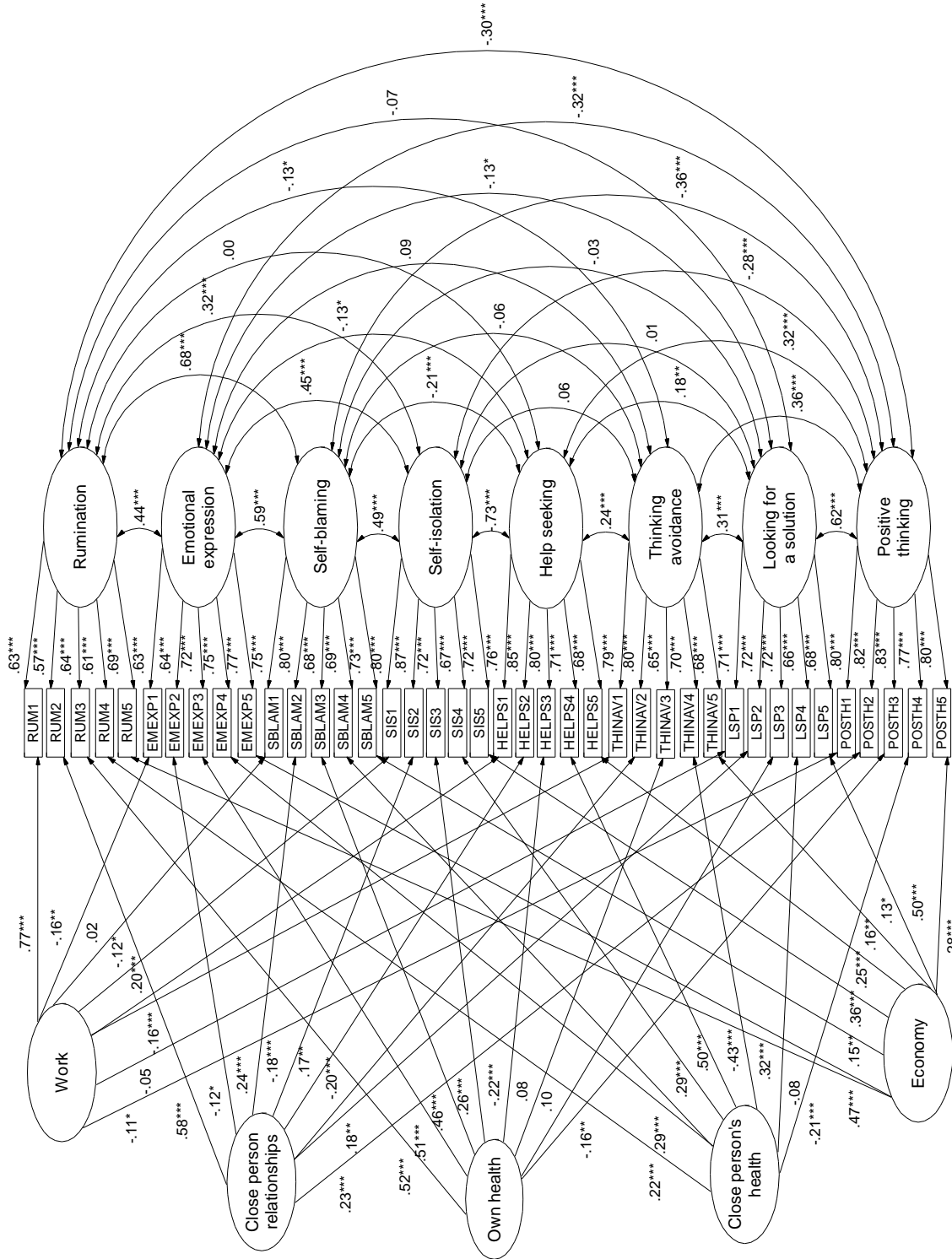


Figure 2.6. SCQA Model 4. Confirmatory bi-factor standardized solution. *** $p < .001$. ** $p < .01$. * $p < .05$.

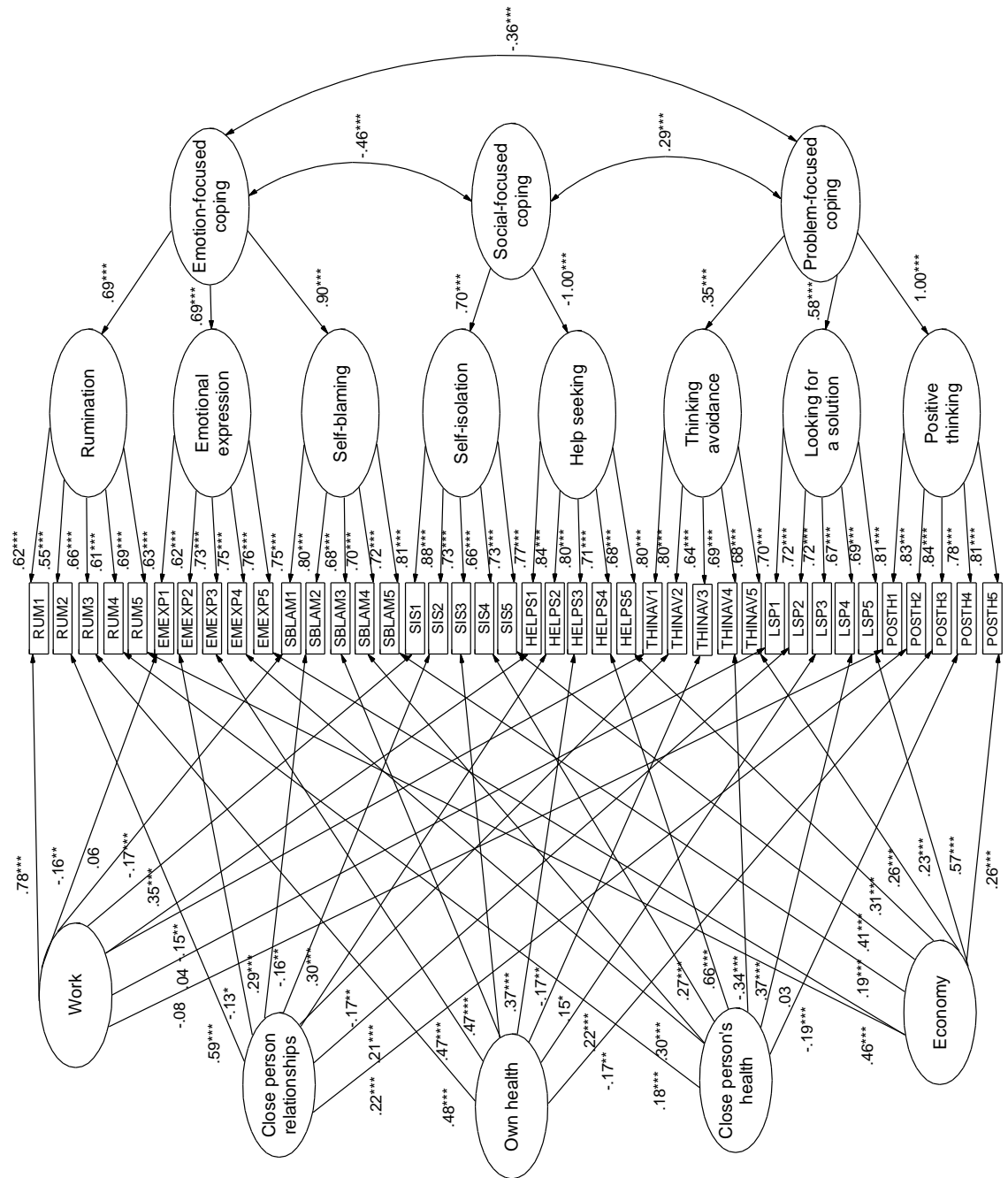


Figure 2.7. SCQA Model 6. Confirmatory bi-factor standardized solution. *** $p < .001$. ** $p < .01$. * $p < .05$.

2.3.5. Discussion

The main objective of this study was to develop a situated coping questionnaire, the SCQA, and to test whether it was possible to use a general scale without missing the role that the type of situation plays in determining how people cope with stress. We also sought to ascertain the psychometric properties of such questionnaire, in terms of factorial validity, reliability, and criterion-related validity.

Our results have provided evidence that adding the type of stressful situation to the equation is very important, as, in all cases, the situated model fit the data better than the corresponding non-situated one. Moreover, the significance of the measurement weights which link the observed variables to the situations (Figures 2.6 and 2.7) vary to a great degree depending on the considered situation. This means that people differ in the degree they use a certain coping strategy depending on the type of adverse situation. For instance, the weights in Table 2.11 show that people tend to isolate themselves, avoid thinking, not seek help, and not think positively in the face of a close person's health problems, but the following pattern is found when facing a relationship problem with a close person: they seek help and think positively and do not isolate themselves or avoid thinking.

Furthermore, our results also showed that coping strategies do not reflect the effect of the two general coping factors usually suggested in the coping styles literature and that even the three factor model, though much better, does not adequately capture the correlations between the eight strategies. However, even though the use of second order factors may imply losing information, they also allow summarizing a big amount of it in general tendencies and thus may be useful for clinical and research purposes. So, the three second-order factor model can be retained, as its fit was only slightly below the fit of the best. This suggests that the two coping styles proposed by Lazarus and Folkman (1984)—PFC and EFC—should be

complemented with a third one, which explains the social aspects of coping (SFC) and needs be considered in future studies (Folkman & Moskowitz, 2004). The reliability of the eight coping strategies scales' scores was good, as well as the reliability of the three coping styles scales', and therefore they can be used for research and clinical purposes.

Finally, evidence stemming from our results supports the idea that resilience is related to coping styles as expected—positively to PFC and negatively to EFC—a result that parallels those of Villasana, Alonso-Tapia, and Ruiz (2016) and which provides validity to the SCQA. Regarding SFC, its relation to resilience is only significant—though low—when it is assessed as the personal qualities that enable one to thrive in the face of adversity (CD-RISC), but non-significant when it is assessed as the ability to bounce back after difficulties (BRS). Thus, consistent with the literature (Folkman & Moskowitz, 2004), the relation between SFC and resilience is unclear and should be further explored.

The present study has provided the Spanish-speaking community with a reliable and valid tool which can be used in a variety of populations. Moreover, it contributes to the current coping literature by showing that the person-situation interaction can be successfully taken into account when measuring coping. The consideration of the type of adverse situation is indeed of paramount importance for coping assessment, a fact that should be taken into account both by researchers and mental health professionals. Regarding its clinical implications, our study suggests that psychologists must take into account that people's coping strategies may change across situations, so they should not assume that what an individual learns in one context will be automatically transferred to others. Additionally, in order to help people cope with stress, professionals should encourage the utilization of the strategies included in the PFC style, and specially positive thinking—as this is the strategy which is related to resilience in a higher degree—and discourage the utilization of the strategies comprised in the EFC style, rumination

and emotional expression above all. Regarding the SFC, it should be promoted as it is associated to higher personal resources to thrive in the face of adversity.

This study has some limitations. Firstly, the recruitment and participation were made online, so only those with access to and knowledge about computers, e-mails and web-browsing were able to access the study, which could imply a sample biasing (e.g., more than 70% of the sample had university education). Secondly, even though different problematic situations have been included in the SCQA, we have only included in our sample general population, people with health-related conditions and individuals whose children have a health-related problem. In future studies, it would be appropriate to also include people experiencing the other three difficult situations (economic problems, work problems, and problems in their relations with close people).

Thirdly, as our data are correlational, the fact that the situation contributes to activate different strategies and to different degrees for each person is only a hypothesis, which needs to be tested through longitudinal research. Fourthly, the hypothesis that coping contributes to resilience needs to be tested, as the causal link cannot be established in our data, which only allow its prediction. Lastly, there are other coping strategies that people can use besides the ones included in the SCQA. So, it would be interesting to study how the person-situation model found in this study applies to the other coping strategies.

In conclusion, although more research is necessary, the SCQA has shown to be a reliable and valid means of assessment of several coping strategies with a heterogeneous sample in a variety of stressful situations. Nevertheless, more research is needed, both to confirm the psychometric properties of the scale in similar or different samples (e.g., in other Spanish-speaking countries) and to study coping and its relations to other constructs from a holistic perspective that advances current knowledge and impacts the development of psychological interventions.

2.3.6. References

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2.4. DIFFERENCES IN THE USE OF COPING STRATEGIES IN HIGH- AND LOW-RESILIENCE INDIVIDUALS: A COMPARISON AMONG PEOPLE LIVING WITH HIV, CANCER PATIENTS, PARENTS OF CHILDREN WITH CANCER, AND THE GENERAL POPULATION

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2.4.1. Abstract

Resilience varies in degree across situations, and different stressors trigger a different use of coping strategies. The aim of the study was investigating the association between the use of certain coping strategies and resilience outcomes in different stressful situations. The sample was composed of individuals who were living with HIV, were cancer patients, had children with cancer, or were from the general population ($N = 525$). Participants completed a sociodemographic questionnaire and measures of resilience (the *Brief Resilience Scale*) and coping (the *Situated Coping Questionnaire for Adults*). We conducted an ANOVA to examine differences in resilience and in the use of coping strategies across subsamples. We obtained a high- and a low-resilience group for each subsample and conducted ANOVAs to study what coping strategies differed in degree of use between the high and low resilience groups in each sample.

Results showed that resilience was stable across subsamples. Some differences emerged across samples regarding the use of coping strategies (e.g., HIV+ individuals were more likely to use emotional expression and isolation and less likely to seek help). HIV+ high- and low-resilience groups differed in their use of all strategies except for problem solving and thinking avoidance. Cancer high- and low-resilience groups differed only in rumination, and parents of children with cancer did in rumination, self-blame, isolation, and positive thinking. Lastly, general population groups differed in all strategies but help seeking. In conclusion, different strategies are related to resilience outcomes for different distressed samples, so tailored interventions should be implemented depending on the specific problem.

Keywords: coping; resilience; anxiety; HIV; cancer

2.4.2. Introduction

Most adults endure at least one adverse circumstance throughout their lifespan. Some people are unable to function normally afterward, and consequently research has traditionally focused on the negative psychological outcomes of such potentially traumatic events, including anxiety, depression, or posttraumatic stress disorder (Bonanno, 2005; Zautra, Hall, & Murray, 2010). Nonetheless, researches have gained interest in the positive outcomes that have been found after experiencing highly stressful circumstances, as in the case of resilience.

Resilience has usually been understood as absence of psychopathology, but as many authors advise, we need definitions that go beyond the absence of problems (e.g., Zautra et al., 2010). Resilience can be defined as a positive adaptation despite experiences of significant adversity or trauma (Luthar, 2006), and it involves rapidly bouncing back to pre-stress levels of functioning and maintaining a stable equilibrium (Bonanno, 2005; Smith et al., 2008). Resilience has been conceptualized in many ways—as a personality trait, a process, and an outcome—but the characteristics of the person and the situation may identify resilient traits or processes only if they actually lead to positive adaptation. Because of this, some researchers agree that resilience is best defined as an outcome of successful adaptation to adversity rather than as a trait or process (Leipold & Greve, 2009; Zautra et al., 2010).

As an outcome, resilience is a matter of degree—an individual can show a lower or greater degree of resilience. Moreover, resilience depends on the adverse circumstance, that is, people can show a degree of resilience in the face of one kind of adversity and a different degree in the face of others (Luthar, 2006; *Reaching in... Reaching out*, 2010). For instance, the degree of resilience in the face of HIV infection shown by an individual could be different from the degree of resilience shown by the same individual in the face of pediatric cancer of their child. Moreover, resilience in the face of different adversities may be explained in different ways; therefore, the exploration of its underlying processes should consider the effect of the type of adversity.

Concerning the psychological processes that underlie resilience, researchers have stressed the importance of identifying them (De Santis, Florom-Smith, Vermeesch, Barroso, & DeLeon, 2013; Leipold & Greve, 2009). With regard to this, many authors agree on the key role that coping strategies play in explaining the degree of achieved resilience (Folkman & Moskowitz, 2004; Pellowski, Kalichman, Matthews, & Adler, 2013; Zautra et al., 2010).

Coping is defined as a process that involves a constant change of cognitive and behavioral efforts aimed to deal with a situation or condition appraised as exceeding personal resources (Lazarus & Folkman, 1984). Like resilience, coping effectiveness has been shown to depend on the specific stressor (Folkman & Moskowitz, 2004; Moskowitz, Hult, Bussolari, & Acree, 2009; Moskowitz & Wrubel, 2005). As different stressors have different causes, they lead to different causal attributions (e.g., in HIV infection, the person is generally held responsible for contracting the virus, while that is generally not the case when a child develops cancer). The use of certain coping strategies is influenced by such causal attributions—for instance, internal attributions tend to increase the use of self-blame, but they can also imply a certain sense of control over the stressor. Coping strategies, in turn, lead to different mental health outcomes (Roesch & Weiner, 2001).

A recent meta-analysis on coping measures (Kato, 2015) showed that active coping, positive reinterpretation, seeking social support, and acceptance were associated with well-being, while rumination, emotional venting, self-blame, and behavioral disengagement were related to psychological distress. However, it included no information regarding its relationship with resilience or possible differences among populations facing different stressors. Other studies have established some links between coping and resilience in various populations (Alonso-Tapia, Rodríguez-Rey, Garrido-Hernansaiz, Ruiz, & Nieto, 2016; Molina et al., 2014; Pellowski et al., 2013), but the dearth of research in this respect calls for further quantitative investigations. Such studies need to use a systematic definition of resilience and apply the same

measure across populations faced with different stressors to make data comparable, so that the possible differences in resilience and resilience-related coping effectiveness can be elucidated.

Having a health-related condition such as HIV infection or cancer may constitute a very important source of stress, as well as having a child with cancer (Molina et al., 2014; Moskowitz et al., 2009; Vrijmoet-Wiersma et al., 2008). Moreover, promoting resilience has been conceived as a critical element of psychosocial care in these three populations (Earnshaw, Bogart, Dovidio, & Williams, 2013; Molina et al., 2014; Rosenberg, Baker, Syrjala, Back, & Wolfe, 2013). Consequently, research should investigate whether there are differences in the coping strategies that are associated with better resilience outcomes for each of these populations and the general population as well.

Some studies in these specific populations have reported on the effectiveness of coping in relation to resilience, but they have not provided comparable data. For instance, in HIV-infected individuals, positive cognitive appraisal, active coping, and positive reframing have been positively associated with resilience (Fumaz et al., 2015; Stewart & Yuen, 2011). Among cancer survivors, approach coping predicted higher vitality and lower depressive symptoms (Kraemer, Stanton, Meyerowitz, Rowland, & Ganz, 2011), although resilience was not specifically measured. Lastly, in parents of children with cancer, lower resilience resources were associated with negative outcomes such as higher distress, lower social support, lower family function, or higher odds of frequent sleep difficulties (Rosenberg et al., 2014). We underscore here again the need to use across populations a stable conceptualization and measurement of resilience so that we can learn about the potential differences among adversity types and contribute to our understanding of how to better promote resilient outcomes for each kind of stressor.

The objective of this study was to examine: 1) whether there were differences in the degree of resilience shown by general population adults, cancer patients, HIV-infected

individuals, and parents of children with cancer; 2) whether there were differences in the degree to which coping strategies were used by each population; and 3) whether higher resilience was related to different coping strategies depending on the population.

2.4.3. Methods

Participants

Participants from four different clinical and non-clinical populations were recruited: general population adults ($n = 319$), adults living with HIV ($n = 114$), adults living with cancer ($n = 23$), and parents of children with cancer ($n = 69$).

Instruments

Demographic Characteristics included gender, age, educational level, employment status, and relationship status.

Coping strategies were assessed using the Situated Coping Questionnaire for Adults (SCQA; Alonso-Tapia et al., 2016), a Spanish-language measure assessing the use of eight different coping strategies: problem solving, help seeking, positive thinking, rumination, emotional expression, isolation, self-blame, and thinking avoidance. Respondents rated items on a 5-point Likert scale to assess to which degree they had used each coping strategy (1 = *Never*, 5 = *Almost always*). Higher scores indicate higher use of the strategy. Reliability of the coping strategies' scores was shown to be good in the original study (McDonald's ω ranging from .90–.94). Cronbach's α ranged .71–.86 in the current sample.

Resilience was measured with the Brief Resilience Scale (BRS; Smith et al., 2008), a 6-item self-report instrument with a 5-point response scale (1 = *Strongly disagree*, 5 = *Strongly agree*). The possible scores range 6–30 and a higher score indicates a higher degree of resilience. This scale has been recommended on the basis of its psychometric properties in a recent review of 15 resilience measures (Windle, Bennett, & Noyes, 2011) and because it measures resilience as an outcome (Zautra et al., 2010). The Spanish version was used in this

study (Rodríguez-Rey, Alonso-Tapia, & Hernansaiz-Garrido, 2016). The BRS showed good internal consistency in the Spanish validation study ($\alpha = .83$) and in our sample ($\alpha = .86$).

Procedure

Approval for this study was obtained from the institutional review board at the authors' University. General population data were collected by email using a snowball approach in which students and University workers were asked for collaboration to spread an invitation to participate among their acquaintances. Clinical samples data were collected by contacting non-profit organizations and asking them to share information about the study and a link to the informed consent and the questionnaires. Those willing to participate completed the questionnaires online. All participants completed all items, so there were no missing data.

Data analysis

Descriptive univariate statistics of the sample were obtained, consisting of frequencies and percentages. Analyses of variance (ANOVAs) were performed to test mean differences in resilience and coping strategies across populations. Post-hoc Bonferroni was employed when Levene's test of homogeneity of variances was non-significant; otherwise Games-Howell was used.

The sample was then divided in two by the mean score on resilience, creating a high-resilience group and a low-resilience group. We then performed independent samples *t*-tests to investigate differences in the use of coping strategies between high-resilience individuals and low-resilience ones. These *t*-tests were conducted separately for each of the population samples (i.e., general population, people living with HIV, cancer patients, and parents of children with cancer). All analyses were performed with SPSS v23.

2.4.4. Results

Sample descriptive analyses

The total sample was composed of 525 adults, with 64.0% of women. Over a third of participants (35.4%) were aged 20–30, 23.2% were 31–40, a quarter (25.1%) were 41–50,

13.3% were 51–60, and 2.9% were aged 61 or older. As for educational level, 5.5% had completed only primary education, 14.7% had secondary education, 9.1% had received professional education, more than half (53.3%) had an undergraduate degree, and 17.3% had a graduate degree. Slightly over half of the sample was married or living with their partner (51.2%) and most of the rest were single (41.3%). Some participants were separated or divorced (5.9%) and a small proportion were widowed (1.5%). The majority were employed (62.9%), although almost one in five was unemployed (18.5%). The rest were students (13.9%) or had retired (4.8%).

Degree of resilience and use of coping strategies by type of population

ANOVAs were performed to examine differences across populations in the use of coping strategies and the degree of resilience. Table 2.13 shows the means and standard deviations of the scores on resilience and each of the eight coping strategies for each type of population, along with the results of the ANOVAs. As it can be seen, there was no difference in the mean degree of resilience shown by each population.

Concerning coping strategies, a significant mean difference was found for help seeking, positive thinking, emotional expression and isolation. Post-hoc tests showed that HIV+ participants were significantly less likely to seek help than the ones in the general population, and they were significantly more likely to express their emotions than cancer patients and the general population. HIV+ participants also tended to isolate themselves more than the rest and cancer patients were significantly less likely to isolate themselves than general population adults. Post-hoc analyses showed no significant differences for positive thinking, despite the significant ANOVA. No differences emerged across the types of populations for problem solving, rumination, thinking avoidance, and self-blame, though the latter was close to the significance level ($p = .051$).

Table 2.13. Descriptive statistics and ANOVA of resilience and coping variables by population samples.

	Mean (<i>SD</i>)				ANOVA	
	General population	HIV	Cancer	Parents of children with cancer	<i>F</i> [3,524]	<i>p</i>
Resilience	17.84 (5.28)	18.89 (5.80)	17.43 (5.43)	16.68 (5.89)	2.432	.064
Problem solving	18.87 (3.64)	19.65 (3.63)	19.35 (2.74)	18.57 (3.49)	1.786	.149
Help seeking	18.55 (4.33) ^a	16.74 (4.56) ^b	19.17 (3.82) ^{ab}	17.70 (4.14) ^{ab}	5.580	.001
Positive thinking	18.92 (4.21)	19.91 (4.46)	18.74 (3.76)	20.26 (3.86)	2.989	.031
Rumination	17.15 (3.72)	16.88 (4.31)	16.61 (3.51)	16.75 (4.11)	.368	.776
Emotional expression	11.95 (3.89) ^a	13.68 (4.73) ^b	11.48 (2.91) ^a	12.29 (4.18) ^{ab}	5.430	.001
Isolation	11.50 (4.44) ^a	13.58 (5.29) ^b	9.22 (3.68) ^c	11.26 (4.41) ^{ac}	8.853	< .001
Self-blame	14.09 (4.38)	14.41 (5.71)	12.74 (3.88)	12.68 (4.72)	2.604	.051
Thinking avoidance	16.08 (4.02)	16.11 (4.22)	14.52 (3.85)	15.48 (4.55)	1.389	.245

Note. Population samples (HIV, cancer, etc.) with a different superscript letter show a significant mean difference between them. *SD* = Standard deviation.

Use of coping strategies by resilience group and type of population

The sample was divided into two groups by the mean score on resilience ($M = 17.90$), resulting in a group of low-resilience participants ($n = 239$) and a group of high-resilience participants ($n = 286$). The *t*-tests were then conducted in each type of population to examine whether the high-resilience group used coping strategies differently from the low-resilience group. The results of these analyses are depicted in Table 2.14, along with the mean score on each coping strategy for each resilience group in each population subsample.

Table 2.14. Means and *t*-tests of coping by population samples and high- and low-resilience groups.

		General population	HIV	Cancer	Parents of children with cancer
Problem solving	LR	18.16	19.11	18.67	18.16
	HR	19.47	20.01	19.79	19.06
	<i>t</i> (<i>p</i>)	3.264 (.001)	-1.313 (.192)	-.960 (.348)	-1.074 (287)
Help seeking	LR	18.74	15.00	18.33	16.97
	HR	18.40	17.91	19.71	18.58
	<i>t</i> (<i>p</i>)	.699 (.485)	-3.505 (.001)	-.840 (.410)	-1.577 (.121)
Positive thinking	LR	17.29	16.96	17.56	18.66
	HR	20.30	21.91	19.50	22.23
	<i>t</i> (<i>p</i>)	-6.643 (< .001)	-6.417 (< .001)	-1.225 (.234)	-4.272 (< .001)
Rumination	LR	18.79	19.85	18.44	18.79
	HR	15.77	14.87	15.43	14.26
	<i>t</i> (<i>p</i>)	7.860 (< .001)	7.327 (< .001)	2.173 (.041)	5.431 (< .001)
Emotional expression	LR	13.21	15.87	12.44	13.16
	HR	10.88	12.21	10.86	11.23
	<i>t</i> (<i>p</i>)	5.444 (< .001)	4.368 (< .001)	1.298 (.208)	1.950 (.055)
Isolation	LR	12.05	16.80	9.78	12.95
	HR	11.03	11.40	8.86	9.19
	<i>t</i> (<i>p</i>)	2.041 (.042)	6.176 (< .001)	.577 (.570)	3.865 (< .001)
Self-blame	LR	15.53	18.26	14.56	15.05
	HR	12.87	11.81	11.57	9.77
	<i>t</i> (<i>p</i>)	5.674 (< .001)	7.095 (< .001)	1.907 (.070)	5.532 (< .001)
Thinking avoidance	LR	15.33	15.61	14.56	14.58
	HR	16.72	16.46	14.50	16.58
	<i>t</i> (<i>p</i>)	-3.126 (.002)	-1.052 (.295)	.033 (.974)	-1.849 (.069)

Note. Significant *t*-tests ($p < .05$) are highlighted in boldface. LR = low resilience group. HR = high resilience group. *p* = level of significance.

Within the general population subsample, high-resilience individuals tended to use more problem solving, positive thinking, and thinking avoidance than the low-resilience group, and less rumination, emotional expression, isolation, and self-blame. Both groups used help seeking equally. Regarding the HIV+ adults subsample, those in the high-resilience group were significantly more likely to seek help and think positively than those in the low-resilience group, and significantly less likely to ruminate, express their emotions, isolate themselves, and blame themselves. No differences between groups were found for problem solving and thinking avoidance.

In relation to cancer patients, the only significant difference between the high- and the low-resilience groups was in rumination, with those in the former group being significantly less likely to ruminate. A difference in self-blame was near the significance level ($p = .07$), with low-resilience participants tending to use this strategy more. Lastly, concerning parents of children with cancer, those in the high-resilience group were significantly more likely to think positively and less likely to ruminate, isolate themselves, and blame themselves than their low-resilience counterparts. Two differences were near the significance level: emotional expression, with those in the high-resilience group tending to use it less ($p = .055$), and thinking avoidance, with those in the high-resilience group tending to use it more ($p = .069$). No differences emerged for problem solving and help seeking.

2.4.5. Discussion

This study sought to examine the differences in the use of certain coping strategies across several populations and their relationship to resilience. In relation to these aims, the results have shown that different populations show a similar degree of resilience on average. However, they use coping strategies in a different way—people living with HIV tend to use more emotional expression and isolation and to seek less help than other individuals, and cancer patients tend to isolate themselves less than the general population. This is congruent with what

was stated long ago by Lazarus and Folkman (1984) and more recently by Folkman and Moskowitz (2004): coping is dependent on the specific environmental demands, e.g., the type of stressor.

This result gains weight when considered together with the finding that different coping strategies are associated with high resilience depending on the type of population. Rumination was associated with lower resilience in all subsamples, a result in line with previous research (e.g., Kato, 2015; Moskowitz et al., 2009), but the rest of strategies had different relationships with resilience depending on the type of population, consistently with the notion of different coping effectiveness depending on the stressor (Moskowitz et al., 2009; Moskowitz & Wrubel, 2005; Roesch & Weiner, 2001). Positive thinking tended to be associated with higher resilience, but only for parents of children with cancer. Emotional expression, isolation, and self-blame tended to be associated with lower resilience, but there were certain populations in which that was not the case. Lastly, problem solving and thinking avoidance were associated with resilience only among general population adults, and help seeking was associated with higher resilience only in the case of HIV+ individuals.

According to these findings, interventions aimed at improving resilience could benefit from formally including coping skills training in their design (Molina et al., 2014). A study that tested the effects of a resilience intervention which included coping strategies as a key element showed that the experimental group had higher resilience post-intervention than the waiting list control group (Steinhardt & Dolbier, 2008). However, interventions also need to pay attention to the type of problem and should assess the degree of use of each coping strategy. Psychologists and other mental health professionals need to encourage the use of those coping strategies that are most adequate for fostering resilience in the particular type of problem—for instance, interventions with cancer patients should focus on reducing rumination, while interventions with parents of children with cancer should also reduce isolation and self-blame and increase positive thinking.

Additionally, the finding that for HIV+ individuals increased help seeking and low levels of emotional expression and isolation may lead to higher resilience has direct implications for intervention design when combined with the finding that these individuals are less likely to seek help and more likely to express their emotions and isolate themselves. Healthcare providers should foster help seeking behaviors and discourage isolation and excessive emotional expression in people living with HIV.

Concerning this clinical sample, HIV+ individuals have stood out in our study as the ones with the most different pattern of use of coping strategies. Building on the idea that different medical conditions have different causes which in turn lead to different causal attributions, coping, and mental health outcomes (Roesch & Weiner, 2001), we argue that the differences found in this study may be due to the social stigma that surrounds HIV infection, which is based on the means of acquisition and the negative views that are associated with them (Brouard & Wills, 2006). Indeed, literature has shown that HIV stigma can alter coping behaviors in HIV+ individuals (Hatzenbuehler, Phelan, & Link, 2013; Rueda et al., 2012). Moreover, other chronic illnesses recruit whole families into them (Zautra et al., 2010), making social support available to patients. HIV stigma, however, causes people living with HIV to experience lack of social support (Su et al., 2013), which is consistent with the low use of help seeking and high degree of isolation found in our data. Research should investigate the specific ways in which stigma has an influence on coping behaviors and ultimately on the achievement of resilience outcomes.

Although our work has provided valuable information, some limitations need to be taken into account. Firstly, the online data collection method may have resulted in a biased sample (e.g., highly educated participants), as only those with access to and knowledge about computers, e-mails, and web-browsing were able to access the study. Moreover, the recruitment strategy only gathered 23 participants within the cancer sample, and so results concerning

comparisons with and within this sample may have been compromised. Future research needs to address this limitation by securing bigger samples. Secondly, our results are based on cross-sectional data, and so the hypothesis that coping strategies lead to resilience in a particular way depending on the type of population needs to be tested through longitudinal designs. Thirdly, there are other possible coping strategies besides the ones included in the SCQA that might be of interest to the study of coping and resilience, and so future research should investigate them. Likewise, many other populations face certain stressors, and research should also examine how coping and resilience operate in them. This is the first study to compare relationships between coping and resilience across different samples, and so the differences found in our sample are far from being established. Further research is necessary to replicate and expand these findings.

In conclusion, certain coping strategies tend to be more or less used depending on the type of stressor people face. Moreover, the effectiveness of such coping strategies in terms of resilience outcomes vary from population to population, so it is of great importance that researchers and mental healthcare providers take this into account, systematically studying and comparing different populations in the case of researchers, and tailoring mental health promotion interventions to the specific type of stressor in the case of healthcare providers.

2.4.6. References

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Part 3

Solving assessment problems for research with Spanish-speaking HIV-positive populations

3.1. INTERNALIZED HIV STIGMA AND DISCLOSURE CONCERNS: DEVELOPMENT AND VALIDATION OF TWO SCALES IN SPANISH- SPEAKING POPULATIONS

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3.1.1. Abstract

Internalized stigma and disclosure concerns are key elements for the study of mental health in people living with HIV. Since no measures of these constructs were available for Spanish population, this study sought to develop such instruments, to analyze their reliability and validity and to provide a short version. A heterogeneous sample of 458 adults from different Spanish-speaking countries completed the HIV-Internalized Stigma Scale and the HIV-Disclosure Concerns Scale, along with the Hospital Anxiety and Depression Scale, Rosenberg's Self-esteem Scale and other socio-demographic variables. Reliability and correlation analyses, exploratory factor analyses, path analyses with latent variables, and ANOVAs were conducted to test the scales' psychometric properties. The scales showed good reliability in terms of internal consistency and temporal stability, as well as good sensitivity and factorial and criterion validity. The HIV-Internalized Stigma Scale and the HIV-Disclosure Concerns Scale are reliable and valid means to assess these variables in several contexts.

Keywords: HIV internalized stigma, HIV disclosure concerns, HIV stigma assessment, Spanish

3.1.2. Introduction

Although HIV infection is now conceptualized as a manageable chronic condition rather than a death sentence (Bletzer, 2007; Feigin, Sapir, Patinkin, & Turner, 2013; Prado, Lightfoot, & Brown, 2013), People Living with HIV (PLHIV) are still more likely to experience depression, suicidal ideation, stress, stigma, isolation, and marginalization (Wu & Li, 2013). Furthermore, they are more likely to experience discrimination than those with other chronic conditions (Su et al., 2013). Social stigma and fear of HIV disclosure are often key challenges for PLHIV (Clucas et al., 2011; De Santis, Florom-Smith, Vermeesch, Barroso, & DeLeon, 2013; DeGenova, Patton, Jurich, & MacDermid, 1994; Hatzenbuehler, Phelan, & Link, 2013; Teva, la Paz Bermúdez, Hernández-Quero, & Buela-Casal, 2005), thus it is necessary to have adequate assessment procedures to measure these constructs and prevent their effects. Since there were no assessment instruments for the measurement of HIV internalized stigma and disclosure concerns available for the Spanish population, the main objective of this study was to develop and validate such assessment instruments. First, however, we will clarify the meaning and importance of these constructs and review the availability and adequacy of existing instruments.

HIV stigma constructs

HIV stigma refers to the socially constructed and shared knowledge about the devalued status of PLHIV, who as a result are subject to prejudice, discounting, discrediting, and discrimination (Steward et al., 2008). It is based on the view that the individual is responsible for contracting the virus, which is regarded as fatal, highly contagious and eventually leading to significant physical decline and sometimes death (Lee, Kochman, & Sikkema, 2002). HIV stigma can manifest itself at the structural, the societal and the individual levels; the latter level is where explicit biases have decreased but more subtle forms of stigma persist (Earnshaw, Bogart, Dovidio, & Williams, 2013).

HIV stigma has recently been conceptualized as a fundamental cause of health inequalities (Hatzenbuehler et al., 2013), as it influences the resources, conditions, social relationships, coping strategies and self-esteem of PLHIV, which in turn can lead to poorer health outcomes. Studies show a relationship between high HIV stigma and less involvement in HIV counseling, delayed health care seeking, lower treatment adherence, faster disease progression and poorer mental health (e.g., depression, lower satisfaction with life; Bharat, 2011; Leserman, 2008; Pellowski, Kalichman, Matthews, & Adler, 2013; Phillips, Moneyham, & Tavakoli, 2011; Rao, Kekwaletswe, Hosek, Martinez, & Rodriguez, 2007; Sayles, Wong, Kinsler, Martins, & Cunningham, 2009; Yi et al., 2015). There are mixed results regarding gender differences in stigma (Kingori et al., 2013; Steward et al., 2008), and a tendency to decrease has been found as the years living with HIV, the years on antiretroviral therapy (ART) and age increase; similarly, lower levels in stigma are associated with having a high school graduation or greater and being currently employed (Tzemis et al., 2013).

The construct of stigma is complex, and a variety of types of stigma are defined in the literature (Kingori et al., 2013; Phillips et al., 2011). From the perspective of the HIV-negative person, stigma can be either perceived or enacted, whereas from the PLHIV perspective it can be internalized, perceived and experienced (Rensen, Bandyopadhyay, Gopal, & Van Brakel, 2011). Although our study will focus on internalized stigma, we will first define experienced and perceived stigma for clarification.

Experienced stigma (ES) refers to the personal experience of stigma (i.e., experiences of prejudice, stereotyping, and discrimination) and thus involves interpersonal actions. Perceived or felt stigma (FS) concerns the subjective awareness of stigma in the society or local community (Bunn, Solomon, Miller, & Forehand, 2007; Scambler, 1989; Steward et al., 2008). Logically, PLHIV experiencing a high degree of FS would be more likely to protect themselves against possible ES by means of disclosure avoidance (Steward et al., 2008). It is not surprising, then, that although FS is widely commonplace, ES is considerably less prevalent (Bharat, 2011; Feigin et al., 2013).

Internalized stigma

Internalized HIV stigma (IS), also called self-stigma, represents the devaluation and discredit of oneself based on one's stigma (Earnshaw et al., 2013). It is regarded as a process "in which stigmatized persons accept the negative views that others in society hold about them and incorporate those views into their self-concept" (Phillips et al., 2011, p. 361). IS is characterized by negative feelings about the self, identity transformation and maladaptive behavior, which stem from the person's experiences, perceptions or anticipation of negative social reactions (Livingston & Boyd, 2010). A higher degree of IS indicates a tendency to feel guilty, accept stigmatization from others and justify their discriminatory behaviors (Bharat, 2011). Although IS is theoretically closely related to FS, the correlation between them is only moderate, suggesting they are different aspects or dimensions of stigma (Phillips et al., 2011).

It has been claimed that IS may have even more severe consequences than FS or ES (Paudel & Baral, 2015; Phillips et al., 2011; Singh, Kumar, Mukhopadhyay, & Singh, 2014), as depression is related to IS but not to actual experienced discrimination (Kingori et al., 2013) and those who experienced ES have a good quality of life, as opposed to those with a higher IS (Bharat, 2011). Additionally, IS is associated with anxiety, guilt, shame, worthlessness, hopelessness, embarrassment, suicidal thoughts and low self-esteem, as well as with substance abuse, poor social support, social isolation, poorer adherence to treatment, low psychological, physical, social and environmental quality of life, faster disease progression and risky sexual behavior (Earnshaw & Chaudoir, 2009; Feigin et al., 2013; Kalichman et al., 2009; Lee et al., 2002; Leserman, 2008; Li, Murray, Suwanteerangkul, & Wiwatanadate, 2014; Sayles et al., 2009; Simbayi et al., 2007; Singh et al., 2014; Yi et al., 2015). Moreover, IS tends to be higher among men in general (Steward et al., 2008), the recently diagnosed and those who have not attended an HIV-related support group or activities (Lee et al., 2002), since support groups help deal with stigma in a multidimensional way, decrease social isolation and feelings of shame and provide opportunities for disclosure rehearsal (Paudel & Baral, 2015). These findings highlight the importance of considering IS both in research and in clinical settings.

Disclosure concerns

Disclosure concerns (DC) are highly related to stigma in general (Holzemer et al., 2007; Prado et al., 2013), and more specifically have been theorized to constitute the basis of FS and IS (Steward et al., 2008); thus, receiving support after disclosure of serostatus plays a key role in the reduction of stigma. Another approach suggests that FS is likely to internalize if there is a lack of social support (Kingori et al., 2013), implying that a higher level of social support reduces social isolation, which in turn decreases DC. A third approach suggests that IS hinders disclosure, which in turn reduces received support (Feigin et al., 2013). To our understanding, it is possible that all the aforementioned processes occur, perhaps in different phases or stages. For example, it could be that felt normative stigma is learned in the form of vicarious stigma (e.g., listening to other people's comments, jokes or stories; Steward et al., 2008), establishing the basis for IS and DC. Depending on the person's experiences and personality characteristics, a higher internalization of stigma may happen, leading to higher DC. Also, positive disclosure experiences (e.g., no rejection, receiving support) may reduce levels of FS, IS and DC. This model involves a complex flux of influences that work in several directions.

It is important to note that DC, although related to stigma, are not limited only to those who have experienced ES, but constitute a protective response for PLHIV regardless of their actual experiences of stigma (Bharat, 2011), are related to treatment adherence (Li et al., 2014) and can accelerate the pace of HIV/AIDS (Paudel & Baral, 2015). Not only are DC related to IS and depression (Okello et al., 2015), but they also fully mediate the relationship between FS and depression, and partially mediate the association between IS and depression (Steward et al., 2008); the same work highlights the fact that providing support to PLHIV for disclosure of their serostatus is essential to reduce stigma. Reducing DC and stigma, in turn, would lead to improved physical and mental health outcomes for PLHIV, an essential objective in the field of Health Psychology.

HIV stigma measures

Valid and reliable instruments for measuring HIV stigma and DC are needed in order to develop interventions for stigma reduction and to evaluate the effects of such interventions (Lindberg, Wettergren, Wiklander, Svedhem-Johansson, & Eriksson, 2014). A review of the HIV literature during the past 15 years reveals studies in which some effort has been made regarding definition and differentiation of IS and DC constructs (Bharat, 2011; Phillips et al., 2011; Steward et al., 2008), but a lack of clarity remains, and measures often include items which refer to related but different stigma concepts. For example, Kingori et al.'s Felt Stigma Scale (2013) was intended to measure FS but the content of its items also resembles ES, as two of the factors that emerged show: Ostracizing and Discrimination. The Van Rie HIV/AIDS-related Stigma Scales are another example: comprising 20 items and validated in Thailand (Van Rie et al., 2008) and the USA (Kipp et al., 2015), they do not take into account the different stigma types and fail to represent IS and DC. Although the authors included content related to shame, guilt and disclosure, the phrasing of the items provided two FS subscales: one for the community perspective and one for AIDS patients' perspective.

Something similar happens in stigma measures specifically designed to measure IS and DC. For instance, Sayles et al.'s 28-item IS scale (2008) includes items that refer to general stereotypes held by society (FS), DC, and experienced discrimination (ES). The only domain that measures IS as defined here was an unexpected dimension labeled self-acceptance, and most of those items referred to DC and the degree to which one's family is comfortable talking about HIV.

The HIV Stigma Scale, which has been validated in the USA (Berger, Ferrans, & Lashley, 2001; Bunn et al., 2007), the Netherlands (Sumari-de Boer, Nellen, Sprangers, Prins, & Nieuwkerk, 2012), Canada (Tzemis et al., 2013) and Sweden (Lindberg et al., 2014), is another example. It includes an eight-item DC subscale and a seven-item negative self-image (IS)

subscale, both with item content we deem appropriate. However, it was supposed to measure perceived stigma (FS). Indeed, when adapted for Spanish-speaking Latino populations in Peru (Franke et al., 2010), Dominican Republic (Miric, 2004), and Puerto Rico (Jimenez et al., 2010), it was renamed the HIV Felt-Stigma Scale, although it still comprised factors related to ES, DC and IS. We aim to clarify the extant confusion and elucidate specific factors of stigma in our own scale development.

Kalichman et al.'s Internalized AIDS-Related Stigma Scale (2009) constitutes a good and important effort towards IS assessment, as the construct is well defined and delimited. It is a six-item measure initially validated with populations in South Africa, Swaziland and the USA, and was later validated with populations in Uganda (Tsai et al., 2013) and Ireland (Murphy & Hevey, 2013). Four of its items clearly measure IS, but the other two ("It is difficult to tell people about my HIV infection", "I hide my HIV status from others") could be assessing DC or FS, as difficulty to disclose or disclosure avoidance can stem from a high degree of FS. That is, a person could live in a highly stigmatizing environment and therefore have a high level of FS and try not to disclose, despite their actual degree of IS. The Internalized Stigma of AIDS Tool (ISAT) consists of 10 items and was validated in the USA (Phillips et al., 2011). This scale also includes items that do not necessarily measure IS (e.g., "I feel like I have to hide my illness", "I try to hide that I have HIV"), but could be measuring DC or FS.

Other measures have more accurately clarified the IS construct. For example, the HIV/AIDS Stigma Instrument – PLWA (HASPI-P), validated in African settings (Holzemer et al., 2007), includes a 5-item subscale named 'negative self-perception' that we believe represents IS with clarity, as does Steward's et al. 10-item Internalized stigma scale (Steward et al., 2008), designed for an Indian population.

Apart from the widespread lack of construct clarity, there are other problems with some of these stigma measures. A recent review of IS measures by Stevelink et al. (Stevelink, Wu,

Voorend, & van Brakel, 2012) found problems regarding internal consistency, reliability, construct and criterion validity, interpretability, responsiveness, and floor and ceiling effects. When scale authors have addressed these matters, either the results have not been good (e.g., low reliability coefficients) or the procedures have not been appropriate (e.g., sample not large enough for factor analysis; see the review for specific information).

Only the HIV Stigma Scale has been adapted for a Spanish-speaking population in three Latino contexts—Peru (Franke et al., 2010), Dominican Republic (Miric, 2004) and Puerto Rico (Jimenez et al., 2010)—and we have mentioned the limitations of this scale. To our knowledge, there are no IS and DC scales available for Spanish-speaking populations in Spain and Latin America. Thus the objective of this study was to develop and ascertain the psychometric properties of two measures, one for IS and one for DC, in Spanish and Latin American populations.

Study objectives and hypotheses

In developing this study, we considered a few key issues. The first issue is that the experience of HIV stigma can vary across cultures (Steward et al., 2008). Thus cultural adaptation of the scales was important to ensure content validity (Kingori et al., 2013; Stevelink et al., 2012). Secondly, consideration was given with regard to the research and clinical contexts in which this scale might be given. Thus efforts, were made to minimize participant/patient burden (Sumari-de Boer et al., 2012). Thirdly, since different types of stigma have different consequences for PLHIV (Steward et al., 2008) it is important to distinguish between them in research (Kingori et al., 2013). We resolved to design two different measures but, resulting from the lack of construct clarity present in the literature, we decided to initially treat them as one with regard to factor analyses. We then planned to ascertain if, as we think, they are different but related constructs or if, conversely, they are one construct. Lastly, we followed the recommendation to use measures of related constructs to ascertain construct validity (Kingori

et al., 2013), and thus we included anxiety, depression and self-esteem measures in our study, all of which have been widely used for validation purposes (e.g., Berger et al., 2001; Bunn et al., 2007; Miric, 2004; Van Rie et al., 2008).

From the previous objectives and considerations, the following hypotheses are derived:

H.1 The IS and DC scales will be shown to be different constructs, although positively related. We expect a moderate Pearson correlation between IS and DC of $r = .40-.60$ (Berger et al., 2001; Bunn et al., 2007; Franke et al., 2010; Jimenez et al., 2010; Sayles et al., 2008).

H.2 The IS and DC scales will be positively related to depression and anxiety and negatively related to self-esteem. We expect a higher correlation of depression to IS (around $r = .30-.60$) than to DC (around $r = .0-.25$), as previously found in literature (Franke et al., 2010; Jimenez et al., 2010; Kalichman et al., 2009; Miric, 2004; Phillips et al., 2011; Steward et al., 2008; Tsai et al., 2013), and we predict a similar correlation will occur with anxiety. Self-esteem will similarly have a higher negative correlation to IS (around $r = .40-.60$) than to DC (expected to be non-significant or below $r = .25$; Berger et al., 2001; Bunn et al., 2007; Miric, 2004).

H.3 The IS and DC scales will be sensitive to gender, age, time since diagnosis, educational level, nationality, connection to an HIV-related Non-Profit Organization (NPO), treatment status (i.e., on ART treatment or not) and treatment adherence. Much like the extant literature, we expect that the IS and DC scales will correlate negatively with age and time since diagnosis, and that those with secondary education or higher, who have a connection to an NPO, who are on treatment and who have good treatment adherence will have a lower degree of IS and DC. We expect cultural differences to emerge (Li et al., 2014) but since they have not been explored among these cultures, we cannot be more specific.

3.1.3. Methods

Participants

A total of 458 participants were assessed during this validation study. The sample was obtained by a snowball approach. Eighty-four local and national associations and groups from Spanish-speaking countries were contacted online and asked to distribute information about the study and a link for participation through their online social networks. In order to complete the questionnaire, the participants first had to read the information page (in which they were provided information about the research and the confidentiality of their answers) and click on the acceptance button.

The descriptive statistics of the sample can be found in Table 3.1. Most of the participants were male, homosexual, Spanish, single, with a University degree, employed and reported little economic difficulty in coping with HIV. The majority had acquired the virus by means of sexual activity, were taking HIV medication, and did not have any connection to a NPO. The mean age was 36.6 years ($SD = 10.3$; range 18-75 years) and the mean time since HIV diagnosis was 78.9 months ($SD = 87.21$; range 1-360).

Instruments

HIV Internalized Stigma Scale (HIV-ISS). This scale, developed for this study, is a self-report instrument in Spanish language that evaluates the level of internalized stigma related to HIV during the last month, and consists of 10 items with a 5-point response scale (1 = *never or hardly ever*, 2 = *seldom*, 3 = *sometimes*, 4 = *frequently*, 5 = *all or almost all the time*). The total score of the HIV-ISS is obtained by adding the 10 item scores, and ranges from 10 to 50. A higher score indicates a higher level of perceived internalized stigma.

Table 3.1. Sample characteristics.

	M ^a	SD ^b
Age (years)	36.6	10.3
Time since diagnosis (months)	78.9	87.2
	N ^c	% ^d
Gender		
Male	404	88.2
Female	50	10.9
Other	4	.9
Nationality		
Spanish	208	45.4
Mexican	87	19.0
Colombian	59	12.9
Other Latin American countries	94	20.5
Other western countries	10	2.2
Relationship status		
Single	300	65.5
Married/living with partner	106	23.1
Divorced/separated	39	8.5
Widowed	13	2.8
Educational level		
No studies	1	.2
Primary studies	17	3.7
Secondary studies	140	30.6
University degree	249	54.4
Master's degree	44	9.6
Doctorate	7	1.5
Employment status		
Employed	325	71.0
Between jobs	45	9.8
Other (student, retired...)	88	19.2

Table 3.1. Sample characteristics (continued).

	<i>N</i> ^c	% ^d
Sexual orientation		
Heterosexual	89	19.4
Homosexual	331	72.3
Bisexual	38	8.3
Economic difficulty to cope with HIV		
None to moderate	391	85.4
Quite a lot to extreme	67	14.6
Connection to an NPO ^e		
Yes	131	28.6
No	327	71.4
On HIV medication		
Yes	378	82.5
No	80	17.5
HIV means of acquisition		
Sexual	401	87.6
Sharing needles	15	3.3
Blood transfusion or in pregnancy	4	.9
Other / I don't know	38	8.3

Note. ^a Mean. ^b Standard deviation. ^c Number of participants. ^d Percentage of participants. ^e Non-Profit Organization.

HIV Disclosure Concerns Scale (HIV-DCS). This measure, developed for this study, is a self-report instrument in Spanish language designed to assess the level of HIV-related disclosure concerns, and consists of 10 items with a 5-point response scale (1 = *very little*, 2 = *a little*, 3 = *somewhat*, 4 = *much*, 5 = *a great deal*). The total score is obtained by adding the 10 item scores, and ranges from 10 to 50. A higher score indicates a higher level of disclosure concerns.

Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983). This self-report measure is comprised of 14 items with a 4-point Likert-type scale (0 to 3), which form two 7-item subscales, one for anxiety (HADS-A) and one for depression (HADS-D). The scores of the Spanish version (Quintana et al., 2003) have shown adequate psychometric properties in different Spanish populations (Herrero et al., 2003; Luciano, Barrada, Aguado, Osma, & García-Campayo, 2014; Terol-Cantero, Cabrera-Perona, & Martín-Aragón, 2015; Vallejo, Rivera, Esteve-Vives, & Rodríguez-Muñoz, 2012), such as fibromyalgia patients (Luciano et al., 2014; Vallejo et al., 2012) and has 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 .88 for the HADS-A and .87 for the HADS-D.

Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965). This measure contains 10 items related to feelings of self-respect and self-acceptance with a Likert-type scale response format from 1 to 4. Half of the items are negatively worded. It has been validated in Spanish in a variety of clinical samples (Vázquez Morejón, Jiménez García-Bóveda, & Vázquez-Morejón Jiménez, 2004) and in University students (Martín-Albo, Núñez, Navarro, & Grijalvo, 2007), showing adequate psychometric properties. Cronbach's alpha in the current sample was .86.

Sociodemographic variables. Participants provided information on gender (male/female/other), age, nationality, time since HIV diagnosis (years and months), sexual orientation (homosexual/bisexual/heterosexual/other), educational level, employment status (and if unemployed, the reason), occupation, relationship status (living with partner was considered equal to married) and economic difficulty in coping with HIV infection. Participants were also asked about means of HIV transmission (sexual/syringe or similar/blood transfusion or mother-to-child/other or don't know) and if they had connections with an HIV+ NPO. Lastly, participants indicated whether they were taking HIV medication and, if so, daily dosage and doses skipped in the last month, so as to measure treatment adherence.

Procedures

We designed a correlational transversal study that was approved by the authors' University ethical committee. In order to develop the two initial instruments and to ensure their content validity, we reviewed the current literature on IS and DC, focusing on items that encompass these constructs in existing scales (Berger et al., 2001; Bunn et al., 2007; Franke et al., 2010; Holzemer et al., 2007; Jimenez et al., 2010; Kalichman et al., 2009; Kingori et al., 2013; Kipp et al., 2015; Lindberg et al., 2014; Miric, 2004; Murphy & Hevey, 2013; Phillips et al., 2011; Sayles et al., 2008; Steward et al., 2008; Sumari-de Boer et al., 2012; Tsai et al., 2013; Tzemis et al., 2013; Van Rie et al., 2008). We made an effort to select, combine, divide and create items that reflect the different aspects of IS and DC, resulting in the development of two draft instruments: the HIV Internalized Stigma Scale (HIV-ISS) and the HIV Disclosure Concerns Scale (HIV-DCS).

Each scale comprised 11 items with a 5-point Likert-type response format. Next, to improve the content validity and cultural appropriateness of the scales, scale items were subjected to critical analysis by an advisory committee composed of two clinical psychologists who worked in an HIV-related NPO in Madrid (Spain) and four HIV+ patients (two males and two females) who attended NPO activities. The advisory committee members were asked to read the scales and respond to the following questions: Do you find any item to be irrelevant? Do you think there are items that are very similar and should be combined? Is there any item that you would deem important to separate into several? Would you change the way of expressing anything? Can you think of any important aspects not taken into account that should be included? The committee members then presented their comments and suggested item revisions. As established by mutual agreement at the beginning of the meeting, the clinical psychologists provided their judgments last, in order to avoid biasing the patients' opinion. A final agreement regarding item revisions was achieved by the committee members.

As a result of the critical analysis, 1 item was eliminated from the HIV-ISS and 2 items from the HIV-DCS; 2 items were combined and subsequently separated in the HIV-ISS; 1 item was separated into two in the HIV-DCS; 1 item in each scale was re-written to improve its content; and 1 item of the HIV-DCS was modified to include an important aspect not taken into account in the original scale. The final scales were composed of 10 items each.

The revised scales, along with the HADS and the RSE, were administered to a sample of 458 HIV-positive adults. Upon completion, respondents were thanked and invited to collaborate further by completing the HIV-ISS and the HIV-DCS again in four weeks. Those willing ($N = 291$) provided their email and were assigned a code to allow merging of the test/retest data. After four weeks, respondents were emailed a message which included the link for the retest questionnaire and a reminder of their code. A total of 125 participants completed the retest assessment.

Statistical analyses

Factorial validity was assessed by means of an exploratory factor analysis (EFA) conducted on both scales to test if the items of each scale loaded differentially on two factors. Initial suitability of the data for performing EFAs was assessed via the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test that one or more latent factors are required to explain the correlations among the items. The distributions of scores were asymmetric, so we used the unweighted least squares (ULS) method for extraction, given that it requires no distributional conditions, it usually yields less biased estimates and it is quite robust (Briggs & MacCallum, 2003). We used direct Oblimin method for rotation to allow factor correlation. The criterion for retaining a factor was that it had an eigenvalue higher than 1. Only items with factor loadings higher than .40 were retained, guaranteeing the factors only included moderately to strongly-related items (Floyd & Widaman, 1995; Stevens, 1992).

The reliability related to internal consistency was measured by Cronbach's alpha coefficient, and test-retest was assessed using a two-way mixed, absolute agreement, single-measures Intra-class Correlation Coefficient (ICC; Weir, 2005). The ICC was chosen because it addresses both agreement and correspondence between scores, and the repetition can be regarded as a random factor (Kim, 2013).

Criterion validity of HIV-ISS and HIV-DCS scores was assessed by Pearson's correlation with HADS-A, HADS-D and RSE scores. Additionally, the model fit of a predictive Path Analysis with Latent Variables (PALV) was tested. This model considered HIV-ISS and HIV-DCS scores as predictors and HADS-A, HADS-D and RSE scores as criteria. Thus, Unweighted Least Squares was used as the estimation method. In order to assess model fit, we used absolute measures of fit (GFI, AGFI and SRMR) and incremental ones (NFI and RFI). For GFI, AGFI, NFI and RFI, values between .90 and .95 are considered acceptable, and above .95 are good—the fit is better as it approaches to 1 (Bentler & Bonett, 1980; Bollen, 1986; Byrne, 2001). For SRMR, values < 0.08 are indicative of a good fit (Hu & Bentler, 1999). All of these indices are valid for the ULS method.

Finally, sensitivity of the scales was assessed by addressing gender, age, time since diagnosis, nationality, educational level, connection with NPOs, treatment status and treatment adherence effects on IS and DC (Pearson correlations, ANOVAs and *t*-tests were conducted). Significant omnibus *F*-test results for ANOVAs were followed up with post-hoc paired comparison tests with multiplicity-adjusted *p*-values obtained using the Games-Howell post-hoc test. An adherence of 90% or higher was considered good adherence. Only males and females were included in the gender differences analyses, as there were only four participants who reported "other" gender. Data analyses were performed using SPSS v22.0 and AMOS v22.0.

3.1.4. Results

Factorial validity

We began by conducting an EFA. The KMO (KMO = .95) and Bartlett's test ($\chi^2 = 6634.28$, $df = 190$, $p < .001$) indicated good sampling adequacy for factor analysis. The analysis yielded a two-factor solution that accounted for 63.07% of the variance—the first factor explained 47.48% and the second 15.59%. As for the shared variance in the data, 59.15% was explained by the solution, 45.54% by the first factor and 13.62% by the second. The left side of Table 3.2 shows the factors loadings for the rotated solution (factor pattern matrix). Since an oblique rotation was applied, we provide the factor structure matrix in the right side of Table 3.2, which shows the correlation between each item and the factors of the rotated solution. The correlation between the two factors was $r = .51$.

As can be seen in Table 3.2, all items loaded highly on only one factor and there were no cross-loadings. In fact, all of the HIV-ISS items loaded on Factor 1 and all items from the HIV-DCS scale loaded on Factor 2, which suggests that Factor 1 represents Internalized Stigma due to HIV+ condition and Factor 2 refers to Disclosure Concerns.

Reliability (internal consistency and test-retest reliability) and descriptive results

For the complete sample, Cronbach's alphas for the HIV-ISS and the HIV-DCS were $\alpha = .94$ and $\alpha = .93$, respectively. These values did not increase with the removal of any items. Reliability tests were run within those nationality subsamples with 50 participants or more (Spain, Mexico, Colombia and other Latin American countries), with alphas ranging from $\alpha = .91$ –.95 for the HIV-ISS and $\alpha = .91$ –.94 for the HIV-DCS.

The mean score on the HIV-ISS for the whole sample was 23.33 ($SD = 11.14$; range 10–50), and the mean score for the HIV-DCS was 35.36 ($SD = 11.17$; range 10–50). Table 3.3 shows the Mean, SD and Corrected Item-Total Correlation of each item. The test-retest correlation assessed with ICC was .79 ($p < .001$; 95% CI = .71–.85) for the HIV-ISS, and .86

($p < .001$; 95% CI = .81–.90) for the HIV-DCS. Within the subsamples of participants from Spain, Mexico, Colombia and other Latin American countries, the ICC ranges were .74–.86 (all $p < .001$) for the HIV-ISS and .84–.92 (all $p < .001$) for the HIV-DCS.

Table 3.2. Factor Pattern and Structure Matrices.

	<i>Factor Pattern Matrix</i>		<i>Factor Structure Matrix</i>	
	Factor 1	Factor 2	Factor 1	Factor 2
HIV-ISS ^a Item 1	.78	–.02	.77	.38
HIV-ISS ^a Item 2	.83	.00	.84	.43
HIV-ISS ^a Item 3	.76	.16	.84	.54
HIV-ISS ^a Item 4	.75	.11	.80	.49
HIV-ISS ^a Item 5	.79	.06	.82	.47
HIV-ISS ^a Item 6	.61	–.05	.58	.26
HIV-ISS ^a Item 7	.78	.00	.79	.40
HIV-ISS ^a Item 8	.74	.00	.73	.37
HIV-ISS ^a Item 9	.82	–.05	.80	.37
HIV-ISS ^a Item 10	.74	–.01	.73	.36
HIV-DCS ^b Item 1	–.04	.80	.36	.77
HIV-DCS ^b Item 2	.01	.82	.41	.82
HIV-DCS ^b Item 3	–.14	.75	.25	.68
HIV-DCS ^b Item 4	.07	.73	.44	.76
HIV-DCS ^b Item 5	.11	.69	.46	.75
HIV-DCS ^b Item 6	–.06	.90	.41	.87
HIV-DCS ^b Item 7	.02	.85	.45	.86
HIV-DCS ^b Item 8	.13	.56	.42	.63
HIV-DCS ^b Item 9	.04	.73	.41	.75
HIV-DCS ^b Item 10	.07	.62	.39	.66

Note. Table shows the factor loadings of each item. Extraction Method: Unweighted Least Squares. Rotation Method: Oblimin with Kaiser Normalization. Rotation converged in 7 iterations. ^aHIV Internalized Stigma Scale. ^bHIV Disclosure Concerns Scale. Loadings higher than .40 are highlighted in boldface for the Factor Pattern Matrix.

Table 3.3. Mean, SD and Corrected Item-Total Correlation for each item of the HIV-ISS^a and HIV-DCS^b.

	HIV-ISS ^a			HIV-DCS ^b		
	Mean	SD ^c	CITC ^d	Mean	SD ^c	CITC ^d
Item 1	2.03	1.31	.74	4.04	1.26	.74
Item 2	2.55	1.44	.81	3.49	1.42	.78
Item 3	2.53	1.38	.81	4.31	1.03	.65
Item 4	2.58	1.44	.77	3.63	1.46	.73
Item 5	2.77	1.47	.80	2.79	1.55	.73
Item 6	2.46	1.46	.57	3.52	1.51	.84
Item 7	2.09	1.38	.75	3.33	1.53	.83
Item 8	2.63	1.51	.71	3.56	1.57	.61
Item 9	1.83	1.26	.76	3.50	1.44	.73
Item 10	1.88	1.36	.70	3.19	1.45	.64

Note. ^aHIV Internalized Stigma Scale. ^bHIV Disclosure Concerns Scale. ^cStandard Deviation. ^dCorrected Item-Total Correlation.

Criterion validity

To assess criterion validity, indicated by the correlation among HIV-ISS and HIV-DCS scores and other instruments that measure similar constructs, the HADS-A (anxiety), HADS-D (depression) and RSE (self-esteem) scores were employed. Results of the Pearson correlations are presented in Table 3.4. As expected, all measures were correlated in the anticipated direction. HIV-ISS was more related to HADS-A ($r = .63$), HADS-D ($r = .56$) and RSE ($r = -.60$) than HIV-DCS ($r = .35$, $r = .35$ and $r = -.30$, respectively; all correlations $p < .01$), although both scales showed high and significant correlations.

The regression model tested by means of the PALV is presented in Figure 3.1. The obtained fit values were the following: GFI = .98, AGFI = .98, SRMR = .07, NFI = .98 and RFI = .98. All of them were well inside limits for acceptance of the model. As can be seen in Figure 3.1, the amounts of explained variance are high (HADS-A = .65, HADS-D = .59, and

Table 3.4. Correlations of HIV-ISS ^a and HIV-DCS ^b with HADS-A ^c, HADS-D ^d, and RSE ^e.

Measure	HADS-A ^c	HADS-D ^d	RSE ^e
HIV-ISS ^a	.63***	.56***	-.60***
HIV-DCS ^b	.35***	.35***	-.30***

Note. Table shows Pearson’s correlations among measures. ^a HIV Internalized Stigma Scale. ^b HIV Disclosure Concerns Scale. ^c Hospital Anxiety and Depression Scale – Anxiety subscale. ^d Hospital Anxiety and Depression Scale – Depression subscale. ^e Rosenberg Self-Esteem Scale.

*** $p < .001$.

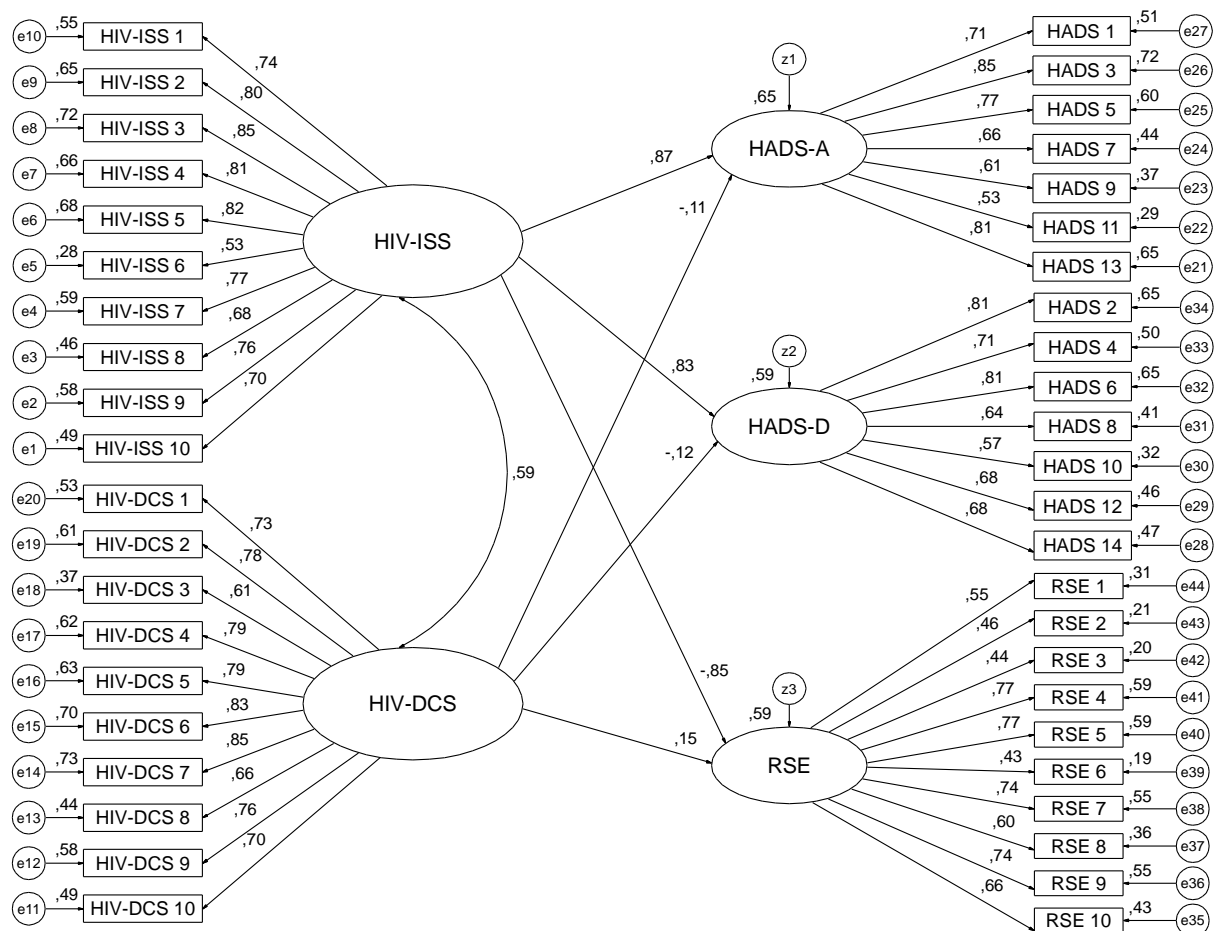


Figure 3.1. Regression model for HIV-ISS, HIV-DCS, HADS-A, HADS-D and RSE.

RSE = .59). Also, the regression weights of HIV-ISS on the dependent variables were high and significant in all cases and in the expected direction: .87 on HADS-A, .83 on HADS-D and -.85 on RSE. The regression weights of HIV-DCS on HADS-A, HADS-D and RSE were almost null (-.11, -.12 and .15, respectively).

Sensitivity of the scales

To address possible age and time since diagnosis relation with Internalized Stigma and Disclosure Concerns, Pearson correlations were obtained. The results were significant for both scales: HIV-ISS had a high, significant negative correlation with age ($r = -.35, p < .01$) and with time since diagnosis ($r = -.32, p < .01$), as HIV-DCS did (respectively, $r = -.27, p < .01$ and $r = -.31, p < .01$).

We also tested for HIV-ISS and HIV-DCS differences by nationality, educational level, connection with an NPO, being on HIV treatment or not and treatment adherence. The ANOVA showed that the differences by nationality were significant for HIV-DCS ($F[4, 453] = 4.64; p = .001, \eta^2 = 0.04$), but not for HIV-ISS ($F[4, 453] = 1.58; p = .179$). A Games-Howell post-hoc test showed that HIV-DCS scores were significantly lower for Mexicans ($M = 31.86$) compared to Spaniards ($M = 36.45, p = .018$) and Colombians ($M = 38.93$) ($p = .002$). There were no significant differences among educational levels ($F_{\text{HIV-ISS}}[5, 452] = 1.16, p = .328; F_{\text{HIV-DCS}}[5, 452] = 1.07, p = .376$).

The t -tests showed that those in connection with an NPO had lower HIV-ISS and HIV-DCS scores ($M_{\text{HIV-ISS}} = 20.47, M_{\text{HIV-DCS}} = 29.17$) than those who were not ($M_{\text{HIV-ISS}} = 24.48, M_{\text{HIV-DCS}} = 37.84; t_{\text{HIV-ISS}}(456) = 3.52, p < .001; t_{\text{HIV-DCS}}(202.47) = 7.33, p < .001$). Also, those on treatment had lower HIV-ISS and HIV-DCS scores ($M_{\text{HIV-ISS}} = 22.11, M_{\text{HIV-DCS}} = 34.57$) than those who were not ($M_{\text{HIV-ISS}} = 29.14, M_{\text{HIV-DCS}} = 39.08; t_{\text{HIV-ISS}}(103.28) = -4.68, p < .001; t_{\text{HIV-DCS}}(456) = -3.31, p = .001$). No differences on HIV-ISS and HIV-DCS were found between those who had good adherence and those who did not ($t_{\text{HIV-ISS}}(376) = -.88, p = .381; t_{\text{HIV-DCS}}(376) = -1.30, p = .196$), or between males and females ($t_{\text{HIV-ISS}}(452) = .62, p = .533; t_{\text{HIV-DCS}}(452) = .37, p = .716$).

HIV-ISS and HIV-DCS Short Forms

Since there are circumstances where it would not be practical to administer the complete scales, we sought to provide short tools for assessing IS and DC. To achieve this, we retained

Table 3.5. Factor loadings of the rotated solution for the Short Forms.

	Factor 1	Factor 2
HIV-ISS ^a Item 1	.00	.74
HIV-ISS ^a Item 2	-.06	.95
HIV-ISS ^a Item 5	.08	.79
HIV-DCS ^b Item 2	.73	.05
HIV-DCS ^b Item 6	.97	-.06
HIV-DCS ^b Item 7	.89	.02

Note. Table shows the factor loadings of each item. Extraction Method: Unweighted Least Squares. Rotation Method: Oblimin with Kaiser Normalization. Rotation converged in 5 iterations. ^a HIV Internalized Stigma Scale. ^b HIV Disclosure Concerns Scale.

three items from each scale basing our decision on the factor loadings and the Cronbach alphas when items were deleted.

Items 1, 2 and 5 remained for the HIV-ISS, showing an alpha of $\alpha = .87$, a test-retest ICC of .70 (95% CI = .59 to .78) and a correlation with the whole scale of $r = .93$. The HIV-ISS Short Form (HIV-ISS-SF) was significantly related to HADS-A, HADS-D and RSE (Pearson correlations were, respectively, $r = .64$, $r = .56$ and $r = -.55$, all of them $p < .001$). Items 2, 6 and 7 remained for the HIV-DCS, with an alpha of $\alpha = .90$, a test-retest ICC of .84 (95% CI = .77 to .88) and a correlation with the whole scale of $r = .94$. The HIV-DCS Short Form (HIV-DCS-SF) was significantly related to HIV-ISS-SF, HADS-A, HADS-D and RSE (Pearson correlations were, respectively, $r = .42$, $r = .29$, $r = .30$ and $r = -.25$, all of them $p < .001$).

Another EFA was conducted (KMO = .78 and Bartlett's test: $\chi^2 = 1681.20$, $df = 15$, $p < .001$) with the six items and it yielded a two factor solution in which HIV-DCS-SF formed the first factor that explained 57.53% of the variance, and HIV-ISS-SF items formed the second factor that accounted for an additional 23.45% of the variance. The two factors were correlated ($r = .47$), and Table 3.5 shows the Pattern Matrix for this EFA. These data suggest that the short versions of both scales provide reliable and valid measures of internalized stigma and disclosure concerns for use in situations where a short scale is necessary.

3.1.5. Discussion

We sought to develop and ascertain the psychometric properties of an Internalized Stigma (IS) scale and a Disclosure Concerns (DC) scale in HIV+ populations from several Spanish-speaking countries. The results suggest that both scales show adequate psychometric properties in terms of validity, reliability and sensitivity.

Regarding factorial validity, our data support our first hypothesis that IS and DC would be different, although related, constructs. The EFA yielded a clear two factor solution both for the whole scales and the short forms, in which one factor comprised the IS items and the other the DC items, resulting in a IS scale and a DC scale that were moderately correlated, as found in previous research (Berger et al., 2001; Bunn et al., 2007; Franke et al., 2010; Jimenez et al., 2010; Sayles et al., 2008).

With respect to criterion validity, our results showed that our measures (both the whole scales and the short forms) are significantly related to depression, anxiety and self-esteem, which supports our second hypothesis. The correlations followed the expected direction, with IS correlations being higher than DC correlations, as found in other studies (Berger et al., 2001; Bunn et al., 2007; Franke et al., 2010; Jimenez et al., 2010; Kalichman et al., 2009; Miric, 2004; Phillips et al., 2011; Steward et al., 2008; Tsai et al., 2013). The PALV, which showed an excellent fit to data, demonstrated that high percentages of the variance of HADS-A, HADS-D, and RSE can be explained from HIV-ISS. In this case, the relations between IS and the criteria were, again, stronger than that of DC, the latter being non-significant in all cases. This result is congruous with what was found in Bunn et al. and Jimenez et al.'s work (Bunn et al., 2007; Jimenez et al., 2010).

Regarding reliability, we found that both measures in both forms (the whole scales and the short forms) demonstrated good internal consistency and test-retest reliability, data that speak in favor of the psychometric solidity of these measures.

With regard to sensitivity analyses, IS and DC were in our sample negatively related to age, time since diagnosis, connection to an NPO, and being on treatment, as previously found (Lee et al., 2002; Sayles et al., 2008; Tzemis et al., 2013). Our study also revealed potential national differences on DC that had not been previously explored among these populations, showing that Mexicans have lower DC than Spaniards and Colombians. These results provide partial support for our third hypothesis, and open paths to future research.

There were hypothesized relations for which our results did not provide support. First, there were no gender differences in relation to IS or DC. This result is congruous with Sayle et al.'s results (Sayles et al., 2008), and could reflect national differences, since the study on which we based our hypothesis (Steward et al., 2008) was conducted in India. Second, a previous study found that those with secondary education or higher had a lower degree of general stigma and IS (Sayles et al., 2008; Tzemis et al., 2013), but no differences emerged in our sample. We think this might be due to the small number of participants who had an educational level lower than secondary—only 18 out of the 458 of the total sample. Third, there were no differences in IS or DC by treatment adherence, which other studies had found (Li et al., 2014; Sayles et al., 2009). This result, although congruous with Tzemis et al.'s work (2013), could be explained if we again consider the small number of participants who reported suboptimal adherence—only 22 out of 378 who were on ART. Nevertheless, this lack of conclusiveness suggests the need for further research in these areas.

Our study has several implications. With regard to research, it provides the Spanish and Spanish-speaking research community with reliable and valid tools to assess the critical variables of IS and DC, as well as with short forms more convenient for situations with a tight timetable. The scales have been validated in a large and culturally heterogeneous sample and, thus, can be used for research in several populations. Our study has also contributed knowledge to the field of stigma by showing DC and IS are different constructs and that their measurement,

especially that of IS, is able to predict the existence of psychopathological symptoms such as anxiety, depression and self-esteem. This is of paramount importance to the field of Health Psychology, where our study could also have clinical implications. The IS and DC scales could be used in clinical settings as screening methods to detect people at risk that would benefit from a psychological intervention, although we believe more research would be necessary in this regard, especially with populations in Latin American countries. Possible interventions derived from our results might include the suggestion that passive waiting for IS and DC to fade over the years may not be the only option; we could encourage newly diagnosed patients to engage with an NPO (e.g., attend talks or workshops, join a support group, attend other events) and to begin ART, although the direction of this relations remains to be explored.

There were several limitations to our study, especially with respect to self-selection bias and convenience sampling strategy. Our advisory committee only included HIV+ people affiliated with an NPO, which makes them less likely to report IS and DC. It is true that it is difficult to approach and engage people outside NPOs for this kind of activity, but this issue could have impacted the scale refinement procedures. It is also possible that only highly motivated individuals completed the scales, which would imply a bias in our results, as the men and women who participated may differ in significant ways from those who chose not to participate. Additionally, those individuals not using online social networks had limited opportunity to be recruited into the study, so the sample may be biased toward people associated with some kind of (virtual) community, and our tools may not have been validated by the most stigmatized and isolated PLHIV.

Also, some of the subsamples (i.e., those without secondary education and those with suboptimal adherence) were small, which limited the possibility of accurately testing some of our hypotheses regarding the sensitivity of the scales. Likewise, the fact that our sample was highly educated may limit the generalizability of our findings to Spanish-speaking populations

with a lower educational level. Moreover, all Spanish-speaking individuals were considered as one sample for some analyses (e.g., criterion validity analyses), not taking into account the nationality of the participants, which constitutes another limitation of this study. Future research should address these issues, and we also recommend in depth exploration of the national differences that emerged in our study, as well as the reasons for those differences.

Finally, further research should test if our scales are sensitive to change, for instance with a pre-post design that compares scale scores before and after attending a support group or a stigma reduction intervention.

In conclusion, the HIV-ISS and HIV-DCS are reliable means of assessing HIV internalized stigma and disclosure concerns as separate constructs, both for clinical and research purposes and in a variety of Spanish-speaking populations.

3.1.6. References

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3.2. SITUATED COPING QUESTIONNAIRE FOR ADULTS: VALIDATION OF A SHORT FORM IN HIV+ SPANISH-SPEAKING ADULTS FROM A BAYESIAN APPROACH

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3.2.1. Abstract

The use of coping strategies depends on the type of adversity, and HIV infection provides various difficult situations to cope with. However, most coping questionnaires do not consider its situational character. This study seeks to validate the SCQA-HIV-SF, a Short Form of the Situated Coping Questionnaire for Adults (SCQA), which originally considered five adverse situations.

A cross-sectional approach was employed. The SCQA was shortened by reducing the situations considered to the three most relevant to HIV infection. 188 HIV-positive participants completed the SCQA-HIV-SF, and also the Hospital Anxiety and Depression Scale, a health-related resilience scale, and a disclosure index for validation purposes. Factorial validity was tested through Bayesian structural equation modeling, reliability of the scales was obtained through the composite reliability index and criterion validity was tested via correlation analyses.

Bayesian confirmatory factor analyses showed that the situation influences the degree of use of particular coping strategies. The scales showed adequate reliability. Correlation analyses showed that some coping strategies contribute to predict anxiety, depression, resilience, and degree of disclosure, supporting the SCQA-HIV-SF's validity. The SCQA-HIV-SF is deemed a reliable and valid means of situated coping assessment for use with HIV-positive populations.

Keywords: HIV/AIDS; instrument development; psychological studies; coping; resilience; disclosure

3.2.2. Introduction

Coping is defined as a cognitive or behavioral response to something appraised as stressful (Moskowitz, Hult, Bussolari, & Acree, 2009). HIV diagnosis is a source of powerful stressors that pose a threat to physical and mental health (Blashill, Perry, & Safren, 2011), and thus coping research is highly relevant for this population.

People living with HIV (PLHIV) face many uncertainties in relation to their health and they also encounter a variety of psychosocial challenges (Buseh, Kelber, Hewitt, Stevens, & Park, 2006) which can be, among others, psychological, sociocultural, and financial (Carrobes Isabel, Remor Bitencourt, & Rodríguez Alzamora, 2003). For instance, interpersonal relationships and financial status may worsen as a result of discrimination and stigmatization (Holt et al., 1998). HIV has been identified as more stigmatized than other medical conditions such as diabetes or cancer, with PLHIV reporting more experiences of discrimination, financial insecurity, internalized shame, and lower self-esteem than cancer patients (Fife & Wright, 2000). A negative view of the HIV infection still remains among the public and is pervasive in Spain, where PLHIV encounter discrimination in a number of different areas of their lives (Molero, Fuster, Jetten, & Moriano, 2011).

Psychosocial stressors play an important role in the prediction of HIV disease progression, and therefore knowing which coping strategies are effective to deal with them is necessary to help PLHIV reach both psychological and physical well-being (Moskowitz et al., 2009; Roesch & Weiner, 2001). Indeed, 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 develop and validate a shortened version of a lengthy situated coping questionnaire that will allow researchers to assess how Spanish-speaking PLHIV cope with HIV diagnosis and related stressors.

Coping involves a constant change of cognitive and behavioral efforts (Lazarus & Folkman, 1984). It is a complex process that not only depends on personality 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 infection offers a variety of changing situational demands that are bound to contribute to the cited variability in coping. For instance, 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, Patton, Jurich, & MacDermid, 1994; Moskowitz et al., 2009). As a case in point, non-disclosure is effective for the newly diagnosed, 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).

A vast number of coping strategies exist and are named in literature (e.g., rumination, isolation), and so researchers have organized them in global classifications, such as the distinction between problem-focused coping and emotion-focused coping (Lazarus & Folkman, 1984). Said global classifications have some advantages such as efficient analysis and discussion of findings (Moskowitz et al., 2009). In the HIV literature, most studies 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). Nevertheless, specific strategies have been suggested as more useful than global classifications to inform coping effectiveness with HIV-related stress (Moskowitz et al., 2009), a consideration which this study will take into account.

Literature on coping with HIV effectiveness most frequently has relied on 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). In Spanish PLHIV, approach coping has been associated with better well-being, immune function and positive affect; while avoidance coping was related to worse well-being, more negative affect and less perceived social support (Carrobes Isabel et al., 2003; Sanjuán, Molero, Fuster, & Nouvilas, 2012). Resilience is a positive psychological outcome that has recently received some attention in the field. It is defined as the maintenance of a stable equilibrium (Bonanno, 2005), and it has also been found to be related to coping (Alonso-Tapia, Rodríguez-Rey, Garrido-Hernansaiz, Ruiz, & Nieto, 2016; Leipold & Greve, 2009). Moreover, it has been suggested that approach coping may enhance positive outcomes (e.g., resilience) without increasing or decreasing the negative ones (e.g., anxiety, depression), whereas avoidance coping would increase negative outcomes without affecting the positive ones (Varni, Miller, McCuin, & Solomon, 2012).

Additionally, the strategy of self-isolation has been associated with non-disclosure of seropositivity (R. S. Lee, Kochman, & Sikkema, 2002). Disclosure, on the other hand, has been proposed as a facilitator of more effective coping (i.e., approach) and psychological adjustment, as it allows access to instrumental and emotional support (Holt et al., 1998), which in turn is negatively correlated with depression, anxiety, and hopelessness (R. S. Lee et al., 2002).

Little research, nonetheless, 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, Rodríguez-Rey, 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 indeed reflect the type of stressors that PLHIV usually encounter (Carrobes Isabel et al., 2003). Our study will explore how effective the different coping strategies are in the context of HIV and its demands by studying their relation to psychological outcomes, concretely depression, anxiety, and resilience. Moreover, relationships are expected between the degree of disclosure and the coping strategies help seeking and self-isolation (a positive and a negative relationship, respectively), for the reasons stated above (Holt et al., 1998; R. S. Lee et al., 2002).

To summarize, the aim of the present study is to elaborate a more concise version of the SCQA and to validate it in a sample of PLHIV, so as to provide a measure to assess rapidly and accurately several coping strategies in different situations relevant to PLHIV. Validity will be explored in terms of correlations with psychological outcomes and degree of disclosure (criterion validity), as well as in terms of factorial structure (factorial validity).

3.2.3. Methods

Participants

The inclusion criteria for the study were a minimum age of 18 years, HIV seropositivity, and comfort with reading and writing in Spanish. The descriptive statistics of the sample can be found in Table 3.6. Of the 188 participants, most were males, single, employed, between 20 and 40 years of age, and had obtained a university degree.

Table 3.6. Sample characteristics.

	<i>N</i>	%
Gender		
Male	177	94.1
Female	10	5.3
Other	1	.5
Age		
< 20 yrs	2	1.1
20–30 yrs	64	34.0
31–40 yrs	68	36.2
41–50 yrs	41	21.8
51–60 yrs	12	6.4
> 60 yrs	1	.5
Relationship status		
Single	135	71.8
Married/living with partner	36	19.1
Divorced/separated	16	8.5
Widowed	1	.5
Educational level		
Primary education	17	9.0
Secondary education	60	32.0
University degree	95	50.5
Post-graduate education	16	8.5
Employment status		
Employed	125	66.5
Between jobs	36	19.1
Student	18	9.5
Retired	9	4.8

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

Questionnaire development

The SCQA was chosen as it allows to measure the interaction of personal dispositions and situational variability in coping responses (Alonso-Tapia, Rodríguez-Rey, 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, self-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 (Alonso-Tapia, Rodríguez-Rey, et al., 2016), although 1) its strategies are not organized within the approach/avoidance global classification 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, self-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 already mentioned, we decided to follow the recommendation to use latent variable modeling, which allows to simultaneously test 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, especially the latter. Moreover, some aspects of work-related problems can be captured by two of the three remaining stressful situations: relationships problems, which would capture some stigma aspects very important for this population, and financial problems. The third type of stressful situation included in the final shortened version is own health issues and it is key for PLHIV, as it captures the aspects related to physical health, treatment management, health worries, etc.

Instruments

Situating Coping Questionnaire for Adults – HIV Short Form (SCQA-HIV-SF). This questionnaire assesses the extent of use of eight different coping strategies (problem solving, positive thinking, help seeking, self-blame, rumination, emotional expression, self-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 5-point Likert scale (1 = *Strongly disagree*, to 5 = *Strongly agree*).

Health-related problems subscale of the Situating Subjective Resilience Questionnaire for Adults (SSRQA); Alonso-Tapia, Garrido-Hernansaiz, Rodríguez-Rey, Ruiz, & Nieto, 2016). This 4-item subscale measures subjective resilience in the face of own health problems (e.g., “When I have had an important health issue, I have 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 ($\alpha = .72$) and in our sample ($\alpha = .74$).

Hospital Anxiety and Depression Scale (HADS); Zigmond & Snaith, 1983). This self-report measure is comprised of 14 items with a 4-point Likert-type scale (0 to 3), which form two 7-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, Laberge, Gauthier, Ivers, & Bergeron, 1998), and it has been validated in HIV-positive patients in several languages (e.g., Sale, Dankishiya, & Gadanya, 2014). The scores of the Spanish version (Tejero, Guimerá, Farré, & Peri, 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, Cabrera-Perona, & Martín-Aragón, 2015). Cronbach's alpha in the current sample was .85 for the HADS-A and .67 for the HADS-D.

Disclosure. 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, work-related people, 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*).

Sociodemographic variables. Participants reported their gender (male/female/other), age, educational level, employment status, and relationship status (single, married/living with partner, separated/divorced, widowed).

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 three steps. First, several local and national HIV associations and groups from Spanish-speaking countries were contacted online and asked to distribute information about the study and a link for participation through their online social networks. The 73 HIV+ participants recruited in this manner completed the sociodemographic questionnaire and the coping and resilience scales. Second, 85 HIV+ patients were referred to the study by healthcare workers of a healthcare center in Madrid, Spain, specialized in sexually transmitted infections. Third, 30 additional seropositive

participants were recruited in the same way as the first subsample. These last two subsamples also provided information on their degree of disclosure and completed the HADS. A total sample of 188 participants accepted to collaborate and completed the questionnaires on an online survey platform.

Statistical analyses

The validation analyses were designed to partially parallel those implemented in the original development and validation study (Alonso-Tapia, Rodríguez-Rey, et al., 2016). In order to test factor validity, 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 (S.-Y. 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 (B. Muthén & Asparouhov, 2012). Given its recent emergence and potential in factor analysis, the BSEM approach was applied to the study of the latent structure of the SCQA-HIV-SF.

Four models of different complexity were compared (see Figure 3.2). The aim of this comparison was to test the differential fit to 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 3.2a) consisted of the eight specific coping factors, allowing for correlations among them. The second model (Figure 3.2b) included the same eight specific factors and also the two general coping dimensions (approach/avoidance), allowing a correlation between these general factors. The third model (Figure 3.2c) included the eight specific factors and also three situational factors accounting for the situational character of coping (relationships problems, own health issues, and financial problems). Finally, the fourth model (Figure 3.2d) included the eight specific factors, the two general correlated coping dimensions, and the three situational factors.

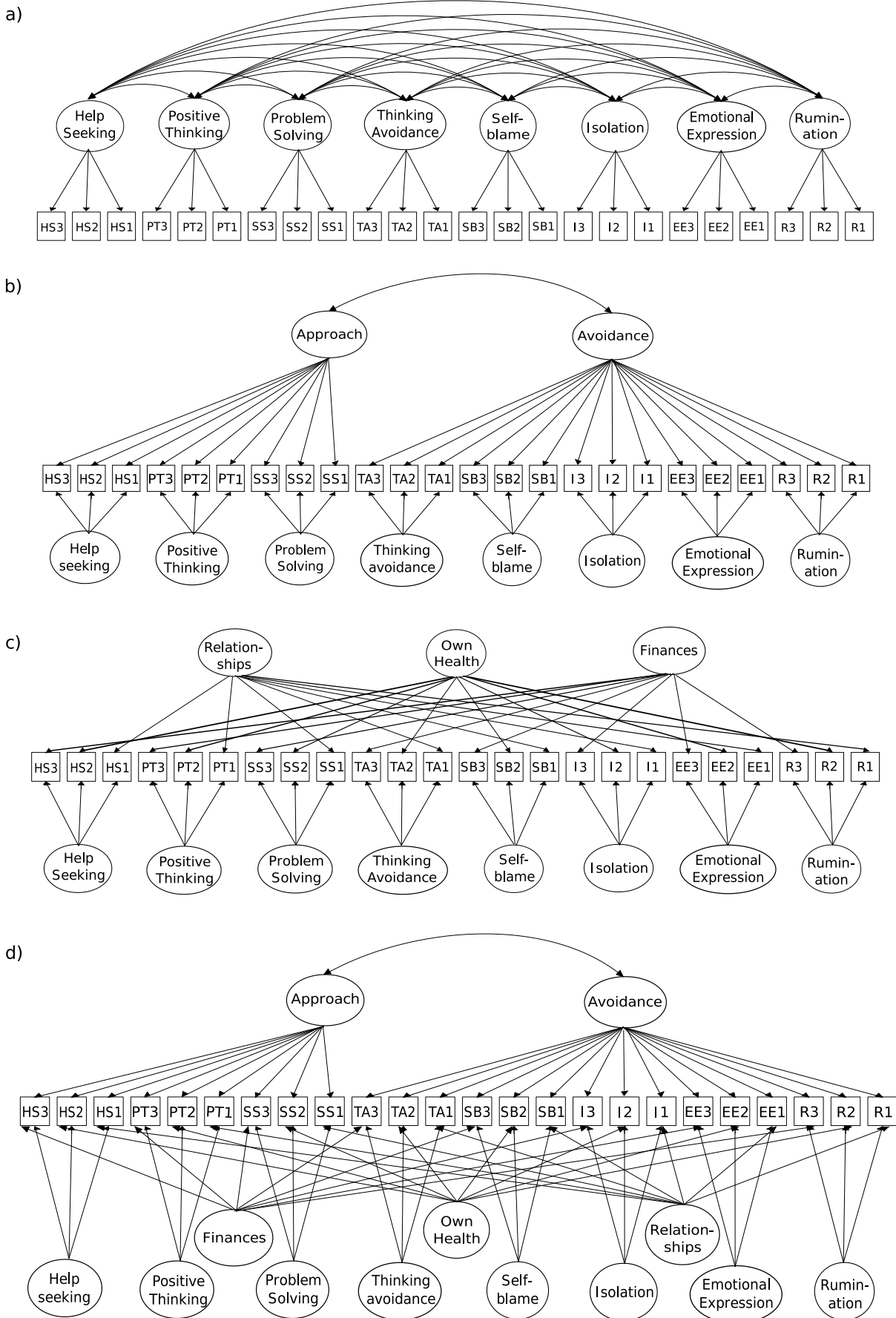


Figure 3.2. Confirmatory Factor Analysis of the four models tested for the SCQA-HIV-SF.

The four models were estimated with the MCMC algorithm, setting 4 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, Carlin, Stern, & Rubin, 2013). Then, to assess model fit, the Deviance Information Criterion (DIC), and the estimated number of parameters (pD) were obtained. The DIC is an index with comparative meaning, i.e., the model with the lowest DIC has the better fit to data.

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. 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 .30 (Eisen, Ware, Donald, & Brook, 1979; Nunnally & Bernstein, 1994).

Finally, to tackle construct validity, Pearson correlations were obtained between the specific and general coping factors and resilience, anxiety, depression, and degree of disclosure.

Analyses were carried out using SPSS 23 and MPlus 7 (L. K. Muthén & Muthén, 2010) statistical software.

3.2.4. Results

Factorial validity

Table 3.7 shows the fit indices for the four tested models. Model 4 (shown in Figure 3.2d) had the best fit to data, with a lower DIC value 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 3.8. Item loadings on each of the eight coping strategies factors were generally moderate to high, as were the item loadings on the approach general factor. Loadings on the avoidance general factor were high, and the situational factors also showed to be relevant for some coping strategies. For instance, rumination had a moderately high weigh on the personal relationships problems and the financial problems situations, but not on own health issues. On the other hand, help seeking and self-isolation were very relevant in the own health issues situation, but not in the other two. The two general coping dimensions (i.e., approach and avoidance) were negatively correlated ($r = -.36$).

Reliability

The mean inter-item correlations for the specific factors and CRI for the general coping dimensions are shown in Table 3.9. CRI coefficients were high enough for the two general coping factors, especially the avoidance dimension, and all the mean inter-item correlations were larger than .30, indicating acceptable reliability of the specific factors.

Criterion validity

Results of the Pearson correlations between specific/general coping factors and resilience, anxiety, depression, and degree of disclosure are presented in Table 3.9. Regarding the general coping dimensions, approach was not related to health-related resilience but had a

Table 3.7. Model fit statistics for the four tested models.

	DIC (pD)	PSR
Model 1	13282.23 (106.42)	1.03
Model 2	13268.41 (86.74)	1.02
Model 3	13205.53 (99.39)	1.01
Model 4	13151.71 (118.61)	1.01

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

Table 3.8. Item loadings (rows) on factors (columns) for Model 4.

	HS	PS	PT	R	EE	SI	TA	SB	ReP	OHI	FinP	App	Av
HS1	.73 (.13)								.21 (.14)			.20 (.10)	
HS2	.75 (.12)									-.60 (.14)		.26 (.10)	
HS3	.53 (.11)										-.04 (.11)	.22 (.10)	
SS1		.61 (.11)							.36 (.14)			.16 (.10)	
SS2		.71 (.11)								.22 (.08)		.24 (.09)	
SS3		.46 (.09)									.13 (.09)	.40 (.09)	
PT1			.25 (.24)						.01 (.11)			.65 (.11)	
PT2			.26 (.25)							-.06 (.07)		.83 (.11)	
PT3			.15 (.24)								.12 (.08)	.90 (.11)	
R1				.45 (.19)					.46 (.17)				.79 (.09)
R2				.04 (.15)						.08 (.10)			.98 (.10)
R3				.45 (.20)							.64 (.10)		.70 (.10)
EE1					.76 (.11)								.33 (.11)
EE2					.41 (.08)								.65 (.09)
EE3					.93 (.10)								.44 (.10)
SII						.73 (.14)			-.07 (.13)				.84 (.10)
SI2						.49 (.12)				1.08 (.19)			.59 (.11)
SI3						.57 (.12)							.68 (.10)
TA1							.75 (.12)						.32 (.10)
TA2							.76 (.12)			.07 (.09)			.44 (.10)
TA3							.57 (.10)						.28 (.10)
SB1								.58 (.19)	.14 (.15)				1.04 (.11)
SB2								.55 (.18)		.21 (.09)			1.07 (.11)
SB3								.23 (.14)			.59 (.11)		.89 (.11)
$\rho_{Approach-Avoidance}$													
													-.36 (.09)

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, SI = Self-isolation, TA = Thinking Avoidance, SB = Self-Blame, ReP = Relationship Problems, OHI = Own Health Issues, FinP = Financial Problems, App = Approach, Av = Avoidance.

significant negative correlation with anxiety and depression ($r = -.32$ and $-.20$, respectively). Avoidance had strong correlations with health-related resilience, anxiety, and depression ($r = -.44$, $.51$, and $.36$, respectively). With respect to specific coping strategies, rumination and emotional expression, along with self-isolation and self-blame, were negatively related to health-related resilience (r range from $-.21$ to $-.54$) and positively related to anxiety (r range from $.24$ to $.54$) and depression (r range from $.21$ to $.41$). Positive thinking followed the opposite path: it was positively related to health-related resilience ($r = .23$) and negatively to anxiety and depression ($r = -.40$ and $-.29$, respectively). Help seeking was only associated with anxiety ($r = -.21$) and thinking avoidance was only associated with health-related resilience ($r = -.17$). Problem solving showed no relations with any of the variables. Finally, degree of disclosure was related to self-isolation, self-blame, and help seeking ($r = -.20$, $-.19$, and $.34$, respectively).

Table 3.9. Reliability of coping strategies and dimensions and correlations with resilience, anxiety, depression and degree of disclosure.

Variables	CRI/MIIC ¹	HR-R ¹	HADS-A ²	HADS-D ²	Disclosure ²
<i>Approach</i>	.74	.11	-.32**	-.20*	.09
<i>Avoidance</i>	.92	-.44***	.51***	.36***	-.15
Rumination	.43	-.54***	.51***	.34***	-.17
Emotional Expression	.45	-.21**	.24**	.21*	.10
Self-Isolation	.49	-.34***	.43***	.28**	-.20*
Self-Blame	.61	-.39***	.54***	.41***	-.19*
Thinking Avoidance	.44	-.17*	.18	.12	-.08
Help Seeking	.40	.12	-.21*	-.12	.34***
Problem solving	.42	-.14	.02	.05	-.15
Positive Thinking	.61	.23**	-.40***	-.29**	-.03

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.

¹ $N = 188$. ² $N = 115$.

* $p < .05$. ** $p < .01$. *** $p < .001$

3.2.5. Discussion

This study sought to shorten the SCQA and study the psychometric properties of the scores in PLHIV while taking into account the situational character of coping and the global approach/avoidance classification. The model comparison highlighted the importance of considering the situation when assessing coping strategies, as happened with the original scale findings (Alonso-Tapia, Rodríguez-Rey, 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 ones or the others should be used depending on their advantages and the research or clinical purpose.

Regarding the correlates of coping, 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, Rodríguez-Rey, et al., 2016; Leipold & Greve, 2009). More specifically, approach coping was negatively associated 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, emotional expression, self-blame, and self-isolation were negatively related to health-related resilience and positively related to anxiety and depression. This is coherent with Moskowitz et al.'s (2009) claim that rumination, emotional expression, 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 help seeking was associated with lower anxiety, and higher thinking avoidance was associated with lower health-related resilience. The findings follow again the expected direction—approach strategies correlate with better psychological outcomes and avoidance strategies with worse psychological outcomes (Moskowitz et al., 2009; Roesch & Weiner, 2001). In the light of these findings, though, the hypothesis that approach coping may enhance positive outcomes without affecting the negative ones, whereas avoidance would increase negative outcomes without affecting the positive ones (Varni et al., 2012), was not supported. It seems both coping styles affect both positive and negative psychological outcomes.

Problem solving, for its part, showed no relations with any of the variables. A tentative reason could be that everyone has the subjective perception that they try to solve the problem when it arises, but what qualifies as trying to solve the problem is a matter that can vary greatly from person to person. Moreover, trying to solve the problem does not grant effectively solving it.

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

Considered all together, these findings have clear implications with regard to psychological interventions with PLHIV. Such interventions should focus on reducing the use of avoidance strategies (i.e., rumination, emotional expression, self-blame, self-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 and self-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 better psychological status (Rodkjaer et al., 2014), as the use of certain coping strategies may be promoted from the beginning.

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. 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 to test 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. 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.

In conclusion, the SCQA-HIV-SF constitutes a concise, reliable, and valid means of situated coping assessment in PLHIV, 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 PLHIV, as well as inform efforts toward increasing optimal functioning in these individuals.

3.2.6. References

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3.3. POSTTRAUMATIC GROWTH INVENTORY: FACTOR STRUCTURE IN SPANISH-SPEAKING PEOPLE LIVING WITH HIV

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3.3.1. Abstract

This cross-sectional study analyzed the factorial structure of the Posttraumatic Growth Inventory (PTGI) in a sample of 304 Spanish-speaking HIV-positive adults. Participants completed the PTGI and a socio-demographic questionnaire. Exploratory factor analysis (EFA) was carried out through structural equations modeling, with a Varimax rotation. Factors with eigenvalues greater than 1 were extracted, and items with loadings higher than .5 on a factor and lower than .4 on the rest were retained. Two confirmatory factor analyses (CFA) were performed to test a hierarchical model and a bifactor model. Reliability analyses were conducted. EFA suggested a three-factor model keeping 11 of the original 21 items. The three factors that emerged were changes in philosophy of life, in the self, and in interpersonal relationships. CFAs suggested that only the bifactor model fitted the data. The three factors as well as the global scale showed good reliability. The factor structure of PTGI's scores in our data is consistent with the three dimensions theorized by Tedeschi and Calhoun, which speaks in favor of the construct validity of this measure.

Keywords: posttraumatic growth inventory; factor structure; structural validity; HIV; Spanish.

3.3.2. Introduction

Posttraumatic growth (PTG) represents the positive psychological changes that occur as the result of one's struggle with a potentially traumatic event. Such positive changes may happen in the philosophy of life (e.g., how the traumatic event may have changed people's life priorities), the perception of the self (e.g., how this experience may have improved their self-reliance) and interpersonal relationships (e.g., how it may have improved their relationships with others; Tedeschi & Calhoun, 1995, 1996). Thus, living through life's adverse experiences can have a positive impact. HIV diagnosis is considered a traumatic experience, and although it has been less explored than posttraumatic stress disorder, evidence of PTG has been found in people living with HIV (PLHIV), which in turn has been related to better mental and physical outcomes (Barskova & Oesterreich, 2009; Milam, 2004).

The most widely-used instrument for PTG assessment is the Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996). Although originally developed to account for the three above-mentioned dimensions, the validation study found a five-dimensional structure which is often used in research without conducting further analyses (Morris, Shakespeare-Finch, Rieck, & Newbery, 2005). While some studies have indeed supported this structure (Lee, Luxton, Reger, & Gahm, 2010; Morris et al., 2005), others have found one- (Milam, 2004), three- (Powell, Rosner, Butollo, Tedeschi, & Calhoun, 2003; Rodríguez-Rey, Alonso-Tapia, Kassam-Adams, & Garrido-Hernansaiz, 2016; Weiss & Berger, 2006) and four-factor solutions (Ho, Chan, & Ho, 2004; Taku et al., 2007). Moreover, a recent study which found a five-factor solution explored the possibility of a bifactor model versus a hierarchical one, finding that the former explained the data better (Konkolý Thege, Kovács, & Balog, 2014). Therefore, it does not seem justifiable to assume that a five-factor structure of the PTGI is optimal and will hold across different trauma-exposed populations such as PLHIV, and research should also consider complex solutions beyond the number of factors (i.e., hierarchical or bifactor models).

Regarding the HIV context, extant literature does not provide sufficient evidence regarding the PTGI dimensions. For instance, Milam (2004) reported the unitary character of the PTGI, but he only used 11 items of the original 21-item PTGI and altered the response format. Another recent study in PLHIV used the PTGI but did not test its factorial structure (Murphy & Hevey, 2013). Consequently, this study aimed to examine the factor structure of the PTGI in a sample of Spanish-speaking PLHIV so as to contribute to the understanding of this construct in this population.

3.3.3. Methods

Procedures

The present cross-sectional study was approved by the Institutional Review Board at the first author's University. Participants were either referred to the study by the staff of a healthcare center in Spain ($n = 86$) or recruited through HIV non-profit organizations which shared information about the study through their online social networks ($n = 231$). The sample was composed of 304 PLHIV with a mean age of 35.51 years and a mean of 55.75 months since diagnosis. It was predominantly male and homosexual. More details are given in Table 3.10.

Instruments

Participants reported their age, gender, sexual orientation, country of origin, relationship status, educational level, employment status and time since diagnosis. They also completed the PTGI Spanish version (Weiss & Berger, 2006), a 21-item self-report measure of positive changes after having experienced traumatic events which showed good reliability (Cronbach's alpha of global scale = .92, philosophy of life = .85, the self = .80, interpersonal relationships = .87). Participants rated each item on a 6-point Likert-scale (0 = *I did not experience this change as a result of my crisis*; 5 = *I experienced this change to a very great degree as a result of my crisis*). We substituted "as a result of my crisis" for "as a result of my HIV diagnosis" to ensure that reported PTG was related to HIV diagnosis.

Table 3.10. Sample demographic and medical characteristics.

	M (Range)	SD
Age (years)	35.65 (18–63)	9.32
Time since diagnosis (months)	55.75 (3–387)	78.25
	<i>N</i>	%
Gender		
Male	289	95
Female	15	5
Sexual orientation		
Homosexual	242	79
Bisexual	36	12
Heterosexual	24	8
Other	2	1
Nationality		
Spanish	133	44
Mexican	63	21
Colombian	31	10
Venezuela	20	7
Argentina	18	6
Peru	12	4
Other Latin American countries	27	8
Relationship status		
Single	209	69
Married/living with partner	68	22
Divorced/separated	22	7
Widowed	5	2
Educational level		
No studies	3	1
Primary education	10	3
Secondary education	84	28
Undergraduate degree	169	56
Master's degree	34	11
Doctoral degree	4	1
Employment status		
Employed	225	74
Unemployed	38	13
Other (student, retired...)	41	13

Note. M = Mean. SD = Standard deviation. N = Number of participants.

Statistical analyses

We performed an exploratory factor analysis (EFA) through structural equations modeling (SEM) and we used MLMV as the estimation method, which is adequate for ordinal variables (DiStefano, 2002). Congruently with previous PTGI studies (Tedeschi & Calhoun, 1996; Weiss & Berger, 2006), varimax rotation was applied, factors were extracted if eigenvalues > 1 , and items were retained if their loading was $> .5$ on a factor and $< .4$ on the rest.

We then tested two models in confirmatory factor analyses (CFA) through SEM. Both included the 11 items and three factors resulting from EFA. The hierarchical model had an additional second-order general factor on which the three first-order factors loaded. The bifactor model had an additional general factor on which all the items loaded. The fit of both models was assessed through fit indexes (RMSEA, SRMR, CFI, TLI), following standard criteria ($SRMR \leq .08$; $RMSEA \leq .06$; $CFI, TLI \geq .95$) (Hu & Bentler, 1999). The 90% confidence interval (CI) of RMSEA was also examined for model comparison (Preacher, Zhang, Kim, & Mels, 2013). Proportions of common variance explained by each factor were obtained with the explained common variance index (Rodriguez, Reise, & Haviland, 2016) for the retained model. MPlus 7 was used for all these analyses (Muthén & Muthén, 2012). Reliability was assessed by Cronbach's alpha (as in previous studies), using SPSS 23.

3.3.4. Results

The EFA suggested a three-factor solution which explained 59% of the common variance. Table 3.11 shows the item loadings on each factor and indicates the factor to which each item pertained in the original PTGI validation study (Tedeschi & Calhoun, 1996). Eleven items were retained, their content was inspected, and factor labels were generated: Factor I = positive changes in philosophy of life, Factor II = positive changes in the self, and Factor III = positive changes in interpersonal relationships. Pearson's correlation between the 21-item and the 11-item versions of the PTGI was $.98$ ($p < .001$), indicating that there was no significant loss of information.

Table 3.11. Factor loadings of the three-factor model.

New Factor and Item Number	Factor in Original PTGI	Factor loadings in present study		
		I	II	III
<i>Factor I: Philosophy of life</i>				
#1	AL	.78	.17	.21
#2	AL	.69	.38	.22
<i>Factor II: Self</i>				
#4	PS	.27	.58	.38
#10	PS	.26	.68	.38
#12	PS	.38	.73	.32
#19	PS	.33	.56	.32
<i>Factor III: Interpersonal relationships</i>				
#8	RO	.23	.36	.68
#9	RO	.21	.31	.67
#14	NP	.18	.38	.53
#15	RO	.39	.12	.65
#16	RO	.25	.24	.76
<i>Items failing to load differentially</i>				
#3	NP	.57	.45	.32
#5	SC	.43	.32	.40
#6	RO	.18	.40	.47
#7	NP	.51	.43	.40
#11	NP	.45	.64	.40
#13	AL	.54	.60	.35
#17	NP	.46	.33	.52
#18	SC	.22	.25	.38
#20	RO	.21	.43	.56
#21	RO	.18	.44	.55

Note. Factor loadings > .5 are highlighted in boldface when the item loaded < .4 on the other factors. PTGI = Posttraumatic Growth Inventory. AL = appreciation of life. NP = new possibilities. PS = personal strength. RO = relating to others. SC = spiritual change.

Confirmatory factor analyses were then conducted. Table 3.12 shows the fit indices of the hierarchical and bifactor models. Those of the former fell short of the standard limits of acceptance while those of the latter were excellent. Moreover, there was no overlapping between the two models concerning the 90% CI of RMSEA. Thus, the bifactor model was retained and is depicted in Figure 3.3 along with the factor loadings and squared multiple correlations. Of the 100% common variance, the general factor explained 72% and the three specific factors explained 28%: 9% was explained by Factor I, 5% by Factor II and 14% by Factor III. Cronbach's alpha for the whole 11-item scale was .92, and was as follows for the factors: Factor I = .79; Factor II = .87; and Factor III = .87.

3.3.5. Discussion

A three-factor structure of the PTGI emerged as the one with the best fit in PLHIV. Eleven items were retained, which is similar to the number of items retained in validation studies for different languages (Ho et al., 2004; Powell et al., 2003; Weiss & Berger, 2006). Three dimensions of PTG emerged in our sample—philosophy of life, the self and interpersonal relationships—which are congruent with the three PTG components originally theorized (Tedeschi & Calhoun, 1995), thus supporting the construct validity of the instrument. Moreover, a bifactor structure explained data better than a hierarchical one (Konkolý Thege et al., 2014), which supports the idea of a common underlying theoretical model of PTG (Tedeschi & Calhoun, 1996; Weiss & Berger, 2006). The global scale and the factors had good to excellent reliability.

Table 3.12. Model fit statistics for two models tested with Confirmatory Factor Analysis.

Model type	RMSEA (90% CI)	SRMR	CFI	TLI
Hierarchical	.10 (.08–.11)	.08	.91	.88
Bifactor	.05 (.02–.07)	.03	.98	.97

Note. *df* = degrees of freedom. *p* = level of significance. CI = confidence interval.

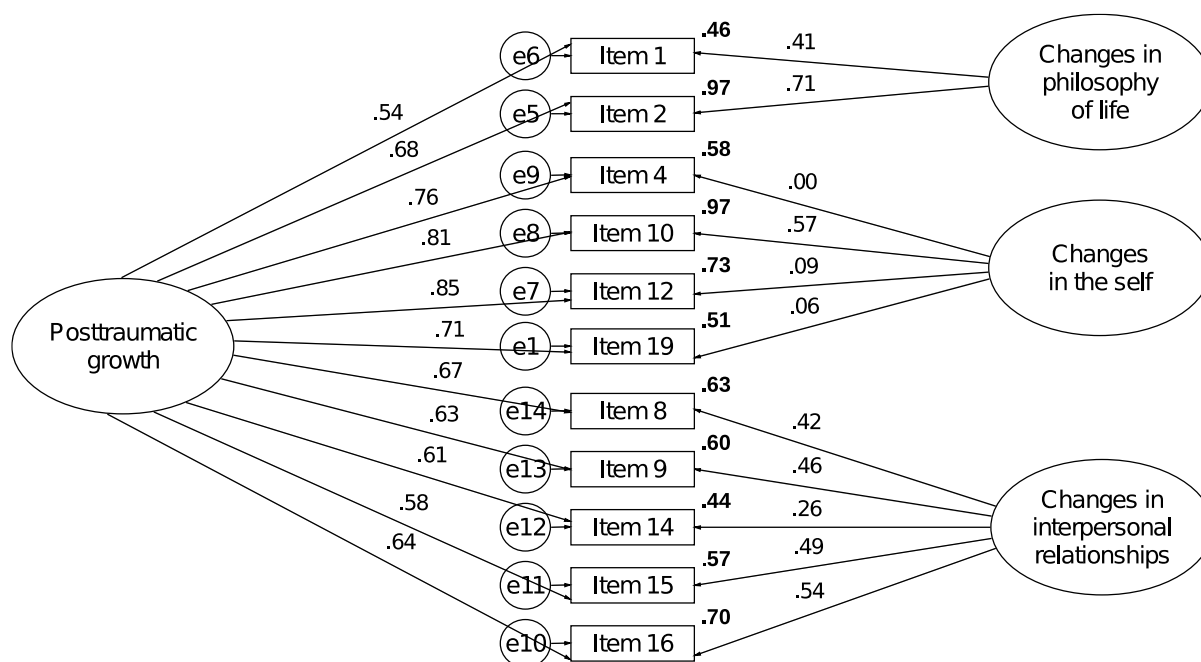


Figure 3.3. Bifactor model of the Posttraumatic Growth Inventory. Standardized solution.

Note. Squared multiple correlations are highlighted in boldface.

Nevertheless, individuals not using online social networks or attending the healthcare center had little opportunity to be recruited, and the sample was Spanish-speaking and mostly composed of males, so findings should not be generalized to female PLHIV or non-Spanish speakers. Research should aim to overcome these limitations, replicate our findings, and also examine whether there are cultural differences among Spanish-speakers and whether other growth dimensions not currently reflected in the PTGI may emerge after HIV diagnosis.

Our study has shown the importance of studying the latent structure of the PTGI before computing and interpreting its scores, as it varies across populations and a five-dimensional structure cannot always be assumed. Health caregivers interested in fostering PTG in PLHIV should do so along the three dimensions proposed by Tedeschi & Calhoun (1995)—philosophy of life, the self and interpersonal relationships—and they may do so by helping PLHIV reflect on which ways such critical event could lead not only to distress, but also have a positive legacy.

3.3.6. References

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Part 4

**Resilience, posttraumatic growth, anxiety,
and depression in people living with HIV**

4.1. ASSOCIATIONS AMONG RESILIENCE, POSTTRAUMATIC GROWTH, ANXIETY, AND DEPRESSION AND THEIR PREDICTION FROM STRESS IN NEWLY DIAGNOSED PEOPLE LIVING WITH HIV.

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4.1.1. Abstract

This brief report aimed to study the relationships among anxiety, depression, resilience, and posttraumatic growth in newly diagnosed people living with HIV, and to examine the role that peri-diagnosis-perceived stress might play in their later development. Data were collected at two time points from 119 HIV-positive people. Analyses of variance, correlation analyses, and structural equations modeling were performed.

Results revealed that heterosexual participants felt more anxiety than homosexual participants. Significant strong correlations between the three posttraumatic growth dimensions were found, and significant strong correlations also existed between anxiety and depression (positive) and resilience and anxiety (negative). There was a moderate negative correlation between resilience and depression, and the latter also had a weak correlation with the posttraumatic growth dimension of positive changes in the self. Posttraumatic growth did not show any other significant correlations. Perceived stress significantly predicted resilience (negatively) and anxiety and depression (positively). It did not predict posttraumatic growth.

Since resilience which seems to be incompatible with anxiety and depression, efforts should be made to promote it. In this sense, minimizing perceived stress around the time of diagnosis would be of importance. Likewise, posttraumatic growth could also be encouraged. Health care providers can play an important role in reducing levels of stress, and also in identifying anxiety and depression and promoting resilience and posttraumatic growth.

Keywords: anxiety, depression, HIV, posttraumatic growth, resilience, stress

4.1.2. Introduction

Receiving an HIV diagnosis is a stressful life event with mental health consequences. People living with HIV (PLHIV) report levels of anxiety and depression much higher than the general population (Chaudhury, Bakhla, & Saini, 2016), but positive mental health outcomes such as resilience and posttraumatic growth (PTG) have also been reported in this population (Murphy & Hevey, 2013). Resilience has been conceptualized in numerous ways (e.g., as a protective factor, as a process, as an outcome), but to some authors it is best defined as an outcome of positive adaptation in the face of adversity (e.g., Zautra, Hall, & Murray, 2010). It is the maintenance of a relatively stable trajectory of healthy functioning following exposure to a potential trauma (in this case, an HIV diagnosis), thus involving the return to pretrauma functioning levels (Bonanno, 2004). PTG, for its part, involves not just a return to pretrauma levels of functioning but an actual improvement (Tedeschi & Calhoun, 1996), and so it implies learning and growing after adversities.

Although it has been established that these negative and positive outcomes coexist after an adverse event (Vera Poseck, Carbelo Baquero, & Vecina Jiménez, 2006), little is understood about their relationships with one another (Scali et al., 2012). Additionally, perceived stress has been identified as an important variable that impacts mental health. It has been associated with lower levels of resilience and greater anxiety, depression, and PTG in a variety of populations (Bonanno, Galea, Bucciarelli, & Vlahov, 2007; Chaudhury et al., 2016; Helgeson, Reynolds, & Tomich, 2006; Remor, 2006; Westphal & Bonanno, 2007), although data regarding PLHIV is sometimes limited or nonexistent, especially with regard to resilience outcomes and PTG.

In this brief report, we addressed these subjects by studying the relationships among anxiety, depression, resilience, and PTG in the context of HIV diagnosis, specifically in newly diagnosed Spanish-speaking PLHIV from Spain and Latin America. We also looked at how peri-diagnosis levels of perceived stress might explain the development of anxiety, depression,

resilience, and PTG 6 months later. Additionally, we explored possible differences in levels of anxiety, depression, resilience, and PTG by sociodemographic variables.

4.1.3. Method

Approval for this study was obtained from the institutional review board at Universidad Autónoma de Madrid, and longitudinal quantitative data were collected between October 2014 and November 2016. Participants were recruited either through referral by staff at a health care center specialized in sexually transmitted infections in Madrid (Spain; $n = 92$) or through online advertisement by several local and national HIV associations and groups from Spanish-speaking countries who agreed to share information about the study ($n = 53$). Inclusion criteria were: a minimum of 18 years of age, HIV diagnosis, able to read and write in Spanish, and time after diagnosis of no more than 100 days. Agreement to participate was provided by 145 eligible PLHIV, who completed the initial questionnaires. Six months later, participants were contacted and asked to complete the second set of questionnaires, and 119 did so (attrition rate = 18%).

In the first assessment (T0), participants reported their age, gender, sexual orientation, country of origin, relationship status, education level, employment status, time since diagnosis, and mode of HIV transmission. They also completed the Perceived Stress Scale Spanish adaptation (Remor, 2006), a 10-item questionnaire measuring general perceived stress. Participants recruited through the health care center completed the assessment using pen-and-paper questionnaires in a private room after a medical appointment. Participants recruited through online advertisement accessed and completed the questionnaires on an online survey platform at a time and place of their choosing.

In the second assessment (T1), participants reported if they had initiated antiretroviral therapy (ART) and completed a four-item subscale of the Situated Subjective Resilience Questionnaire for Adults (Alonso-Tapia, Garrido-Hernansaiz, Rodríguez-Rey, Ruiz, & Nieto,

2016), which assessed resilience in the face of stress due to health problems. Participants also completed the Spanish adaptation of the Posttraumatic Growth Inventory (Weiss & Berger, 2006), which measured PTG in three domains: philosophy of life, the self, and interpersonal relationships. In order to ensure that participants' responses referred to the experience of HIV diagnosis, they were instructed to respond to resilience and PTG measures in relation to how they had evolved psychologically after the HIV diagnosis. Lastly, they completed the Hospital Anxiety and Depression Scale (HADS) Spanish adaptation (Tejero, Guimerá, Farré, & Peri, 1986) a self-report measure comprised of 14 items with two 7-item subscales, one for anxiety (HADS-A) and one for depression (HADS-D). This assessment was completed online by all participants at a time and place of their choosing, regardless of the initial recruitment method.

Analyses of variance were conducted to test mean differences in resilience, anxiety, depression, and PTG by demographic variables. Pearson correlations were performed to test bivariate associations between participants' scores on resilience, anxiety, depression, and the three PTG dimensions. Lastly, structural equation modeling (SEM) was used to examine how perceived stress contributed to predict the four mental health outcomes. Peri-diagnosis-perceived stress (measured at T0) was included in the model as predictor, and resilience, anxiety, depression, and PTG (measured at T1) were included as criteria. This type of analysis accounts for multiple relationships between variables, for measurement error, and allows testing of directional relationships. Maximum likelihood mean and variance-adjusted estimation procedure, a robust estimator adequate for ordinal variables, was used. The comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR) were used to assess model fit, following recommended criteria ($SRMR \leq .08$; $RMSEA \leq .06$; $CFI \geq .95$; Hu & Bentler, 1999). Analyses were performed using MPlus 7 (Muthén & Muthén, Los Angeles, CA) for the SEM and SPSS 23 (IBM, Armonk, NY) for the rest.

4.1.4. Results

The sample ($N = 119$) was mostly composed of males (97.5%), with a mean age of 32.73 years ($SD = 8.25$) and a mean of 38.78 days since diagnosis at T0 ($SD = 20.43$). The majority of participants (93.3%) reported sexual intercourse as the mode of HIV transmission. More than half of the participants (57.1%) were from Spain; 38.7% were from Latin American countries (e.g., Venezuela, México, Argentina), and the rest were from other countries (e.g., Italy; 4.2%). A small percentage of them (3.4%) had at most a primary education, with more than a quarter (27.7%) having a secondary education, more than half holding an undergraduate degree (54.6%), and some of them having a postgraduate degree (14.3%). The majority (74.8%) were employed; 12.6% were unemployed and the rest had different conditions (e.g., student, retired). Three quarters of the sample (75.6%) were single, 13.4% were married or living with their partner, and some were divorced or separated (10.9%). As for sexual orientation, 86.6% identified as homosexual, 10.9% as bisexual, and 2.5% as heterosexual. Seventy-one percent were taking ART at T1.

Regarding differences in mental health outcomes by demographic variables, age and time since diagnosis showed no correlations with anxiety, depression, resilience, and PTG. Being on ART at T1 was not related to any outcome, as was also true of region of origin, relationship status, employment status, and mode of infection ($p > .05$). Interestingly, educational level emerged as marginally significant for PTG [$F(4,118) = 2.50, p = .047$], but post hoc Bonferroni analysis indicated no differences. Sexual orientation was significant for anxiety [$F(2,118) = 3.29, p = .041$], and post hoc Bonferroni analysis revealed that heterosexual participants had higher anxiety levels ($M = 11.67$) than homosexual participants ($M = 6.85$).

Associations between the study outcome variables are depicted in Figure 4.1. Anxiety and depression were strongly, positively correlated ($r = .64, p < .001$), and resilience scores

were negatively associated with both ($r = -.57$ with anxiety and $r = -.35$ with depression, both $p < .001$). The three PTG dimensions (i.e., positive changes in interpersonal relationships, positive changes in philosophy of life, and positive changes in the self) were positively correlated with each other (r ranging from .53 to .69, all $p < .001$). In contrast, they were not associated with anxiety, depression, or resilience, except for positive changes in the self, which had a low but significant negative correlation with depression ($r = -.20$, $p < .05$).

The last of our analyses was the prediction model tested through SEM, depicted in Figure 4.2. The model was estimated and the fit indices indicated that it represented the data well (CFI = .95, RMSEA = .05, SRMR = .06). Figure 4.2 also shows the standardized regression weights and their significance. Peri-diagnosis-perceived stress significantly predicted the development of resilience, anxiety, and depression outcomes 6 months later. A higher degree of peri-diagnosis-perceived stress was related to subsequent higher anxiety and depression, and was also related to lower resilience. Peri-diagnosis perceived stress did not show any relationship with PTG.

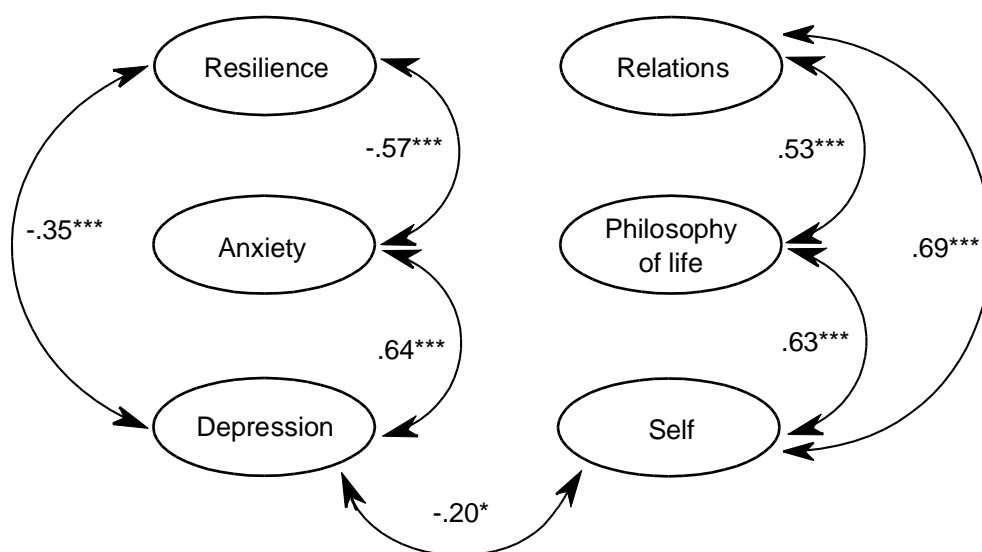


Figure 4.1. Correlations between variables.

Note. *** $p < .001$. * $p < .05$. Non-significant values ($p > .05$) are not shown.

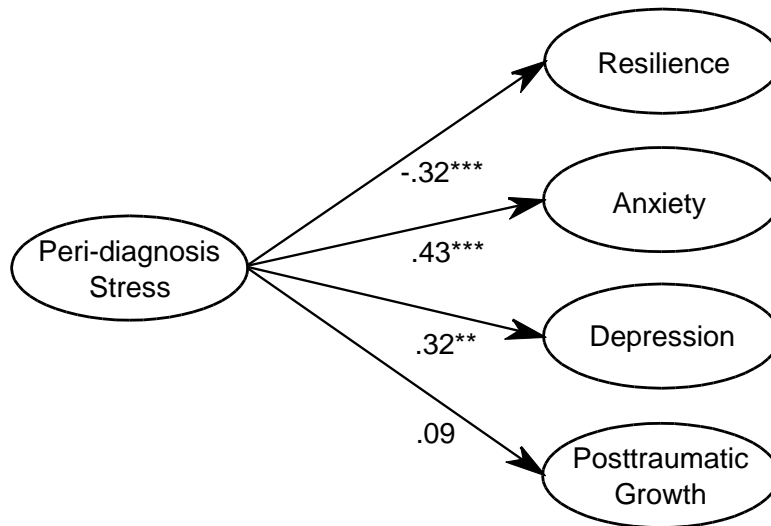


Figure 4.2. Prediction model.

Note. *** $p < .001$. ** $p < .01$. The measurement model is not shown.

4.1.5. Discussion

We sought to elucidate the relationships between anxiety, depression, resilience, and PTG in the HIV diagnosis context, to explicate the role that peri-diagnosis-perceived stress may have in their development, and to explore possible differences in levels of anxiety, depression, resilience, and PTG by sociodemographic variables. Regarding the last aim, the finding that heterosexual PLHIV reported greater anxiety levels than their homosexual counterparts would point to the need for health care providers to carefully address possible sources of anxiety for heterosexual PLHIV, as these may differ from those of homosexual PLHIV. However, we must consider that, despite the significance of the differences, there were only three participants in the heterosexual sub-group of the sample, so this result needs to be taken with caution and should be replicated in different and bigger samples with higher proportions of heterosexual PLHIV. The same consideration could be made for the remaining demographic variables that showed no relationship to mental health outcomes (e.g., education level, with only four participants with primary education or no education; mode of infection, with no participants reporting drug-related, mother-to-child, or blood transfusion infections).

Concerning the associations between mental health outcomes, there was a strong and positive correlation between anxiety and depression, a result in line with literature in the field (Tejero et al., 1986). Resilience was negatively associated with both, which was reasonable because a resilient outcome implies healthy functioning (Scali et al., 2012). PTG dimensions were not associated with anxiety or resilience, and only the dimension of positive changes in the self showed a negative correlation with depression, which was weak. A meta-analysis on the subject also found no relationship between PTG and anxiety and a weak relationship between PTG and depression (Helgeson et al., 2006), and our work suggested that depression was specifically related to the PTG dimension of positive changes in the self. Regarding resilience, a study with PLHIV recently found a weak, positive relationship between resilience and personal strength and appreciation of life (Murphy & Hevey, 2013), but most literature has shown inconsistent findings of positive, negative, and absent relationships (Westphal & Bonanno, 2007). Our findings would support the latter: high-resilience participants were not more or less likely to have developed PTG than their low-resilience counterparts, meaning that these two pathways, following a traumatic event are independent.

Regarding the role of peri-diagnosis-perceived stress on the development of mental health outcomes, higher stress was related to subsequent higher anxiety and depression, which was consistent with previous literature showing positive associations in PLHIV between levels of perceived stress and anxiety and depressive symptoms (Chaudhury et al., 2016; Remor, 2006). Higher peri-diagnosis-perceived stress was also related to lower resilience, which agreed with studies with traumatized populations that found lower resilience among those with a higher number of stressors (Bonanno et al., 2007). Lastly, peri-diagnosis-perceived stress was unrelated to PTG, which was unexpected, as greater stress has been found to offer more opportunities for growth (Helgeson et al., 2006). The lack of relationship with PTG and the negative impact on the rest of mental health indicators would indicate that minimizing

perceived stress around the time of diagnosis is of paramount importance to favor resilience and prevent anxiety and depression. It should be noticed, however, that the general measure of perceived stress in daily life used in our research may have failed to capture specific aspects of stress related to the potentially traumatic event, the HIV diagnosis, which is why further research that overcomes this limitation is needed.

We have shown that a resilient pathway seems somewhat incompatible with anxiety and depression symptoms, and thus, research should investigate the mechanisms and processes leading to resilient outcomes, translating this knowledge into mental health promotion interventions for newly diagnosed PLHIV. Most interestingly, according to our findings, PTG may also be promoted in parallel to resilience, without one detracting from the other, and again, research should investigate the mechanisms leading to PTG and put this into mental health promotion practices. Achieving a positive change in the self may be particularly relevant, as the processes leading to it might decrease depression as well. Lastly, the degree of perceived stress around the time of diagnosis was shown to be a relevant variable associated with subsequent mental health. Thus, its reduction could have potentially beneficial effects for PLHIV.

Limitations

Although the longitudinal design allowed for temporal relationships to be established, the findings presented here should be considered with caution. Because our study was among the first to examine relations among resilience, anxiety, depression, and PTG in newly diagnosed PLHIV, replication and extension of this work are necessary. Moreover, some results were based on cross-sectional data and may only add to mixed findings in the literature, needing clarification. Because data refer to PLHIV from Spain and Latin America, our findings should be generalized to other populations with caution. Specifically, health care providers need to consider the possibility that different cultural backgrounds may modify the findings presented

in this study. For instance, non-Spanish speakers might differ from Spanish speakers, and ART status may be a significant variable in countries where ART is not readily or freely available (e.g., those not on ART could be more anxious or depressed than those who have accessed ART). Furthermore, cultural differences may emerge between different Spanish-speaking countries, and should be taken into account by health care providers and investigated in research.

Conclusion

Given the moderate to high prevalence of anxiety, depression, resilience, and PTG that participants exhibited and the nature of the relationships among them found in our study, it is important that future research continues to add to our understanding of how these outcomes relate to each other and of the processes leading to them (e.g., peri-diagnosis-perceived stress), in the interests of PLHIV mental health. Health care providers can directly contribute to said mental health in several ways. First, they can help reduce the degree of peri-diagnosis-perceived stress by giving relevant information to PLHIV (e.g., about available treatments and normal life expectancy), offering them support and a space to discuss their concerns, addressing such concerns and helping PLHIV build strategies, and referring them to available resources (e.g., information hotlines, support groups). Second, health care providers can screen for and detect anxiety and depression symptoms and appropriately refer PLHIV to mental health professionals. Finally, health care providers can identify the different early signs of resilience and PTG, such as mild or no disruptions in reported daily functioning, resuming prediagnosis activities, or finding the silver lining in the situation. Underlying processes such as active coping (e.g., acceptance, problem solving, direct action, planning, positive reappraisal), meaning making, and social support can also provide valuable information to this end. The identification of such signs of resilience and PTG can allow health care providers to help PLHIV channel their efforts to develop these positive mental health outcomes.

4.1.6. References

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4.2. PREDICTORS OF RESILIENCE AND POSTTRAUMATIC GROWTH AMONG PEOPLE LIVING WITH HIV: A LONGITUDINAL STUDY

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4.2.1. Abstract

This longitudinal study investigated the predictors of HIV-related-related resilience (HR) and posttraumatic growth (PTG) among Spanish-speaking HIV-positive people. Perceived past resilience, internalised stigma, and coping strategies were hypothesised as possible predictors. Data were collected at two time points from 118 HIV-positive people. Path analyses with latent variables revealed that a third of HR eight months after diagnosis was predicted by rumination, emotional expression, internalised stigma, and perceived past resilience. The latter two, along with positive thinking, self-blame, thinking avoidance, and help seeking predicted some PTG dimensions eight months after diagnosis. The results highlight the importance of internalised stigma associated with HIV infection and of the differential use of coping strategies, and point to the need for clinicians and policy makers to implement stigma reduction and appropriate coping strategies interventions.

Keywords: HIV/AIDS, resilience, posttraumatic growth, HIV-related stigma, coping

4.2.2. Introduction

Testing positive for HIV can be a very shocking and stressful experience: a traumatic event potentially leading to the development of posttraumatic stress disorder (Moskowitz, Hult, Bussolari, & Acree, 2009; Murphy & Hevey, 2013; Nightingale, Sher, & Hansen, 2010), an anxiety disorder which is much more prevalent among people living with HIV (PLHIV) than the general population (Martin & Kagee, 2011; Theuninck, Lake, & Gibson, 2010). Moreover, HIV diagnosis is a unique stressor in the sense that PLHIV live with stigma and discrimination to a degree that is unmatched by any other medical diagnosis in modern history (Holzemer et al., 2009).

While general research has traditionally focused on the negative effects of trauma, positive outcomes such as resilience or posttraumatic growth (PTG) are also possible after a traumatic experience (Tedeschi & Calhoun, 1996; Vera Poseck, Carbelo Baquero, & Vecina Jiménez, 2006). Given the potential salutary outcomes associated with resilience and PTG for PLHIV (Dale et al., 2014; Milam, 2004; Willie et al., 2016), research investigating these constructs in this population is of paramount importance, yet they have seldom been studied, particularly in longitudinal designs. The current study sought to address this gap in the literature by examining the development of PTG and resilience outcomes among PLHIV over time, and also investigated the role of perceived past resilience, coping strategies, and internalised HIV-related stigma as predictors of these outcomes.

Resilience refers to the maintenance of a relative stable trajectory of healthy functioning following exposure to a potential trauma. It is distinctly different from recovery, which also involves the return to pre-trauma functioning levels but happens over a longer period of time (Bonanno, 2005). However, resilience has been conceptualised in the literature in a broad sense tackling protective personality traits, processes, and outcomes (Luthar, 2006). Indeed, most

resilience measures assess the availability of protective factors that facilitate resistance to psychopathology, instead of resilience as the healthy functioning after the adverse event (Windle, Bennett, & Noyes, 2011).

In a 2013 special issue of *American Psychologist* dedicated to the topic of “HIV/AIDS: Social Determinants and Health Disparities”, the importance of resilience was highlighted (Earnshaw, Bogart, Dovidio, & Williams, 2013). Yet there is very little information on resilience among PLHIV (De Santis, Florom-Smith, Vermeesch, Barroso, & DeLeon, 2013). Most research on the topic has been of qualitative nature, where sometimes resilience has been inferred by the interviewer under unknown criteria (Bletzer, 2007; Poindexter & Shippy, 2008). Paralleling the rest of the resilience literature, a wide variety of conceptualizations have been used, from its assessment as the mere absence of disorders (Hooberman, Rosenfeld, Rasmussen, & Keller, 2010; Rabkin, Remien, Katoff, & Williams, 1993), to being conflated with regular recovery or even PTG (De Santis et al., 2013; Westphal & Bonanno, 2007).

Self-reported general resilience has been used as a predictor of PTG in women with infertility (Yu et al., 2014) and PLHIV (Murphy & Hevey, 2013). Moreover, it has been stated to influence coping behaviours in the cancer and HIV contexts (Kang & Suh, 2015; Pellowski, Kalichman, Matthews, & Adler, 2013), and to be related to higher HIV medication adherence and lower viral load (Dale et al., 2014). Thus, assessing individuals' perceptions of their own resilience (i.e., perceived past resilience) can be useful in understanding and predicting PLHIV's adaptation to the specific threat of HIV infection, though scant information is available. Moreover, research is needed particularly on the processes leading to resilience outcomes (De Santis et al., 2013), that is, when resilience is understood as an outcome following a particular adverse event. In this paper, we will study the perceived degree of resilience outcomes in the face of past adverse health-related events, and also the perceived degree of a resilience outcome following the specific adverse event of HIV diagnosis.

For its part, PTG has frequently been conflated with resilience (Westphal & Bonanno, 2007), but it involves not just a return to baseline functioning after a trauma but an actual improvement when compared to pre-trauma levels (Tedeschi & Calhoun, 1996). PTG implies learning and growing after adversities (Vera Poseck et al., 2006) and is a multidimensional construct, meaning that an individual can experience positive changes in some life areas but not in others (Calhoun, Cann, Tedeschi, & McMillan, 1998). Most PLHIV report experiencing at least some degree of PTG (Milam, 2004; Murphy & Hevey, 2013; Sawyer, Ayers, & Field, 2010), with well-known benefits (e.g., lower depression, lower alcohol and drug abuse; healthier habits, increased medication adherence, stronger immune system, and lower viral load; Milam, 2004; Sawyer et al., 2010; Willie et al., 2016).

The question remains about which HIV-related and personal characteristics are associated with resilience and PTG outcomes. As mentioned before, perceived past resilience can predict the use of coping strategies and the development of PTG (Hypothesis 1a; Murphy & Hevey, 2013; Pellowski et al., 2013), and we hypothesised that it would predict resilience outcomes too (Hypothesis 1b). A second related variable is coping. Coping is defined as a cognitive or behavioral response to something appraised as stressful (Moskowitz et al., 2009) and is a complex process that depends both on personality dispositions and environmental demands (Folkman & Moskowitz, 2004).

Coping responses have been organized in higher order classifications that allow for more manageable dimensions, such as problem-focused and emotion-focused coping (Lazarus & Folkman, 1984). In the HIV literature, however, most studies rely on the approach and avoidance distinction (Moskowitz et al., 2009), which is characterized by engagement with or disengagement from the stressor. Using a global classification like approach/avoidance has some advantages such as efficient analysis and discussion of findings, but lower order classifications such as self-isolation or positive reframing are more useful to inform what

strategies work with HIV-related stress (Moskowitz et al., 2009), which is why this study will rely on this latter classification.

Coping strategies have been linked to some positive psychological outcomes in PLHIV (Moskowitz et al., 2009). Two coping meta-analyses 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). However, little is known of coping regarding resilience and PTG, especially with PLHIV. Coping strategies such as positive cognitive appraisal, active coping, and positive reframing have been associated with higher resilience in PLHIV (Fumaz et al., 2015; Stewart & Yuen, 2011). In other populations, coping has been found to be related to both resilience and PTG (Molina et al., 2014; Steinhardt & Dolbier, 2008), and more specifically to be a mediator of resilience outcomes (Gloria & Steinhardt, 2016; Yu et al., 2014). Thus, we expected some relationships to emerge between the use of coping strategies and resilience outcomes and PTG. As coping strategies can be predicted by perceived resilience (Pellowski et al., 2013), coping strategies were postulated as a mediator between perceived past resilience and resilience outcomes and PTG after HIV diagnosis (Hypothesis 2).

Finally, stigma is another variable central to HIV infection and related to resilience and PTG. There are various HIV stigma types (i.e., enacted, anticipated, internalised; Earnshaw & Chaudoir, 2009), but it is internalised stigma – the devaluation and discrediting of oneself based on one’s HIV (Earnshaw et al., 2013) – which has been claimed to have the most severe consequences (Kingori et al., 2013; Paudel & Baral, 2015; Phillips, Moneyham, & Tavakoli, 2011; Singh, Kumar, Mukhopadhyay, & Singh, 2014). Stigma has been established as a fundamental variable for resilience achievement (Earnshaw et al., 2013), that is, lower stigma levels would lead to higher resilience outcomes. Concerning PTG, higher internalised stigma has been found to be related to lower PTG (Murphy & Hevey, 2013; Willie et al., 2016).

Furthermore, stigma's corrosive influence on health seems to happen through the alteration of various systems, including coping behaviours. Prospective studies have shown that those with higher stigma engage in maladaptive coping strategies, such as rumination and suppression (Hatzenbuehler, Phelan, & Link, 2013). In view of this, we expected internalised stigma to have a direct negative relation with resilience and PTG (Hypothesis 3a), as well as an indirect relationship through the use of coping strategies (Hypothesis 3b). Furthermore, as the degree to which the internalisation of HIV stigma occurs is influenced by perceived resilience (Brouard & Wills, 2006), we expect that the latter will predict internalised stigma (Hypothesis 4).

In the present study, we sought to predict resilience outcomes and the development of PTG over time in a sample of newly diagnosed PLHIV. The hypotheses presented above (H1a, H1b, H2, H3a, H3b, H4) were used to develop the structural model shown in Figure 4.3. Through rigorous testing and refinement, we sought to produce empirically-supported parsimonious models of resilience outcomes and PTG development following HIV diagnosis. These models will be of use to health professionals working to maximise salutary psychological outcomes among newly diagnosed PLHIV.

4.2.3. Methods

Design

Longitudinal quantitative data were collected between October 2014 and August 2016. Approval for this study was obtained from the institutional review board at the first author's university.

Participants

Participant eligibility criteria for the study were a minimum age of 18 years, HIV seropositivity, comfort with reading and writing in Spanish, and a time since diagnosis at the first assessment of no more than 100 days.

Recruitment and procedures

Participant recruitment was conducted in two ways. First, 92 PLHIV were referred to the study by staff at a health care centre in Madrid (Spain) specialising in sexually transmitted infections. Second, several local and national HIV associations and groups from Spanish-speaking countries advertised the study through their online social networks ($n = 72$, of which 20 were not considered eligible as their time since diagnosis was longer than 100 days). A total sample of 144 eligible participants provided their acceptance and completed the initial questionnaires (T0 assessment). Six months later, they were contacted again and asked to complete the second set of questionnaires. This second assessment (T1) was completed by 87 of those referred by the health care centre (attrition rate = 5%) and 31 of those recruited online (attrition rate = 40%), composing a final sample of 118 participants (total attrition rate = 18%). T0 assessments were either completed using pen-and-paper questionnaires (for participants recruited through the health centre) or online questionnaires (for those recruited elsewhere). All T1 assessments, regardless of recruitment method, were completed online.

Instruments

T0 assessment

Demographic Characteristics. Participants specified the following: age, gender, sexual orientation, country of origin, relationship status, educational level, employment status, time since diagnosis, mode of transmission (sexual intercourse, injection drugs, blood transfusion/mother-to-child, other/I don't know), and connection with a HIV-related group, association, or non-profit organization (yes/no).

Perceived past health-related resilience outcomes. A four-item subscale of the Situated Subjective Resilience Questionnaire for Adults (SSRQA; Alonso-Tapia, Garrido-Hernansaiz, Rodríguez-Rey, Ruiz, & Nieto, 2017) was used. This subscale assesses perceived resilience outcomes in the face of stress due to past health problems (e.g., "When I have had an important

health issue, I have had a hard time overcoming the distress that it caused me”). Respondents rated items on a 5-point Likert scale (1 = *Strongly disagree*, 5 = *Strongly agree*). At T0, participants were instructed to respond based on their recalled experiences prior to diagnosis. The subscale showed acceptable reliability in the original study ($\alpha = .72$) and it was $\alpha = .75$ at T0 in the current sample.

Internalised stigma. The HIV Internalized Stigma Scale (HIV-ISS; Hernansaiz-Garrido & Alonso-Tapia, 2017) used in this study is a self-report instrument in Spanish that evaluates the level of internalised stigma related to HIV during the last month and consists of 10 items with a 5-point response scale (1 = *Never or hardly ever*; 5 = *All or almost all the time*). Reliability was $\alpha = .94$ in the original study and .90 in the current sample.

T1 assessment

Coping strategies. We used Situated Coping Questionnaire for Adults with HIV-Short Form (SCQA-HIV-SF; Garrido-Hernansaiz, Alonso-Tapia, & Martín-Fernández, 2017), a 24-item Spanish-language measure assessing the use of eight different coping strategies (problem solving, positive thinking, help seeking, self-isolation, self-blame, rumination, emotional expression, and thinking avoidance) in the context of 3 types of stressful situations (personal relationships, health, and finances). Respondents rated items on a 5-point Likert scale (1 = *Never*; 5 = *Almost always*) to assess the degree to which each coping strategy was used in the previous month. Reliability of the coping strategies’ scores was shown to be good in the original study (McDonald’s ω ranging from .90–.97). Cronbach’s α ranged .60–.82 in the current sample, which we deemed acceptable given the brevity and multidimensionality of the scales (Graham, 2006).

Perceived HIV-related resilience outcomes. Participants completed the same scale as in T0, but at this time-point they were instructed to respond in relation to how they had evolved psychologically after their HIV diagnosis. Reliability was $\alpha = .69$ at this time point in this sample.

Posttraumatic growth. The Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996) is the best-known measure to assess PTG. It contains 21 items with a 6-point Likert response format (0 = *I did not experience this change as a result of my crisis*; 5 = *I experienced this change to a very great degree as a result of my crisis*). Internal consistency was high in the original study ($\alpha = .95$; Tedeschi & Calhoun, 1996), and in a Spanish version validation study ($\alpha = .95$; Weiss & Berger, 2006). In order to ensure that participants' responses referred to the experience of HIV diagnosis, the wording "as a result of my crisis" was changed to "as a result of my HIV diagnosis".

As the PTGI factor structure has been shown to vary among populations (e.g., in their validation study, Weiss & Berger, 2006, identified three factors rather than five), we tested it in a secondary study of over 300 Spanish-speaking PLHIV, described in full elsewhere (Garrido-Hernansaiz, Rodríguez-Rey, & Alonso-Tapia, 2017). The resulting structure was a bifactor model of 11 items, with three dimensions: changes in philosophy of life, in the self (i.e., perceptions of one's own strength), and in interpersonal relationships. The model had a good fit to the data of the current sample (SRMR = .03; RMSEA = .05; CFI = .99; see fit criteria in next section). Reliability was good for the three dimensions and the whole scale. As each dimension consisted of a different number of items, their scores were computed as the mean of the item scores, and the same was done with the whole scale score for comparability purposes.

Data analysis

The psychometric properties of the instruments were studied in our sample, and descriptive statistics were used to describe the sample and the study variables. Structural equation modelling (SEM) was used to examine the relationships between resilience and PTG and their predictors. This type of analysis accounts for multiple relationships among variables, for measurement error, and allows testing of directional relationships (Kline, 2015). Maximum

Likelihood Mean and Variance Adjusted estimation procedure (MLMV) was used, a robust estimator adequate for ordinal variables with at least five response options (DiStefano, 2002).

The model shown in Figure 4.3 was tested twice, once with perceived HIV-related resilience outcomes (hereafter “HIV-related resilience”) as the criterion and once with PTG as the criterion. The model criterion (HIV-related resilience or PTG) was predicted by internalised stigma, perceived past health-related resilience outcomes (hereafter “past resilience”), and coping strategies. Coping strategies were predicted by internalised stigma and past resilience. Finally, internalised stigma was predicted by past resilience. The tested models were subjected to empirical respecification (Kline, 2015) with the aim of arriving at a parsimonious solution that can be useful to healthcare professionals. Given research regarding the functioning of various fit indices, the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the standardised root mean square residual (SRMR) were used to assess model fit, following recommended criteria (SRMR \leq .08; RMSEA \leq .06; CFI \geq .95; Hu & Bentler, 1998, 1999). Analyses were performed using MPlus 7 (Muthén & Muthén, 2012) for the SEM and SPSS 23 for the rest.

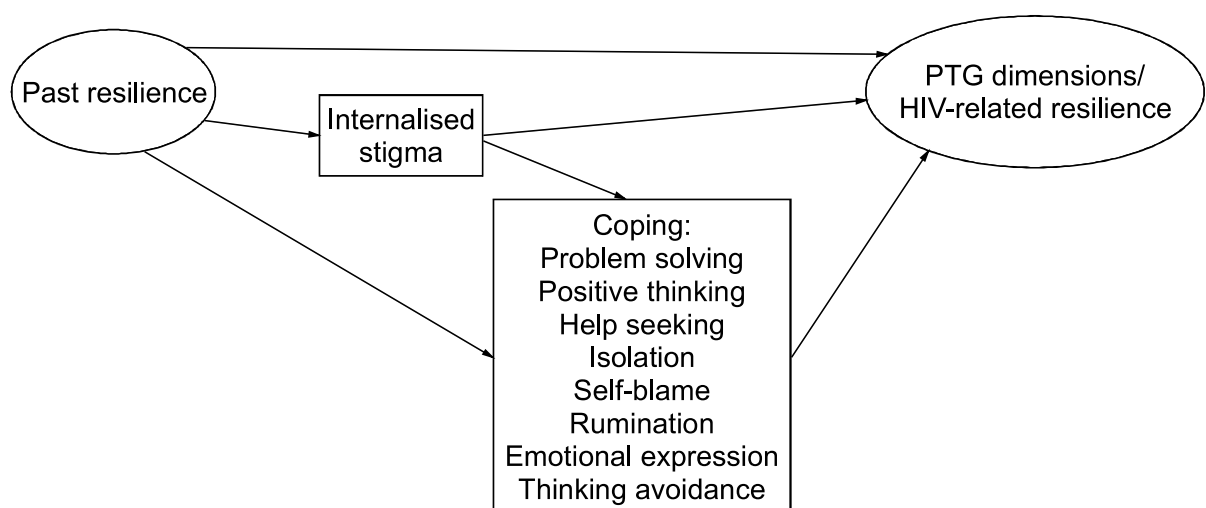


Figure 4.3. Initials models to be tested.

Note. Two models were tested, one with T1 perceived HIV-related resilience outcomes as criterion, and the other with the three PTG (posttraumatic growth) dimensions, here included in the same oval. The eight coping strategies are shown here as a single variable.

4.2.4. Results

Demographic characteristics

The sample was composed of 118 PLHIV, of which 116 were males (98%), one was female, and one reported gender as “other”. The mean age was 32.78 years ($SD = 8.27$), and a mean of 38.64 days had passed since diagnosis ($SD = 20.47$) at T0. Fifty-eight percent of the participants were from Spain, 38% from Latin American countries (e.g., Venezuela, México, Argentina), and the rest (4%) were from other countries (e.g., Italy). Regarding sexual orientation, 87% were homosexual, 11% were bisexual, and 2% were heterosexual. More than half the participants had an undergraduate degree (54%) and some had a postgraduate degree (14%). Around a quarter (28%) had a secondary education and a small percentage (3%) had at most a primary education. The majority of the participants were single (76%), 14% were married or living with their partner, and some were divorced/separated (10%). Three quarters of the sample were employed (75%), with 13% being unemployed and the rest in different conditions (e.g., student, medical leave). Seventeen percent were connected with a HIV-related group, association, or non-profit organization and 93% reported sexual intercourse as the mode of transmission, the rest stating that it was other or they did not know.

Descriptive statistics

Table 4.1 presents the reliability and descriptive statistics of the variables in the study. Internalised stigma was highly endorsed by the participants, significantly more than in the original validation study ($p < .001$; Hernansaiz-Garrido & Alonso-Tapia, 2017). Participants also reported moderate levels of past resilience (T0) and HIV-related resilience (T1), with no significant mean difference between them. Regarding coping strategies, positive thinking and problem solving were the ones most endorsed, while self-isolation and emotional expression were the strategies least endorsed. As for PTG, the highest degree of change was in philosophy of life and the lowest in interpersonal relationships. In order to know the percentage of PLHIV

Table 4.1. Descriptive and reliability statistics for the study variables.

Measure	α	Possible Range	Mean	<i>SD</i>
Past health-related resilience (T0)	.75	4 – 20	13.93	3.85
HIV-related resilience (T1)	.69	4 – 20	14.24	3.72
Internalised stigma	.90	10 – 50	27.92	9.94
Coping strategies				
Problem solving	.65	3 – 15	11.32	2.57
Positive thinking	.82	3 – 15	11.73	2.68
Help seeking	.60	3 – 15	8.82	2.63
Isolation	.68	3 – 15	7.54	3.03
Self-blame	.82	3 – 15	8.47	3.53
Rumination	.64	3 – 15	8.86	2.69
Emotional expression	.65	3 – 15	7.21	2.51
Thinking avoidance	.65	3 – 15	9.25	2.71
Posttraumatic growth	.93	0 – 5	2.45	1.37
Philosophy of life	.78	0 – 5	3.00	1.53
Self	.85	0 – 5	2.74	1.47
Interpersonal relationships	.92	0 – 5	2.00	1.63

who experienced significant growth, we calculated the proportion of participants who indicated growth to a moderate degree or higher (Hungerbuehler, Vollrath, & Landolt, 2011) in the PTGI total score and in each of its three dimensions. Following this criterion, 62% of participants had experienced significant changes in their philosophy of life, 55% in the self, and 34% in their interpersonal relationships. Finally, 44% had experienced overall PTG.

Prediction of perceived HIV-related resilience outcomes

The initial model was estimated and the fit indices, included in Table 4.2, suggested a well-fitted model which predicted 42% of the variance of HIV-related resilience ($p < .001$). In order to make the model more parsimonious, trimming was performed as follows: firstly, proximal predictors of HIV-related resilience that were not significant were removed, with only

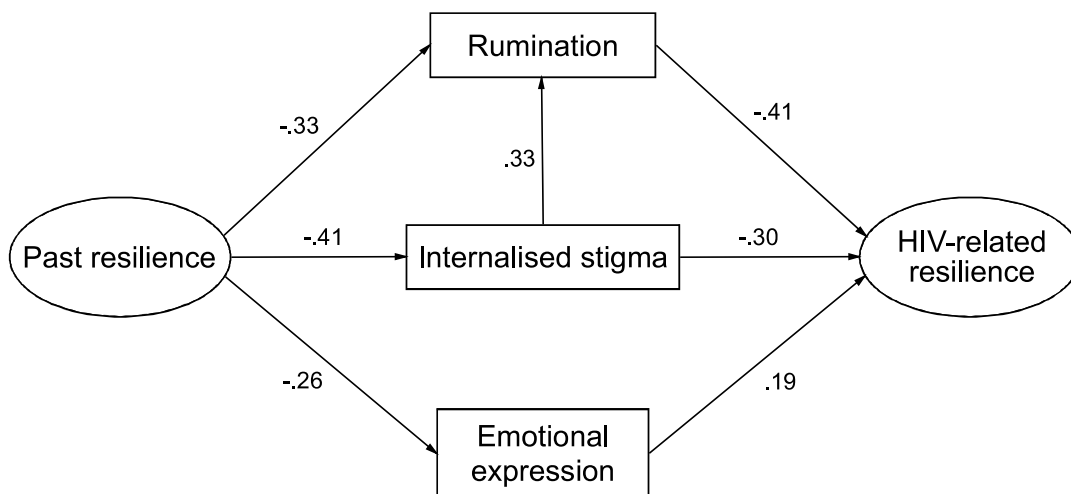
Table 4.2. Model fit indices for Resilience and Posttraumatic growth.

Model	% of explained variance	SRMR	RMSEA	CFI
Resilience – Initial solution	42%	.06	.04	.95
Resilience – Final solution	35%	.07	.04	.96
PTG – Initial solution	PL: 16%; S: 29%; IR: 18%	.07	.04	.96
PTG – Final solution	PL: 13%; S: 22%; IR: 12%	.07	.05	.95

Note. PTG = Posttraumatic growth. PL = Changes in philosophy of life. S = Changes in the self. IR = Changes in interpersonal relationships.

rumination and emotional expression retained, and the path from past resilience to HIV-related resilience deleted. Secondly, predictors of coping strategies that were not significant were also taken out. This resulted in the removal of the path going from internalised stigma to emotional expression.

Table 4.2 shows the fit indices of this model, which were very similar to those of the initial model. Figure 4.4 shows the standardised regression weights of this final model, which predicted 35% of the variance of HIV-related resilience outcomes ($p < .001$). HIV-related resilience was significantly and negatively predicted by rumination and internalised stigma and positively predicted by emotional expression. Rumination was positively predicted by

**Figure 4.4. Final standardised solution for the HIV-related resilience prediction model.**

Note. The measurement model is not shown. Rectangles represent observed variables and ovals represent latent variables estimated through items.

internalised stigma, and these two, as well as emotional expression, were negatively predicted by past resilience. Internalised stigma, aside from the direct effect of $-.30$, had also an indirect effect on HIV-related resilience through rumination, which was $-.13$ ($p < .01$). The total indirect effect of past resilience on HIV-related resilience was $.26$ ($p < .001$).

Prediction of PTG

The initial model was estimated and the fit indices indicated that it represented the data well (see Table 4.2). It predicted 16% of the variance of changes in philosophy of life ($p < .01$), 29% of the variance in changes in the self ($p < .01$), and 18% of the variance of changes in interpersonal relationships ($p = .03$). Model trimming was performed and again predictors of the three PTG dimensions that were not significant were removed. Rumination, emotional expression, self-isolation, and problem solving were taken out of the model. Some paths from self-blame, positive thinking, thinking avoidance, help seeking, and internalised stigma to PTG dimensions were removed. Past resilience was not a significant direct predictor of any PTG dimension and these paths were deleted. Then, predictors of coping strategies that were not significant were removed. As a result, the paths from past resilience and internalised stigma to positive thinking and help seeking were taken out.

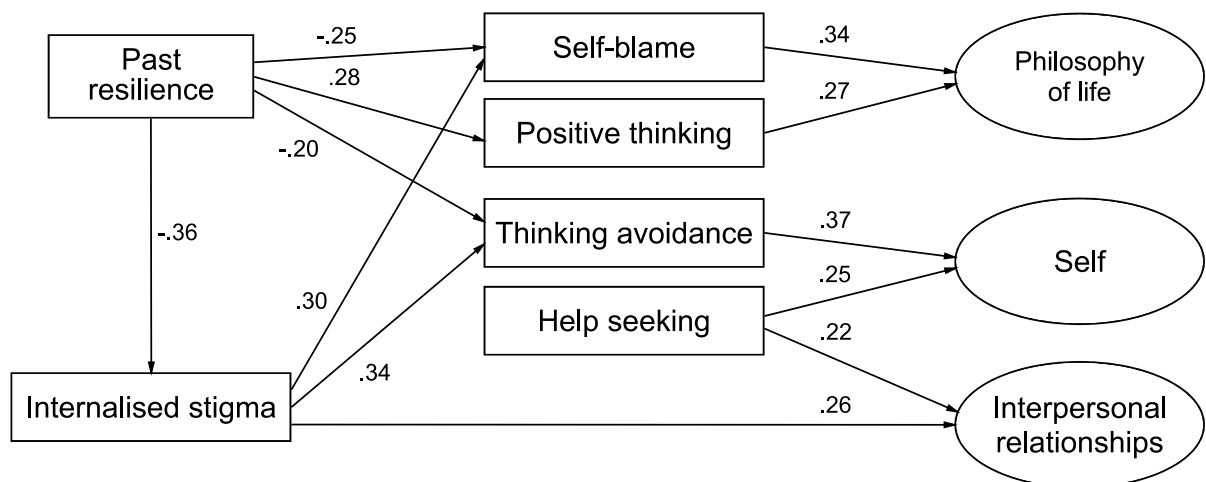


Figure 4.5. Final standardised solution for the posttraumatic growth prediction model.

Note. The measurement model is not shown. Rectangles represent observed variables and ovals represent latent variables estimated through items.

Table 4.2 shows the fit indices of this refined model, which were virtually the same as those of the initial model. Figure 4.5 shows the standardised regression weights of this model, which predicted 13% of the variance of changes in philosophy of life ($p = .01$), 22% of the variance in changes in the self ($p < .01$) and 12% of the variance of changes in interpersonal relationships ($p = .07$). Changes in philosophy of life were positively predicted by self-blame and positive thinking; changes in the self were positively predicted by thinking avoidance and help seeking, and changes in interpersonal relationships were predicted in a positive way by help seeking and internalised stigma. Self-blame and thinking avoidance were negatively predicted by past resilience and positively by internalised stigma. The latter was also negatively predicted by past resilience. Internalised stigma had a total indirect effect of .10 ($p < .01$) on philosophy of life and .13 ($p < .01$) on the self. The indirect effect of past resilience on philosophy of life was mixed: it was positive through positive thinking (.07, $p < .05$), and negative through self-blame (-.08, $p < .05$) and internalised stigma and self-blame (-.04, $p < .05$). The total indirect effect of past resilience on the self was -.12 ($p < .01$) and on interpersonal relationships was -.10 ($p < .05$).

4.2.5. Discussion

This study sought to predict HIV-related resilience outcomes and PTG in a sample of newly diagnosed PLHIV. The levels of resilience outcomes and PTG reported by participants support the notion that these positive outcomes of trauma are not uncommon (Bonanno, 2005; Vera Poseck et al., 2006). Moreover, internalised stigma was higher in our sample than in the original validation study, which was expected as internalised stigma has been shown to be lower with longer times from diagnosis and our participants were newly diagnosed (Hernansaiz-Garrido & Alonso-Tapia, 2017; Lee, Kochman, & Sikkema, 2002).

More than a third of the variance in HIV-related resilience was explained, an important result denoting that positive outcomes after HIV diagnosis can in fact be fostered. Greater HIV-

related resilience was predicted by lower rumination and higher emotional expression. Other coping variables such as positive thinking seemed to play no role in predicting HIV-related resilience, which deviates from previous research on resilience in the physically ill and ageing PLHIV that did find an association with positive thinking (Fumaz et al., 2015; Stewart & Yuen, 2011). Higher internalised stigma led to a lower HIV-related resilience, both directly and via higher rumination levels. These findings are congruent with studies which have found that people with higher stigma engage in maladaptive coping strategies like rumination and suppression (Hatzenbuehler et al., 2013). Finally, past resilience had no direct effect but an indirect one, both through rumination, emotional expression, and internalised stigma. This highlights the relevance of assessing the person's perception of their past experiences with adversity (i.e., perceived levels of past resilience outcomes), as it predicts the use of coping strategies and the degree of internalisation of HIV stigma, all of which will later foster or preclude HIV-related resilience.

The proportions of explained variance of the three PTG dimensions were lower than for resilience (12–22%), although similar to previous findings with PLHIV (Murphy & Hevey, 2013). Higher changes in philosophy of life were found among those who use self-blame and positive thinking as coping strategies. Higher changes in the self were predicted by higher use of thinking avoidance and help seeking. Using help seeking and having higher internalised stigma led to higher changes in interpersonal relationships. Moreover, internalised stigma also had a positive indirect effect through self-blame and thinking avoidance (i.e., higher internalised stigma leads to higher PTG). Finally, past resilience had no direct effect on PTG, but an indirect one through internalised stigma, self-blame, and thinking avoidance (negatively) and through positive thinking (positively). That is, past resilience can both decrease and increase the levels of PTG depending on the mechanisms it affects. These results are congruent with the idea that PTG stems more from cognition than emotion (Calhoun & Tedeschi, 1999),

although rumination did not predict PTG. Previous literature has found that deliberate ruminations lead to the development of PTG, while intrusive ruminations lead to posttraumatic stress disorder (Nightingale et al., 2010). Thus, it may be necessary to differentiate between the types of rumination, and so it would be useful to explore this in future studies.

As can be derived from the discussed findings, in general our hypotheses were supported: past resilience predicted internalised stigma and coping variables acted as mediators between these and HIV-related resilience and PTG. The latter two had different patterns of association with coping variables, which suggests that indeed different mechanisms may influence their development after a traumatic experience and thus supports the usefulness of more specific lower order coping classifications (Moskowitz et al., 2009).

The differential effect of internalised stigma on HIV-related resilience and PTG also merits attention. While higher internalised stigma leading to lower resilience outcomes was an expected result (Earnshaw et al., 2013), the finding that higher internalised stigma leads to higher PTG levels (both directly and indirectly) is against previous literature (Murphy & Hevey, 2013; Willie et al., 2016). A possible explanation is based on the notion that, for PTG to occur, the adverse event has to be upsetting enough to cause considerable disruption to one's assumptions about the world (Janoff-Bulman, 2004). It could be that, in a world where antiretroviral therapy is increasingly available and a normal life expectancy is achievable (Nakagawa, May, & Phillips, 2013), HIV diagnosis is decreasingly traumatic and sometimes it may be not traumatic enough to trigger PTG. The potentially traumatic nature of HIV diagnosis might be different across countries or cultures, as it can be influenced by a diversity of social factors (e.g., the economic, cultural, and political landscapes, access to prevention and care services, community support networks, prevailing levels of stigma). In the scenario of a potentially less traumatic diagnosis, the presence of additional stress in the form of internalised stigma may make the event traumatic enough to allow for PTG. This is a hypothesis that needs testing, after these results have been replicated in different samples.

With regard to clinical recommendations useful for health caregivers, the findings indicate that HIV-related resilience can be fostered by reducing internalised stigma and rumination, and encouraging emotional expression. Indeed, a study that tested the effects of an intervention which included coping strategies as a key element showed that the experimental group had higher resilience post-intervention than the waiting list control group (Steinhardt & Dolbier, 2008). Additionally, mindfulness training has been shown to reduce rumination and emotion suppression and increase awareness of emotions in other stigmatised groups (Graham, West, & Roemer, 2013; Masuda, Anderson, & Sheehan, 2009) and thus would be a possible intervention to foster resilience.

Concerning PTG, it can be acknowledged that not all outcomes of internalised stigma or supposedly maladaptive coping strategies (e.g., self-blame) are bad. This being said, we would not recommend to increase internalised stigma or self-blame, as they have other negative consequences that should be avoided. Nevertheless, once present, it could be useful to foster their cognitive processing so that the person can grow from that and the levels of these variables decrease. Positive thinking, help seeking, and thinking avoidance should also be promoted. To this aim, coping behavioural interventions or workshops could be implemented.

This study has some strengths, such as its quantitative nature, quite novel in this particular research field, and the use of a resilience definition that draws from a clear psychological framework. The longitudinal design has also allowed for the establishment of temporal relationships. However, because this study is the first to examine longitudinal relations between internalised stigma, perceived past health-related resilience, coping, HIV-related resilience, and PTG in newly diagnosed PLHIV, it is premature to draw definitive conclusions about such relationships. Further replication and extension of this work are necessary with bigger samples, especially to avoid capitalization on chance (Kline, 2015). Since the findings presented are based on data collected from PLHIV from Spain and Latin

America, they should be generalised to other populations with caution. Additionally, the online data collection method may have resulted in a biased sample, and the use of self-report survey data has inherent limitations. Future studies should aim for longer term follow-ups with PLHIV and include more assessments so that each variable is measured at a different time-point and retrospective questions can be avoided (e.g., pre-diagnosis perceived resilience). Lastly, future research should explore whether there are more PTG dimensions relevant to PLHIV that are not considered in the PTGI, the measure typically used to assess PTG.

Conclusion

Positive outcomes such as resilience and PTG are possible in the aftermath of an HIV diagnosis and are indeed present in a high proportion of newly diagnosed PLHIV. Thus, they should be systematically assessed to avoid fostering an incomplete and biased view of the psychological impact of an HIV-positive diagnosis. Moreover, interventions to facilitate adjustment to an HIV-positive diagnosis should not only aim to prevent psychopathology, but also aim to promote healthy functioning and meaning-making. In achieving these aims, the important role of coping strategies and internalized stigma should not be overlooked.

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4.3. PREDICTORS OF ANXIETY AND DEPRESSION AMONG NEWLY DIAGNOSED PEOPLE LIVING WITH HIV: A LONGITUDINAL STUDY

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4.3.1. Abstract

This longitudinal study investigated the predictors of anxiety and depression among newly diagnosed Spanish-speaking people living with HIV (PLHIV). Past resilience, internalized stigma, and coping strategies were hypothesized as possible anxiety and depression predictors. Data were collected at two time points from 118 PLHIV. Structural equations modeling was employed to test the relationships among the variables. Around a third of participants had scores indicative of anxiety symptoms and the same result was found for depressive symptoms. Structural equations modeling revealed that 58% of the variance of anxiety and 45% of the variance of depression eight months after diagnosis was predicted by positive thinking, self-blame, thinking avoidance, internalized stigma, and past resilience. The latter two also predicted the differential use of coping strategies. The results point to the need for clinicians and policy makers to conduct systematic assessments and implement interventions to reduce stigma and train PLHIV to identify and use certain coping behaviors.

Keywords: HIV/AIDS, anxiety, depression, resilience, stigma, coping

4.3.2. Introduction

Anxiety and depression are two highly prevalent mental health problems among people living with HIV (PLHIV; Heywood & Lyons, 2016; Willie et al., 2016). HIV-positive diagnosis constitutes a stressor that threatens both physical and mental health (Blashill, Perry, & Safren, 2011), as PLHIV face many uncertainties in relation to their health (including HIV-associated co-morbid conditions and side effects of HIV medication) and to psychosocial challenges (including interpersonal relationships, financial status, and stigmatization and discrimination; Buseh, Kelber, Hewitt, Stevens, & Park, 2006; Gakhar, Kamali, & Holodniy, 2013). PLHIV endure stigma and discrimination to a degree unmatched by any other medical conditions such as diabetes or cancer (Fife & Wright, 2000; Holzemer et al., 2009), which constitutes an additional source of stress making them more prone to psychological distress. Distress, in turn, disrupts the psychological functioning and it also contributes to the progression of the illness, in terms of lower CD4 cell counts and higher viral load (i.e., weaker immune system; Chida & Vedhara, 2009; Ironson et al., 2005). The high prevalence of psychological distress among PLHIV (Miners et al., 2014) makes it important to examine the predictors of anxiety and depression, with the clear objective of allowing healthcare workers to analyze soon after delivering the positive diagnosis if a certain patient is likely to develop one of these mental health problems. This study addresses this subject by longitudinally studying these two outcomes and their possible predictors in a sample of Spanish-speaking newly diagnosed PLHIV.

Among the variables associated with anxiety and depression in PLHIV, coping is a well-established one. Coping is defined as the cognitive or behavioral response to something appraised as stressful (Moskowitz, Hult, Bussolari, & Acree, 2009). It is a complex process that depends both on personality dispositions and environmental demands (Folkman & Moskowitz, 2004). Coping responses have often been organized in higher order classifications that allow for more manageable dimensions and the approach and avoidance distinction,

characterized by engagement with or disengagement from the stressor, stands out in the HIV literature (Moskowitz et al., 2009). Despite the advantages of higher order classifications (e.g., efficient analysis and discussion of findings), lower order classifications are more useful to inform what strategies work with HIV-related stress, and so researchers are advised to use them (Moskowitz et al., 2009).

Regarding the relationship of coping with anxiety and depression, literature has found that generally approach coping is related to better psychological outcomes, while avoidance coping is related to worse psychological outcomes (Moskowitz et al., 2009; Roesch & Weiner, 2001). For instance, a study with U.S. immigrant women reported lower levels of depressed mood for those women with lower levels of avoidance coping (Gurung, Taylor, Kemeny, & Myers, 2004). Reports on Spanish adult PLHIV have provided similar results, with approach coping being associated with better well-being, better immune function, and more positive affect, and avoidance coping being related to worse well-being, more negative affect, and less perceived social support (Carrobles Isabel, Remor Bitencourt, & Rodríguez Alzamora, 2003; Sanjuán, Molero, Fuster, & Nouvilas, 2012).

Looking at specific coping strategies, a meta-analysis found that responses such as direct action, fighting spirit, positive reappraisal, and seeking social support were significantly associated with lower negative affect (which included anxiety and depression). On the other hand, strategies such as self-blame, emotional venting, behavioral disengagement, escape/avoidance, rumination, and social isolation were associated with higher negative affect (Moskowitz et al., 2009). Again, studies with Spanish PLHIV have yielded similar findings: trying to solve the problem and seeking help were related to lower psychological distress (anxiety and depression symptoms), while passive behaviors, rumination, and in general cognitive coping strategies not directed at finding a solution were related to higher distress (Carrobles Isabel et al., 2003). We thus expect that strategies like problem solving, positive

thinking, and help seeking will be associated with lower levels of anxiety and depressive symptoms and that strategies such as self-isolation, self-blame, rumination, emotional expression, and thinking avoidance will be related to higher levels.

Stigma is another variable central to HIV infection and closely related to anxiety and depression (Rueda et al., 2012). There exist various HIV stigma types, such as enacted, anticipated, and internalized stigma (Earnshaw & Chaudoir, 2009). Internalized stigma, which is defined as the devaluation and discrediting of oneself based on one's HIV (Earnshaw, Bogart, Dovidio, & Williams, 2013), has been claimed to have the most severe consequences (Phillips, Moneyham, & Tavakoli, 2011; Singh, Kumar, Mukhopadhyay, & Singh, 2014). It has indeed been consistently related to anxiety and depression symptoms (Hernansaiz-Garrido & Alonso-Tapia, 2017; Heywood & Lyons, 2016; Willie et al., 2016).

Furthermore, the influence that stigma has on health seems to partially take place through the alteration of coping behaviors (Hatzenbuehler, Phelan, & Link, 2013). For instance, a study found that the impact of HIV stigma (especially internalized stigma) on depression was moderated by the degree of mastery (Rueda et al., 2012). Likewise, avoidant strategies mediated the relationship between stigma and well-being in Spanish PLHIV (Sanjuán et al., 2012), and prospective studies have reported that individuals with higher stigma tended to engage in maladaptive coping strategies (Hatzenbuehler et al., 2013). In view of this, we expect internalized stigma to have a positive relation with anxiety and depression, possibly through coping strategies.

Resilience is a third important variable. It refers to the maintenance of a relative stable trajectory of healthy functioning following exposure to a potential trauma (Bonanno, 2005) and it is negatively related to distress symptoms. Resilience has been associated with higher HIV medication adherence and lower viral load (Dale et al., 2014). Research has shown that self-reported resilience is related to anxiety and depression and also to coping strategies (Seligman

& Csikszentmihalyi, 2000). Evidence in the cancer and HIV contexts shows that perceived resilience can predict coping behaviors (Kang & Suh, 2015; Molina et al., 2014; Pellowski, Kalichman, Matthews, & Adler, 2013). Furthermore, resilience influences the degree to which the internalization of HIV stigma occurs (Brouard & Wills, 2006). Thus, assessing individuals' perceptions of their own resilience (i.e., perceived past resilience) can be useful in understanding and predicting PLHIV's adaptation to HIV infection. We thus expect that perceived past resilience will be inversely related to anxiety and depression symptoms, possibly through internalized stigma and coping strategies.

Few studies have simultaneously examined risk and protective factors (e.g., internalized stigma and perceived past resilience; Emlet, 2006), and reports have usually focused solely on depressive symptoms, ignoring anxiety (Heywood & Lyons, 2016). The present study investigates the relations of perceived past resilience and internalized stigma with anxiety and depression over time in a sample of newly diagnosed PLHIV and the mediation of these relations by coping behaviors. The ultimate objective of this study is to help health caregivers effectively screen newly diagnosed individuals and detect those at risk of developing anxiety or depressive symptoms so that preventive actions can be taken.

4.3.3. Methods

Participants

Eligibility criteria for participating in the study were a minimum age of 18 years, HIV seropositivity, comfort with reading and writing in Spanish, and a time since diagnosis at the first assessment of no more than 100 days.

Instruments

Initial assessment (T0)

Demographic characteristics that participants reported included age, gender, sexual orientation, country of origin, relationship status, educational level, employment status, time

since diagnosis, mode of transmission (sexual intercourse, injection drugs, blood transfusion/mother-to-child, other/I don't know) and connection with a HIV-related group, association or non-profit organization (yes/no).

Perceived past health-related resilience was measured with a four-item subscale of the Situated Subjective Resilience Questionnaire for Adults (SSRQA; Alonso-Tapia, Garrido-Hernansaiz, Rodríguez-Rey, Ruiz, & Nieto, 2017) which assesses perceived resilience in the face of stress due to past health problems (e.g., “When I have had an important health issue, I have had a hard time overcoming the distress that it caused me”). Participants were instructed to rate items on a 5-point Likert scale (1 = *Strongly disagree*, 5 = *Strongly agree*) based on their recalled experiences prior to diagnosis. The subscale showed acceptable reliability in the original study ($\alpha = .72$).

Internalized stigma was assessed with the HIV Internalized Stigma Scale (HIV-ISS; Hernansaiz-Garrido & Alonso-Tapia, 2017), a self-report instrument in Spanish that evaluates the level of internalized stigma related to HIV during the last month. It consists of 10 items with a 5-point response scale (1 = *Never or hardly ever*; 5 = *All or almost all the time*). Reliability was $\alpha = .94$ in the original study.

Final assessment (T1)

Coping strategies were evaluated with the Situated Coping Questionnaire for Adults with HIV-Short Form (SCQA-HIV-SF; Garrido-Hernansaiz, Alonso-Tapia, & Martín-Fernández, 2017). It is a 24-item instrument in Spanish that assesses the use of eight coping strategies (problem solving, positive thinking, help seeking, self-isolation, self-blame, rumination, emotional expression, and thinking avoidance) in the context of 3 types of stressful situations relevant to HIV infection (personal relationships, health, and finances). Respondents rated items on a 5-point Likert scale (1 = *Never*; 5 = *Almost always*) to assess the degree to which each

copied strategy was used in the previous month. Reliability of the coping strategies' scores was shown to be good in the original study (McDonald's ω ranging from .90–.97).

Anxiety and depressive symptoms were measured with the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983), a self-report measure comprised of 14 items with two 7-item subscales, one for anxiety (HADS-A) and one for depression (HADS-D). Items are rated on a 4-point Likert-type scale (0 to 3). The scores of the Spanish version (Tejero, Guimerá, Farré, & Peri, 1986) have shown adequate psychometric properties in different Spanish populations and has proven to be a good screening instrument to assess anxiety and depression (Herrero et al., 2003; Luciano, Barrada, Aguado, Osma, & García-Campayo, 2014; Terol-Cantero, Cabrera-Perona, & Martín-Aragón, 2015).

Procedures

Approval for this study was obtained from the institutional review board at the authors' university. Longitudinal quantitative data were collected between October 2014 and August 2016. Participant recruitment was conducted in two ways. First, 92 newly-diagnosed PLHIV were referred to the study by staff at a health care center in Madrid (Spain) specialized in sexually transmitted infections. Second, several local and national HIV associations and groups from Spanish-speaking countries advertised the study on their online social networks ($n = 72$, of which 20 were not considered eligible as their reported time since diagnosis was over 100 days). A total of 144 eligible PLHIV provided their acceptance and completed the initial questionnaires (T0 assessment) either using pen-and-paper questionnaires (for participants recruited through the health center) or online questionnaires (for those recruited elsewhere). Six months later (T1), all were contacted again and asked to complete the second set of questionnaires on an online platform. Eighty-seven of those referred by the health care center completed the T1 assessment (attrition rate = 5%), and 31 of those recruited online (attrition rate = 40%), composing a final sample of 118 participants (global attrition rate = 18%).

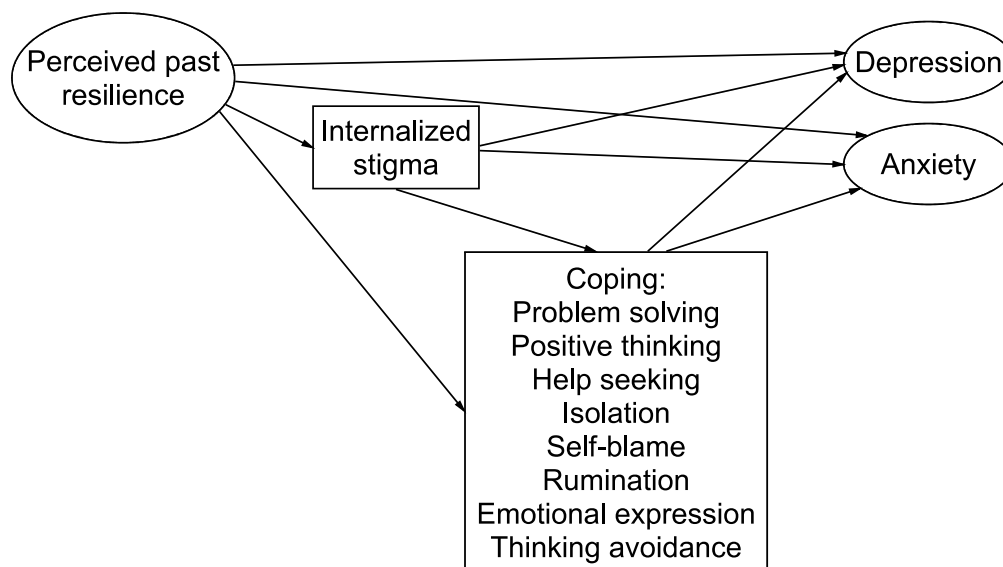


Figure 4.6. Initials model to be tested.

Note. The eight coping strategies are shown here as a single variable.

Data analysis

The psychometric properties of the instruments were studied in our sample and descriptive statistics were used for the sample and the study variables. Structural equation modeling (SEM) was used to examine the relationships among anxiety, depression, and their predictors. This type of analysis accounts for multiple relationships among variables, for measurement error, and allows testing of directional relationships (Kline, 2015). Maximum Likelihood Mean and Variance Adjusted estimation procedure (MLMV) was used, a robust estimator adequate for ordinal variables (DiStefano, 2002).

An initial model was tested with anxiety and depression as criteria (see Figure 4.6). Derived from the research above presented, anxiety and depression were predicted by T0 variables (internalized stigma and perceived past health-related resilience—hereafter “past resilience”), and also by the eight coping strategies, as their assessment at T1 referred to their use during the previous month. Coping strategies were also predicted by the T0 variables internalized stigma and past resilience, and finally internalized stigma was likewise predicted by past resilience. The tested models were subjected to empirical respecification (Kline, 2015) with the aim of arriving at a parsimonious solution that can be useful to healthcare

professionals. The comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR) were used to assess model fit, following recommended criteria ($SRMR \leq .08$; $RMSEA \leq .08$; $CFI \geq .90$; Hair, Black, Babin, & Anderson, 2010). Analyses were performed using MPlus 7 (Muthén & Muthén, 2010) for the SEM and SPSS 23 for the rest.

4.3.4. Results

Demographic characteristics

The sample was composed of 118 PLHIV, of which 116 were males (98%), one was female, and one reported gender as “other”. The mean age was 32.78 years ($SD = 8.27$), and a mean of 38.64 days had passed since diagnosis ($SD = 20.47$) at T0. Fifty-eight percent of the participants were from Spain, 38% from Latin American countries (e.g., Venezuela, México, Argentina), and the rest (4%) from other countries (e.g., Italy). Regarding sexual orientation, 87% were homosexual, 11% were bisexual, and 2% were heterosexual. More than half the participants had an undergraduate degree (54%) and some had a postgraduate degree (14%). Around a quarter (28%) had a secondary education and a small percentage (3%) had at most a primary education. The majority of the participants were single (76%), 14% were married or living with their partner, and some were divorced/separated (10%). Three quarters of the sample were employed (75%), with 13% being unemployed and the rest in different conditions (e.g., student, medical leave). Seventeen percent were connected with a HIV-related group, association, or non-profit organization and 93% reported sexual intercourse as the mode of transmission, the rest stating that it was other or they did not know.

Descriptive statistics

Table 4.3 presents the reliability and descriptive statistics of the variables in the study. Reliability was good for all measures except for some coping subscales, for which Cronbach’s α ranged .60–.82, which we deemed acceptable given the brevity and multidimensionality of

the scales (Graham, 2006). Using the optimal cut-offs to screen for anxiety and depressive disorders found by Herrero et al. in a Spanish sample of outpatients including PLHIV (Herrero et al., 2003), 31.36% ($n = 37$) of participants had scores indicative of anxiety symptoms (≥ 8) and 31.36% ($n = 37$) had scores indicative of depressive symptoms (≥ 5).

Structural equation modeling

The initial model was estimated and the fit indices, included in Table 4.4, suggested a well-fitted model which predicted 64% and 48% of the variance of anxiety and depression at T1, respectively (both $p < .001$). Model trimming was performed as follows: firstly, proximal predictors of anxiety and depression that were not significant were removed. Thus self-blame, positive thinking, and thinking avoidance were retained along with past resilience as predictors of both anxiety and depression and the direct path from internalized stigma to depression was deleted. Secondly, predictors of coping strategies that were not significant were to be taken out of the model, but all of them were significant and remained.

Table 4.3. Descriptive and reliability statistics for the study variables.

Measure	α	Possible Range	Mean	<i>SD</i>
Past health-related resilience	.75	4 – 20	13.93	3.85
Internalized stigma	.90	10 – 50	27.92	9.94
Coping strategies				
Problem solving	.65	3 – 15	11.32	2.57
Positive thinking	.82	3 – 15	11.73	2.68
Help seeking	.60	3 – 15	8.82	2.63
Isolation	.68	3 – 15	7.54	3.03
Self-blame	.82	3 – 15	8.47	3.53
Rumination	.64	3 – 15	8.86	2.69
Emotional expression	.65	3 – 15	7.21	2.51
Thinking avoidance	.65	3 – 15	9.25	2.71
Anxiety	.85	0 – 21	6.31	3.76
Depression	.78	0 – 21	3.60	3.12

Table 4.4. Model fit indices for anxiety and depression prediction.

Model	% of explained variance	SRMR	RMSEA	CFI
Initial solution	Anxiety: 64%; Depression: 48%	.06	.04	.93
Final solution	Anxiety: 58%; Depression: 45%	.06	.04	.94

Table 4.4 shows the fit indices of this respecified model, which were equal to those of the initial model with an slight improvement on CFI. Figure 4.7 shows the standardized regression weights of this final model, which predicted 58% of the variance of anxiety and 45% of the variance of depression at T1 (both $p < .001$). Both anxiety and depression were significantly and negatively predicted by positive thinking, thinking avoidance, and past resilience and positively predicted by self-blame. Additionally, anxiety was positively predicted by internalized stigma. Self-blame and thinking avoidance were significantly predicted by past resilience (negatively) and internalized stigma (positively). Positive thinking was significantly predicted by past resilience (negatively) and internalized stigma (positively). Positive thinking was significantly predicted by past resilience (positively) and internalized stigma (negatively). Lastly, internalized stigma was significantly and negatively predicted by past resilience.

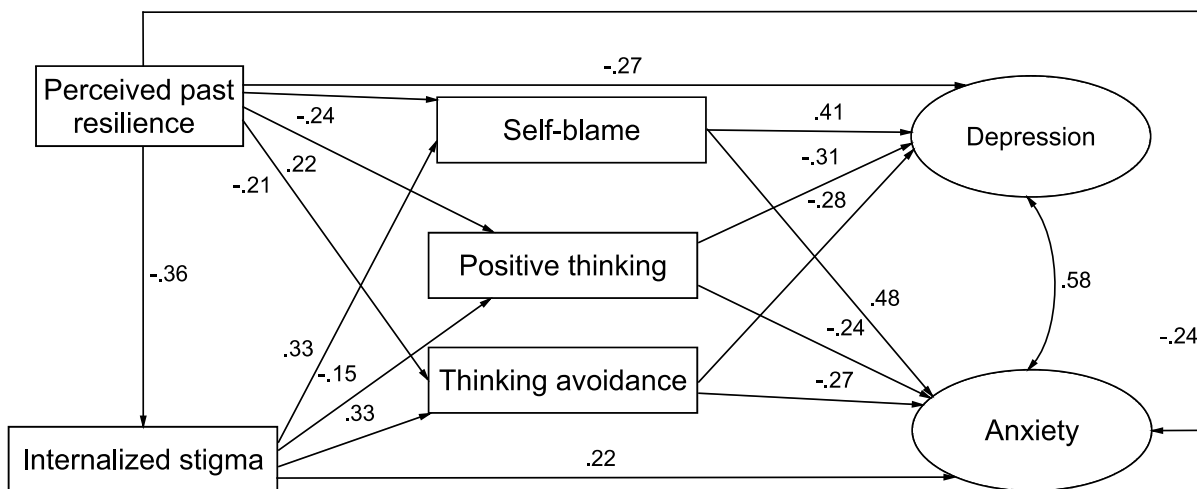


Figure 4.7. Final standardized solution for the anxiety and depression prediction model.

Note. The measurement model is not shown. Rectangles represent observed variables and ovals represent latent variables estimated through items.

Internalized stigma, aside from the direct effect on anxiety of .22, had also a significant indirect effect on both anxiety and depression that was positive through self-blame (.16, $p < .001$, and .14, $p < .01$, respectively) and negative through thinking avoidance ($-.09$, $p < .01$, and $-.09$, $p < .05$, respectively). Past resilience also had indirect effects on anxiety and depression, in addition to the direct ones ($-.24$ and $-.27$, respectively). On anxiety, the indirect effect was significant through internalized stigma ($-.08$, $p < .01$), self-blame ($-.11$, $p < .05$), thinking avoidance (.06, $p < .05$), internalized stigma and self-blame ($-.06$, $p < .01$), and internalized stigma and thinking avoidance (.03, $p < .05$). On depression, the indirect effect was significant through self-blame ($-.10$, $p < .05$), internalized stigma and self-blame ($-.05$, $p < .05$), and internalized stigma and thinking avoidance (.03, $p < .05$).

4.3.5. Discussion

This study sought to predict anxiety and depression in a sample of newly diagnosed PLHIV. The means of anxiety and depression reported by participants were similar to those reported in PLHIV (Savard, Laberge, Gauthier, Ivers, & Bergeron, 1998; Wouters, Booyen, Ponnet, & Baron Van Loon, 2012). As findings showed, past resilience predicted internalized stigma, and coping variables acted as mediators between these and anxiety and depression, thus supporting our initial hypothesis.

More than half the variance in anxiety and almost half the variance in depression was explained by the model, an important result denoting that both anxiety and depression can be predicted and might be susceptible of change through intervention on the predictors. Of the potential coping predictors, only three of them were significant: self-blame, positive thinking, and thinking avoidance. This fact supports the preferential use of lower order coping classifications (Moskowitz et al., 2009) as only some of them were informative. Higher anxiety and depression were found among those who had used more self-blame and less positive

thinking and thinking avoidance. These findings are partially in accordance with previous research: positive thinking and self-blame worked as expected (Moskowitz et al., 2009), but thinking avoidance was unexpectedly inversely related to anxiety and depression. As some authors argue, it is possible that thinking avoidance constitutes an effective strategy in those instances where little can be done (Alonso-Tapia, Rodríguez-Rey, Garrido-Hernansaiz, Ruiz, & Nieto, 2016) and we argue that thinking avoidance may as well be the other side of the rumination coin.

Lastly, help seeking, emotional expression, self-isolation, problem solving, and rumination did not demonstrate a relationship with anxiety or depression, which was also unexpected (Carrobes Isabel et al., 2003; Moskowitz et al., 2009). This finding could be due to the fact that all the variables were considered together and thus the variance they share is better explained by positive thinking, thinking avoidance, and self-blame. The newly-diagnosed nature of the sample might be another relevant variable explaining this. Also, as noted by Moskowitz et al., there is little consistency in which strategies are measured across studies and how they are measured, and these differences could also be behind this discrepancy.

Higher internalized stigma was related to higher anxiety, and higher perceived past health-related resilience was associated with lower anxiety and depression, in line with extant literature (Gloria & Steinhardt, 2016; Heywood & Lyons, 2016). Moreover, higher internalized stigma was associated with higher self-blame and thinking avoidance and with lower positive thinking. These findings are congruent with evidence showing that stigma alters coping behaviors (Hatzenbuehler et al., 2013; Rueda et al., 2012). Higher past resilience, for its part, was associated with higher positive thinking and lower self-blame and thinking avoidance, which is in line with previous findings (Kang & Suh, 2015; Molina et al., 2014; Pellowski et al., 2013). Lastly, past resilience strongly predicted internalized HIV stigma, also in line with previous suggestions (Brouard & Wills, 2006).

The relationships of internalized stigma and past resilience with anxiety and depression were more complex than they seemed at first glance. Higher internalized stigma was indirectly related to both higher and lower anxiety, depending on if the intermediate coping strategy was self-blame or thinking avoidance, and the same happened with past resilience. The mixed effect of internalized stigma and past resilience on anxiety and depression deserves consideration in future research and also in clinical settings, demonstrating the complexity of psychological adaptation after a significant adverse event and the need to carefully assess the use of coping skills that PLHIV make. These results highlight the relevance of assessing perceived past resilience, HIV stigma internalization, and the use of coping strategies, all of which might later translate in higher or lower anxiety and depression.

With regard to clinical recommendations useful for health care workers, interventions designed to reduce anxiety and depression levels should aim to increase positive thinking and thinking avoidance and to reduce internalized stigma and self-blame. HIV-related stigma reduction interventions emerge as a key element (Rueda et al., 2012), as lowering internalized stigma can decrease self-blame and increase positive thinking, apart from directly lowering anxiety levels. Also, increasing positive thinking and thinking avoidance may also build a sense of control, encouraging PLHIV to be proactive and take control of their situation (Rueda et al., 2012).

This study has certain shortcomings. The online data collection method and the self-report instruments may have resulted in a biased sample and responses. As the sample was composed by male PLHIV from Spain and Latin America, results should not be generalized to other populations (i.e., other genders or countries) without further replication. Moreover, this is the first study to examine longitudinal relations between internalized stigma, perceived past health-related resilience, coping, anxiety, and depression in newly diagnosed PLHIV, and so such relations are far from being established. Further research is necessary to replicate these

findings in different, bigger samples so as to avoid capitalization on chance (Kline, 2015). Finally, future studies should aim for longer term follow-ups with PLHIV and include more assessments to avoid retrospective measurement.

In conclusion, anxiety and depression are present in a high proportion of people in the aftermath of HIV diagnosis. These outcomes may be susceptible of change by increasing the differential use of coping strategies. Internalized stigma seems to have a negative effect on anxiety and depression and stigma reduction interventions are key. Although replication and extension of this work are necessary, this study constitutes a first step into the intricate relationships between anxiety, depression, and their predictors, leading to results that can be useful both in research and clinical contexts concerned with PLHIV's mental health.

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4.4. SOCIAL SUPPORT IN NEWLY DIAGNOSED PEOPLE LIVING WITH HIV: EXPECTATIONS AND SATISFACTION ALONG TIME, PREDICTORS, AND MENTAL HEALTH CORRELATES.

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4.4.1. Abstract

HIV diagnosis usually results in decreased social support, which is in turn related to worse mental health. This study investigated the evolution of social support after HIV diagnosis and its relation with anxiety, depression, and resilience, and it sought to develop a social support prediction model considering relevant variables. The participants of this longitudinal study were 119 Spanish-speakers of recent HIV diagnosis. They completed a sociodemographic questionnaire and measures of social support satisfaction and expectations, internalized stigma, disclosure concerns, degree of disclosure coping, anxiety, depression, and resilience. Bivariate associations were obtained (correlations, ANOVAs, and t-tests) and multiple regression analyses were performed. Results show that the highest levels of support arose from friends, healthcare providers, and partners and that social support decreased following HIV diagnosis. Avoidance coping was a negative predictor of satisfaction with social support at eight months after diagnosis, and having a steady partner, higher degree of disclosure, and approach coping were positive predictors. Social support was significantly associated with decreased anxiety and depression and with higher resilience. Interventions should seek to increase social support in people living with HIV to promote mental health and they would benefit from encouraging approach coping and disclosure behaviors and discouraging avoidance coping.

Keywords: HIV; social support; stigma; coping; resilience; anxiety; depression

4.4.2. Introduction

HIV diagnosis is a difficult experience that threatens physical and mental health (Carrobles Isabel, Remor Bitencourt, & Rodríguez Alzamora, 2003). Stigma and discrimination surround the infection to a much higher degree than other medical conditions (Holzemer et al., 2009) and are known to lead to a lack of social support (Su et al., 2013). Paradoxically, in times when social support is most needed, people living with HIV (PLHIV) experience stigma and hostility instead (Feigin, Sapir, Patinkin, & Turner, 2013), so it comes as no surprise that anxiety and depression are highly prevalent in this population (Heywood & Lyons, 2016). A better understanding of how psychosocial variables affect social support is critical to develop future interventions to promote mental health. This study addresses this subject longitudinally by studying social support and their possible predictors and mental health correlates in a sample of Spanish-speaking newly diagnosed PLHIV.

Social support (SS) is a resource that helps face adverse situations. It refers to interpersonal interactions involving some kind of help (e.g., moral, financial, emotional, instrumental) which promotes health and well-being (Palomar Lever, Matus García, & Victorio Estrada, 2013). SS has been posited as an essential variable in psychopathology prevention, with lower rates of mental health problems among PLHIV with access to SS (McDowell & Serovich, 2007). There exists a well-documented inverse relationship between SS and depression in PLHIV (Carrobles Isabel et al., 2003; Gurung, Taylor, Kemeny, & Myers, 2004; Heywood & Lyons, 2016; Rao et al., 2012; Vyavaharkar et al., 2010). Likewise, an inverse association has been found in PLHIV between SS and anxiety (Carrobles Isabel et al., 2003; Heywood & Lyons, 2016).

Studies have also found a direct relationship with positive mental health outcomes such as resilience and posttraumatic growth in PLHIV. Resilience is defined as the maintenance of

a relative stable trajectory of healthy functioning following exposure to a potential trauma (Bonanno, 2005); in this case, HIV diagnosis. Research indicates the linkage of this particular outcome to SS in PLHIV (Kang & Suh, 2015; Yu et al., 2014). PTG involves not just a return to baseline functioning after a trauma (as does resilience) but an actual improvement when compared to pre-trauma levels (Tedeschi & Calhoun, 1996). Social support has been regarded as an essential element for the attainment of PTG (Tedeschi & Calhoun, 2004), and research in PLHIV has pointed to their positive relationship (Helgeson & Lopez, 2010; Littlewood, Vanable, Carey, & Blair, 2008; Luszczynska, Sarkar, & Knoll, 2007; Siegel & Schrimshaw, 2007; Yu et al., 2014).

Different sources of SS have been addressed in research. In general, literature agrees on the relevance of support arising from relationship partners, friends, and family (Gohain & Halliday, 2014; Heywood & Lyons, 2016). However, it may also be important to consider an expanded SS network including both informal (e.g., partner, friends) and formal roles (e.g., co-workers, healthcare providers; George et al., 2009; Pichon, Rossi, Ogg, Krull, & Griffin, 2015), but limited research has been conducted concerning the latter. A study with Spanish-speaking PLHIV found that SS from healthcare providers was related to decreased anxiety and depressive symptoms (Carrobles Isabel et al., 2003).

A number of variables have been associated with differences in SS. Among demographic variables, having a steady partner (i.e., being married or living with a partner) has been consistently associated with higher SS (Burnham et al., 2016; Rao et al., 2012). No differences were found in a study with Spanish-speaking participants regarding gender or age, although those with secondary education reported greater levels of support in comparison with those with primary studies or no studies (Remor, 2002). Finally, perceived support from healthcare providers has been found to be higher for Spanish participants than for Peruvians (Carrobles Isabel et al., 2003).

Concerning psychosocial variables, literature has often mentioned coping as a key factor (Gohain & Halliday, 2014; Rueda et al., 2016). Coping is defined as the cognitive or behavioral response to an event appraised as stressful (Moskowitz, Hult, Bussolari, & Acree, 2009). In the HIV literature, coping responses (e.g., help seeking, isolation, positive thinking) have been organized within the approach and avoidance distinction, a higher order classification characterized by engagement with or disengagement from the stressor (Moskowitz et al., 2009). Approach coping includes coping strategies such as help seeking while avoidant coping includes strategies such as self-isolation. Literature has investigated SS and coping as predictors of depression, usually neglecting the relationship between them (Gurung et al., 2004; Jia et al., 2004; Yeji et al., 2014). Based on the relationship with each other and with mental health variables, it could be expected that higher SS would be related to higher approach coping (Kang & Suh, 2015; Yu et al., 2014) and lower avoidance coping (Jia et al., 2004; Yeji et al., 2014).

HIV stigma is also closely related to SS, with a negative association existing between the two (Heywood & Lyons, 2016; Rao et al., 2012; Rueda et al., 2016). There are several stigma-related concepts which are relevant to SS. First, internalized HIV stigma (the devaluation of the self based on one's seropositivity) is negatively related to SS (Brouard & Wills, 2006; Burnham et al., 2016; Kalichman et al., 2009; Sayles et al., 2008). Second, HIV stigma makes PLHIV worry about other people finding out about their positive diagnosis and the possible consequences (i.e., disclosure concerns), which is associated with lower SS (Brouard & Wills, 2006; Sayles et al., 2008). Third, PLHIV tend to avoid disclosure to protect themselves and their existing relationships, a behavior that actually prevents them from accessing such SS and is therefore related to lower levels of SS (Brouard & Wills, 2006; Feigin et al., 2013; Heywood & Lyons, 2016; Pichon et al., 2015).

The purpose of this paper was to study the evolution of SS arising from several sources (i.e., partners, family, friends, work-related people, and healthcare providers) and its possible

predictors and mental health correlates in a sample of newly diagnosed Spanish-speaking PLHIV. Based upon the aforementioned research, we hypothesized that 1) SS will decrease after HIV diagnosis; 2) internalized stigma, disclosure concerns, and avoidant coping will be related to lower support, while disclosure, approach coping, higher education, and having a steady partner will be related to higher SS; and 3) SS will be positively related to resilience and PTG and negatively related to anxiety and depression.

4.4.3. Methods

Participants

Eligibility criteria were a minimum of 18 years of age, HIV-positive diagnosis, comfort with reading and writing in Spanish, and a time since diagnosis of maximum 100 days.

Instruments

Initial assessment (T0)

Demographic Characteristics included age, gender, sexual orientation, country of origin, relationship status, educational level, employment status, time since diagnosis, mode of HIV transmission (sexual intercourse, injection drugs, blood transfusion/mother-to-child, other/I don't know) and connection with a HIV-related group or association (yes/no).

Satisfaction with pre-diagnosis social support was measured with four items asking to which degree the respondents were satisfied prior to HIV diagnosis with SS from each the following sources: emotional or sexual partners, family members, friends, and work-related people. The items were answered on a five-point Likert scale (1 = *Not at all satisfied*, 5 = *Very satisfied*). This measure was inspired by and is very similar to another one used in Spanish-speaking settings (Carrobes Isabel et al., 2003; Remor, 2000).

Social support expectations were measured in a similar way, with five items asking the degree of support expected in the coming months from emotional/sexual partners, family,

friends, work-related people, and healthcare providers. The items were answered on a five-point Likert scale (1 = *Very little support*, 5 = *A lot of support*).

Internalised stigma and disclosure concerns were assessed, respectively, with the HIV Internalized Stigma Scale (HIV-ISS) and the HIV Disclosure Concerns Scale (HIV-DCS; Hernansaiz-Garrido & Alonso-Tapia, 2017). These self-report instruments in Spanish evaluate the level of internalized stigma related to HIV during the last month and current disclosure concerns. Each consists of 10 items with a 5-point response scale. Reliability was $\alpha = .94$ for the HIV-ISS and $.93$ for the HIV-DCS in the original study, and both $\alpha = .90$ in the current sample.

Final assessment (T1)

Current satisfaction with social support was measured in the same fashion than satisfaction pre-diagnosis in T0 but this time referring to present time and adding a fifth item concerning support from healthcare providers.

Coping strategies were assessed using the Situated Coping Questionnaire for Adults with HIV-Short Form (SCQA-HIV-SF; Garrido-Hernansaiz, Alonso-Tapia, & Martín-Fernández, 2017). This 24-item measure in Spanish assesses the use of eight different approach and avoidance coping strategies (approach: problem solving, positive thinking, and help seeking; avoidance: self-isolation, self-blame, rumination, emotional expression, and thinking avoidance) in the context of 3 types of stressful situations (personal relationships, health, and finances). Respondents rated items on a 5-point Likert scale to assess the degree to which each coping strategy was used in the previous month. Reliability of the coping strategies scores was shown to be good in the original study (McDonald's ω ranging from $.90$ – $.97$). Cronbach's α in the current sample was $.67$ for approach coping and $.87$ for avoidance coping, which we deemed acceptable given the multidimensionality of the scales (Graham, 2006).

Health-related resilience was measured with a four-item subscale of the Situated Subjective Resilience Questionnaire for Adults (SSRQA; Alonso-Tapia, Garrido-Hernansaiz,

Rodríguez-Rey, Ruiz, & Nieto, 2017). This subscale assesses resilience in the face of stress due to health problems (e.g., “When I have had an important health issue, I have had a hard time overcoming the distress that it caused me”). Items are rated on a 5-point Likert scale (1 = *Strongly disagree*, 5 = *Strongly agree*). The subscale showed acceptable reliability in the original study ($\alpha = .72$) and it was $\alpha = .69$ in the current sample. Participants were instructed to respond in relation to how they had evolved psychologically after their HIV diagnosis.

Posttraumatic growth was assessed with The Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996). It contains 21 items with a 6-point Likert response format (0 = *I did not experience this change as a result of my crisis*; 5 = *I experienced this change to a very great degree as a result of my crisis*). In order to ensure that participants’ responses referred to the experience of HIV diagnosis, the wording “as a result of my crisis” was changed to “as a result of my HIV diagnosis”. Internal consistency was high in the original study ($\alpha = .95$; Tedeschi & Calhoun, 1996) and in a Spanish version validation study ($\alpha = .95$; Weiss & Berger, 2006). In this study, we used a 11-item version previously found to be appropriate for Spanish-speaking PLHIV (Garrido-Hernansaiz, Rodríguez-Rey, & Alonso-Tapia, 2017). Reliability of the scale scores was excellent in the current sample ($\alpha = .93$).

Anxiety and depressive symptoms were measured with the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983), a self-report measure comprised of 14 items with two 7-item subscales, one for anxiety (HADS-A) and one for depression (HADS-D). Items are rated on a 4-point Likert-type scale (0 to 3). The scores of the Spanish version (Tejero, Guimerá, Farré, & Peri, 1986) have shown adequate psychometric properties in different Spanish populations and it has proven to be a good screening instrument (Terol-Cantero, Cabrera-Perona, & Martín-Aragón, 2015). Reliability was good for both the HADS-A ($\alpha = .85$) and the HADS-D ($\alpha = .79$) in the current sample.

Degree of HIV disclosure was calculated as the sum of the responses to five items asking to how many people of the following areas the respondents had disclosed their HIV status: emotional/sexual partners, family, friends, work-related people, and healthcare 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*).

Procedures

Approval for this study was obtained from the institutional review board at the authors' university. Longitudinal quantitative data were collected between October 2014 and November 2016. Participant recruitment was conducted in two ways. First, 92 newly-diagnosed PLHIV were referred to the study by staff at a healthcare center specialized in sexually transmitted infections. Second, several local and national HIV associations and groups from Spanish-speaking countries advertised the study on their online social networks ($n = 74$, of which 22 were not considered eligible as their reported time since diagnosis was over 100 days). Agreement to participate was provided by 145 eligible PLHIV, who completed the initial questionnaires (T0 assessment) either using pen-and-paper questionnaires (for participants recruited through the health center) or online questionnaires (for those recruited elsewhere). Six months later (T1), all were contacted again and asked to complete the second set of questionnaires on an online platform. Eighty-seven of those referred by the healthcare center (attrition rate = 5%) and 32 of those recruited online (attrition rate = 38%) completed the T1 assessment, composing a final sample of 119 participants (global attrition rate = 18%).

Data analysis

The overall score on SS variables (i.e., satisfaction pre-diagnosis, expectations, and satisfaction at T1) was computed as the mean of the item scores (ranging 1 to 5) for comparability purposes. Descriptive univariate statistics consisted of frequencies and percentages for categorical variables and means and standard deviations (*SD*) for scale and

index variables. ANOVAs, *t*-tests and Pearson correlations were performed to test bivariate associations between satisfaction with sources of SS at T1 and demographic variables (age, region of origin, educational level, having a steady partner) and to test mean differences among SS variables (i.e., satisfaction pre-diagnosis, expectations, and satisfaction at T1). Bivariate associations between the satisfaction with SS sources at T1 and hypothesized predictors (e.g., internalized stigma, coping) were assessed via Pearson's correlation coefficients.

Hypothesized predictors significantly associated with at least satisfaction with one source of SS at T1 ($p < .05$) were subsequently entered into five multiple linear regression models, one for each source of support. No evidence was found of multicollinearity between the independent variables (all VIF and tolerance values were, respectively, < 2.5 and $> .40$; Allison, 1999). Residuals were examined for non-normality, heteroscedasticity, and influential outliers (via Cook's distance *D*) and none seemed problematic. Finally, Pearson's correlations were obtained between the global SS variables and indicators of mental health (i.e., resilience, PTG, anxiety, depression). All significance levels reported are two-sided. Analyses were performed in SPSS v23.

4.4.4. Results

Sample descriptive analyses

The sample included 119 PLHIV, with 116 males (97.5%), two females, and one participant who reported gender as "other". The mean age was 32.73 years ($SD = 8.25$), with a mean of 38.78 days since diagnosis at T0 ($SD = 20.43$) and 7.73 months at T1 ($SD = 1.19$). Fifty-seven percent were from Spain, 38.7% from Latin American countries (e.g., Venezuela, México, Argentina), and the rest (4.2%) from other countries (e.g., Italy). Regarding sexual orientation, 86.6% were homosexual, 10.9% bisexual, and 2.5% heterosexual. Over half the participants had an undergraduate degree (54.6%) and some had a postgraduate degree (14.3%). Around a quarter (27.7%) had a secondary education and a small percentage (3.4%)

had at most a primary education. The majority were single (75.6%), 13.4% were married or living with their partner, and some were divorced/separated (10.9%). Three quarters were employed (74.8%), with 12.6% being unemployed and the rest in different conditions (e.g., student, medical leave). Less than a fifth (17.6%) were connected with a HIV-related group at T0 and a quarter were at T1 (26.1%). Most participants (93.3%) reported sexual intercourse as the mode of transmission, the rest stating that it was other or they did not know. At T1, 71.4% were taking antiretroviral therapy.

Social support descriptive statistics and bivariate associations with demographic variables

Table 4.5 shows the means and standard deviations of SS variables. As it can be seen, participants' highest degree of satisfaction pre-diagnosis (T0) was with support from friends, followed by family. Healthcare providers were the source of support in relation to which participants had highest expectations (T0) and satisfaction (T1), in both cases followed by friends. The lowest expectations at T0 and satisfaction at T1 were with SS from work-related people.

Table 4.5. Social support descriptive statistics.

Source of social support	Mean (<i>SD</i>)		
	Pre-diagnosis satisfaction (T0)	Expectations for coming months (T0)	Satisfaction at T1
Emotional and/or sexual partners	3.56 (1.34)	3.29 (1.59)	3.43 (1.58)
Family *	3.77 (1.39) ^a	3.35 (1.58) ^b	2.95 (1.76) ^c
Friends *	4.05 (1.14) ^a	3.78 (1.34) ^b	3.72 (1.46) ^b
Work-related people *	3.00 (1.40) ^a	2.03 (1.21) ^b	2.22 (1.53) ^b
Healthcare providers *	-	4.24 (1.02) ^a	3.97 (1.15) ^b
Total	3.60 (1.02) ^a	3.34 (.91) ^b	3.26 (.99) ^b

Note. All means range 1 to 5. The asterisk (*) indicates variables with significant intra-subject mean differences. Those assessments (pre-diagnosis, expectations or at T1) with a different superscript letter show a significant mean difference between them. *SD* = Standard deviation.

SS was generally higher at pre-diagnosis than later in time. Participants' satisfaction with their global SS pre-diagnosis ($M = 3.60$) was better than both their global expectations for the future ($M = 3.34$) and their global satisfaction six months later ($M = 3.26$; $F[2] = 7.99$, $p < .001$). Satisfaction with pre-diagnosis support from family ($M = 3.77$) was significantly higher than expectations ($M = 3.35$), and these two were also higher than satisfaction six months later ($M = 2.95$; $F[2] = 14.81$, $p < .001$). Concerning support from friends and work-related people, pre-diagnosis satisfaction ($M_{\text{FRIENDS}} = 4.05$; $M_{\text{WORK}} = 3.00$) was significantly higher than both expectations ($M_{\text{FRIENDS}} = 3.78$; $M_{\text{WORK}} = 2.03$) and subsequent satisfaction ($M_{\text{FRIENDS}} = 3.72$; $M_{\text{WORK}} = 2.22$; $F_{\text{FRIENDS}}[2] = 4.12$, $p = .03$; $F_{\text{WORK}}[2] = 27.31$, $p < .001$). Finally, expectations of support from healthcare providers ($M = 4.24$) were higher than later satisfaction ($M = 3.97$, $t[118] = 2.33$, $p = .02$). No differences emerged for support from emotional/sexual partners ($F[1.78] = 1.82$; $p = .17$), which proved to be quite stable.

Table 4.6. Correlations among satisfaction with social support at T1 and hypothesized predictors.

	Satisfaction with support from:				
	Partner(s)	Family	Friends	Work-related people	Healthcare providers
Internalized stigma	-.08	-.15	-.20*	-.16	-.04
Disclosure concerns	-.13	-.16	-.24**	-.19*	-.19*
<i>Coping</i>					
Approach	.17	.28**	.29**	.26**	.17
Avoidance	-.18	-.21*	-.37***	-.24**	-.23*
<i>Disclosure</i>					
Partner(s)	.24**	.00	.19*	.21*	.14
Family	.09	.59***	-.06	.13	.07
Friends	.06	.04	.60***	.24*	.14
Work-related people	.11	.12	.16	.52***	.10
Healthcare providers	.09	.15	.18*	.15	.37***

Note. Table shows Pearson's correlations among measures.

*** $p < .001$. ** $p < .01$. * $p < .05$.

Regarding differences in satisfaction with SS at T1 by demographic variables, having a steady partner emerged as significant for support from sexual/emotional partners ($t[22.98] = -3.12, p < .01$) and healthcare providers ($t[117] = -2.27, p < .05$). Those married or living with a partner at T0 were more satisfied at T1 with SS from their partners ($M = 4.38$) and healthcare providers ($M = 4.56$) than those who were single or separated/divorced ($M = 3.28$ and $M = 3.87$, respectively). No differences emerged by age, educational level, or region of origin ($p > .05$).

Correlations between satisfaction with social support (T1) and potential predictors

The correlations between satisfaction at T1 with the different sources of SS and the hypothesized predictors are presented in Table 4.6. Higher internalized stigma was related to lower satisfaction only with support from friends, a correlation that was negative and weak ($r = -.20$). Higher disclosure concerns showed the same weak link to lower support from friends, work-related people, and healthcare providers (r from $-.19$ to $-.24$). Approach coping was associated with more satisfaction with support from family, friends, and work-related people (r from $.26$ to $.29$) and avoidance coping was related to less satisfaction with support from all sources except the partner(s) (r from $-.21$ to $-.37$). Finally, higher disclosure of HIV diagnosis to a particular potential source of support was moderately to strongly associated with higher satisfaction with support from that same source (r from $.24$ to $.60$) and non-related or weakly related to satisfaction with other sources of support.

Multiple linear regression analyses

Based on their p -value $< .05$ in the bivariate analyses, the following variables were entered into five multiple linear regression models with satisfaction at T1, each with one of the five sources of support as the dependent variable: having a steady partner, internalized stigma, disclosure concerns, approach and avoidance coping, and degree of disclosure to each of the five social groups. The detailed results of these models are shown in Table 4.7. A significant regression equation was found for support from all sources: partner(s) ($F[10,118] = 2.39, p = .013; R^2 = .18$), family ($F[10,118] = 10.80, p < .001; R^2 = .50$), friends ($F[10,118] = 10.46,$

$p < .001$; $R^2 = .49$), work-related people ($F[10,118] = 6.58$, $p < .001$; $R^2 = .38$), and healthcare providers ($F[10,118] = 3.15$, $p = .001$; $R^2 = .23$). Internalized stigma and disclosure concerns were non-significant in all cases. Having a steady partner at T0 predicted satisfaction with support from partner(s) ($\beta = .28$). Approach coping predicted satisfaction with support from family, friends, and work-related people (β from .18 to .25), whereas avoidant coping predicted satisfaction with support from partner(s) and family ($\beta = -.23$ and $-.25$, respectively). Finally, the degree of disclosure to a certain source of support predicted satisfaction with such source of support to a moderate or strong degree (β from .24 to .63).

Table 4.7. Multiple linear regression of satisfaction with social support sources at T1.

Criteria	Social support from				
	Partner(s)	Family	Friends	Work-related people	Healthcare providers
Steady partner	.28**	.10	.13	.06	.17
Internalized stigma	.06	-.03	-.04	-.01	.15
Disclosure concerns	.02	.02	.01	-.05	-.13
<i>Coping</i>					
Approach	.09	.24**	.16*	.23**	.12
Avoidance	-.23*	-.25**	-.16	-.18	-.18
<i>Disclosure</i>					
Partner(s)	.24*	-.11	-.17*	-.02	.01
Family	.09	.63***	-.17*	-.02	-.01
Friends	-.13	-.14	.62***	-.05	.00
Work-related people	.11	.04	.04	.54***	.06
Healthcare providers	-.06	.00	.09	.02	.28**
R^2	.18	.50	.49	.38	.23

Note. Model shows standardized regression weights (β) and their statistical significance. S.E. = Standard Error. $N = 118$.

*** $p < .001$. ** $p < .01$. * $p < .05$.

Table 4.8. Correlations among social support variables and mental health indicators.

	Pre-diagnosis satisfaction (T0)	Expectations for coming months (T0)	Satisfaction at T1
Health-related resilience	.12	.17	.26**
Posttraumatic growth	-.10	.10	.08
Anxiety	-.24**	-.20*	-.31**
Depression	-.31**	-.20*	-.26**

Note. Table shows Pearson's correlations among measures.

** $p < .01$. * $p < .05$.

Correlations between satisfaction with social support (T1) and mental health variables

Correlations among SS variables (pre-diagnosis satisfaction, expectations, and satisfaction at T1) and mental health indicators are presented in Table 4.8. All SS variables were negatively correlated with anxiety and depression (r from $-.20$ to $-.31$). Furthermore, satisfaction with SS at T1 showed a significant positive correlation with health-related resilience ($r = .26$). SS variables did not show a significant correlation with PTG.

4.4.5. Discussion

This study described changes in SS pre and post HIV diagnosis and how SS variables are related to mental health indicators. With a possible range of mean scores of 1–5, the mean scores on SS variables were generally above 3, which indicated that PLHIV perceived high levels of SS in our study. Satisfaction with pre-diagnosis SS was higher than expectations following diagnosis and actual satisfaction six months later. This finding, consistent with previous literature, indicates that SS tends to be impaired following a positive HIV diagnosis (Feigin et al., 2013). Our study provides additional information in relation to the decreased expectations after diagnosis, which presumably are due to the stigma that surrounds HIV. It could be that having worse expectations hindered the use of adaptive behaviors, resulting in worse subsequent satisfaction with SS. This hypothesis should be tested in future research.

No differences in satisfaction with SS sources at T1 emerged by age, consistently with another study with Spanish-speakers (Remor, 2002). Unlike previous literature, there were no differences by region of origin or educational level (Carrobes Isabel et al., 2003; Remor, 2002), which might be due to variations in variable categories or to sample differences (e.g., only four participants had received primary education or no education in our sample). Finally, those with a steady partner at T0 were more satisfied at T1 with support from partner(s) and healthcare workers, consistently with literature (Burnham et al., 2016; Rao et al., 2012). The small number of women ($n = 2$) and other gender participants ($n = 1$) precluded testing for gender differences.

Our data also indicated that PLHIV are highly satisfied with SS from healthcare providers and friends, sources that have been previously identified in the literature as relevant (Gohain & Halliday, 2014; Heywood & Lyons, 2016; Pichon et al., 2015; Remor, 2002). Emotional or sexual partners were also an important source of support (Gohain & Halliday, 2014; Heywood & Lyons, 2016) that in this study remained unchanged after diagnosis, therefore being a stable pivot of SS in times when support from other sources may be compromised. The significance of these SS sources is underscored in this study by the fact that higher satisfaction with SS was related to better mental health. Our results were consistent with studies also finding that higher SS was associated with lower anxiety (Heywood & Lyons, 2016) and depression (Heywood & Lyons, 2016; Rao et al., 2012; Vyavaharkar et al., 2010) and with higher resilience (Kang & Suh, 2015; Yu et al., 2014). From the discussed results, it follows that HIV diagnosis can negatively impact mental health through lower SS, and that healthcare workers, friends, and partners play an essential role in this process.

The lack of relationship between SS and PTG was against our expectations and contrary to previous research among PLHIV (Helgeson & Lopez, 2010; Littlewood et al., 2008; Luszczynska et al., 2007; Siegel & Schrimshaw, 2007; Yu et al., 2014). As the studies which have reported this relationship so far are numerous, we reckon that our finding may be due to

the instrument that we used to measure SS. Other instruments tackling other aspects of SS (e.g., the type of social support—instrumental, emotional—instead of its source) might find different results.

This study also identified variables predicting satisfaction with different sources of SS around eight months after diagnosis and integrated their contribution in regression models, which explained half of the variance in the cases of support from family and friends. Having a steady partner predicted greater satisfaction with support from partner(s). Approach coping contributed positively to predict satisfaction with support from family, friends, and work-related people, while avoidance coping contributed negatively to predict satisfaction with support from partner(s) and family. These contributions are in line with previous studies showing that SS was positively associated with active patterns of coping and negatively related to avoidant coping (Kang & Suh, 2015; Yu et al., 2014). Finally, degree of disclosure to a potential source of SS contributed positively to satisfaction with support from that particular source, a finding also consistent with literature (Brouard & Wills, 2006; Feigin et al., 2013; Heywood & Lyons, 2016; Pichon et al., 2015) and specifically with a meta-analysis which found that, when PLHIV disclosed their status to more people, they also reported more social support (Smith, Rossetto, & Peterson, 2008).

Internalized stigma and disclosure concerns showed small correlations with satisfaction with SS at T1: higher disclosure concerns were weakly related lower satisfaction with support from friends, work-related people, and healthcare providers, and internalized stigma showed a weak negative correlation only in the case of friends. Neither variable was a significant contributor in multiple regression analyses when all variables were considered together, so it seems that these variables provide limited information in relation to SS and other related aspects could impact SS more directly. For instance, actual disclosure, which emerged as the variable that contributed the most, is known to be influenced by both internalized stigma and

disclosure concerns (Brouard & Wills, 2006). This hypothesis should be addressed in future research and we suggest the use structural equations modeling.

Limitations

Although our work has provided valuable information, some limitations need to be taken into account. As our results are based on data collected from PLHIV from Spain and Latin America, generalization to other populations should be performed with caution. Additionally, the data collection method may have resulted in a biased sample (e.g., highly educated participants) and the use of self-report survey data has inherent limitations. The variables included in our research design were limited, as other variables could contribute to SS prediction and other important aspects of SS such as type of support (e.g., instrumental, emotional) were not accounted for. The low reliability of the approach coping scale could have impacted its association with social support. Although the low reliability is due to the multidimensionality of the scale (i.e., it measures positive thinking, help seeking, problem solving), prospective research should overcome this limitation (for instance, using unidimensional scales). Future studies should include more assessments so that each variable is measured at a different time-point and retrospective questions can be avoided (i.e., satisfaction with pre-diagnosis SS and coping behaviors in the past month). Further research should consider and overcome these limitations to advance knowledge on SS in the context of HIV infection.

Recommendations

According to our findings, interventions aimed at improving resilience and preventing anxiety and depressive symptoms in PLHIV could benefit from increasing SS. In turn, SS could be promoted by fostering active coping strategies such as problem solving, positive thinking, and help seeking, and discouraging the use of avoidant strategies like rumination, emotional expression, self-isolation, self-blame, and thinking avoidance. This could be achieved through

individual psychotherapy or groups workshops. Additionally, the role of emotional or sexual partners as stable sources of SS should be incorporated as a seminal element of interventions, especially during the first months after diagnosis, when support from other sources is weakened.

More importantly, healthcare providers may improve SS by encouraging PLHIV to disclose HIV diagnosis. Internalized stigma and disclosure concerns are key aspects to achieve successful disclosure behaviors. In this sense, support groups help deal with stigma in a multidimensional way, decrease social isolation and feelings of shame, assist with self-esteem and social confidence, and provide a safe environment for disclosure rehearsal (Brouard & Wills, 2006), constituting an ideal venue to encourage disclosure. As other authors (Vyavaharkar et al., 2010), we underscore here the importance of referring PLHIV to support groups.

Support groups for partners, friends, healthcare providers, and family may also be useful to challenge their hostile attitudes, provide them with accurate information, and enable them offer improved SS to PLHIV. Specifically concerning healthcare providers, some authors have indicated that they can contribute to increase SS for PLHIV in three specific ways: providing PLHIV with accurate information and referring them to other sources of social resources, offering PLHIV the possibility to express their emotions and helping them build an open and clear communication style, and directly contributing to the quantity and quality of received SS (Remor, 2002). For healthcare providers to offer such SS, it is necessary that steps are taken to help them clarify their values and attitudes, so that they can create safe and stigma-free spaces (Brouard & Wills, 2006).

Conclusions

SS has emerged as an aspect highly relevant to psychopathology prevention and mental health promotion. SS is negatively impacted following HIV diagnosis, and it may be predicted and influenced by coping and disclosure behaviors. More research is needed to clarify their relationships, but their impact on SS is consistent through research and thus they should be addressed in comprehensive psychological interventions to promote better SS for PLHIV.

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Part 5

General Discussion

5.1. MAIN FINDINGS

For summarizing and clarification purposes, the objectives and main findings of the studies conforming this dissertation are presented in Table 5.1.

Table 5.1. Objectives and main findings of the studies conforming this thesis.

Title of the study	Main objectives	Results & Conclusion
PART 2		
Reliability and Validity of the Brief Resilience Scale (BRS) Spanish Version.	To adapt the BRS to Spanish language and to ascertain the reliability and validity of its scores in a heterogeneous sample.	The BRS scores showed adequate reliability. Confirmatory factor analyses (CFA) showed that the Spanish BRS represents one factor. The BRS scores showed adequate convergent, concurrent, and predictive validity. The Spanish BRS is a reliable and valid measure.
Development and validation of the Situated Subjective Resilience Questionnaire for Adults (SSRQA).	To develop and validate (in terms of structural, convergent, and discriminant validity) the SSRQA, which assesses resilience in the face of different adverse situations.	The SSRQA scores were reliable, and they demonstrated good convergent, discriminant and structural validity. Situations generated some variability in the degree of subjective resilience, but it also generalized across situations to some extent. The SSRQA is a reliable and valid measure to assess resilience in the face of different aversive situations.
Coping assessment from the perspective of the person-situation interaction: Development and validation of the Situated Coping Questionnaire for Adults (SCQA)	To develop and validate the SCQA, which takes into account the situational character of coping, and to analyze the reliability and validity of its scores.	CFAs showed the superiority of the person-situation model: the situation influenced the use of coping strategies; however, coping was also stable to some extent. Regression analyses showed that coping strategies contributed to predict resilience. The scales showed adequate reliability. The SCQA is a reliable and valid means of situated coping assessment to use in several populations.
Differences in the use of coping strategies in high- and low-resilience individuals: A comparison among people living with HIV, cancer patients, parents of children with cancer, and the general population	To study resilience outcomes and coping strategies across different clinical and non-clinical populations, and to examine if the associations between coping strategies and resilience outcomes are different across populations.	Resilience was stable across populations. Some differences across samples emerged regarding the use of coping strategies. The high- and low-resilience groups differed in their use of coping strategies and these differences varied depending on the specific population. Different strategies are related to resilience outcomes for different distressed samples.

Table 5.1. Objectives and main findings of the studies conforming this thesis (continued).

Title of the study	Main objectives	Results & Conclusion
PART 3		
Internalized HIV stigma and disclosure concerns: Development and validation of two scales in Spanish-speaking populations.	To develop internalized stigma and disclosure concerns scales in Spanish language and to ascertain the reliability, sensitivity, and structural and criterion validity of their scores.	The scales showed good reliability (both internal consistency and temporal stability), good sensitivity, and good factorial and criterion validity. The HIV-Internalized Stigma Scale and the HIV-Disclosure Concerns Scale are reliable and valid means to assess these constructs.
Situated coping questionnaire for adults: Validation of a short form in HIV+ Spanish-speaking adults from a Bayesian approach.	To shorten the SCQA and study its reliability and its structural and criterion validity in a sample of people living with HIV.	The situation influenced the degree of use of certain coping strategies. The scales scores showed adequate reliability. Correlation analyses showed that some coping strategies contributed to predict anxiety, depression, resilience, and degree of disclosure. The SCQA-HIV-SF is deemed a reliable and valid means of situated coping assessment among people living with HIV.
Posttraumatic Growth Inventory: Factor Structure in Spanish-Speaking People Living with HIV.	To examine the factorial structure of the scores of the Posttraumatic Growth Inventory in Spanish-speaking people living with HIV.	Exploratory factor analysis suggested a three-factor model keeping 11 of the original 21 items. The three factors that emerged were changes in philosophy of life, in the self, and in interpersonal relationships. Confirmatory factor analysis suggested a bifactor solution. The three factors and the global scale showed good reliability. The 11-item PTGI is a valid and reliable measure to use with people living with HIV.
PART 4		
Associations among resilience, posttraumatic growth, anxiety, and depression and their prediction from stress in newly diagnosed people living with HIV.	<p>To study the relationships among anxiety, depression, resilience, and PTG in newly diagnosed people living with HIV.</p> <p>To examine how peri-diagnosis-perceived stress might explain their later development.</p>	<p>The three PTG dimensions were correlated. Anxiety and depression were positively correlated and resilience was negatively related to both of them. Depression had a weak negative correlation with the PTG dimension of changes in the self.</p> <p>Perceived stress predicted resilience (negatively) and anxiety and depression (positively). It did not predict PTG.</p> <p>Resilience was negatively related to anxiety and depression. Minimizing perceived stress around diagnosis is important.</p>

Table 5.1. Objectives and main findings of the studies conforming this thesis (continued).

Title of the study	Main objectives	Results & Conclusion
PART 4 (continued)		
Predictors of resilience and posttraumatic growth among people living with HIV: A longitudinal study.	To longitudinally investigate the role that perceived past resilience, internalized stigma, and coping strategies play in the prediction of resilience and PTG after HIV diagnosis.	HIV-related resilience eight months after diagnosis was predicted by rumination, emotional expression, internalized stigma, and perceived past resilience. PTG was predicted by positive thinking, self-blame, thinking avoidance, help seeking, and internalized stigma. In both cases, internalized stigma and past resilience predicted the differential use of coping strategies. Internalized stigma and the differential use of coping strategies are key variables for resilience and PTG achievement.
Predictors of anxiety and depression among newly diagnosed people living with HIV: A longitudinal study.	To longitudinally investigate the role that perceived past resilience, internalized stigma, and coping play in the prediction of anxiety and depression after HIV diagnosis.	Anxiety and depression eight months after diagnosis were predicted by positive thinking, self-blame, thinking avoidance, internalized stigma, and past resilience. The latter two predicted the differential use of coping strategies. Internalized stigma and the differential use of coping strategies are key variables for the reduction of anxiety and depression symptoms.
Social support in newly diagnosed people living with HIV: Expectations and satisfaction along time, predictors, and mental health correlates.	<p>To explore how social support arising from several sources evolves following HIV diagnosis.</p> <p>To examine what variables can predict social support.</p> <p>To explore the relationship of social support with resilience, PTG, anxiety, and depression.</p>	<p>The highest levels of support arose from friends, healthcare providers, and partners. Social support decreased following HIV diagnosis, except support from partners.</p> <p>Avoidance coping was a negative predictor of satisfaction with social support at eight months after diagnosis, and having a steady partner, higher degree of disclosure, and approach coping were positive predictors.</p> <p>Social support was associated with decreased anxiety and depression, with higher levels of resilience, and was unrelated to PTG.</p> <p>Interventions seeking to increase social support in people living with HIV would benefit from encouraging approach coping and disclosure behaviors, and discouraging avoidance coping. Such interventions are likely to improve mental health.</p>

5.2. GENERAL CONCLUSIONS

Drawing from the main findings above summarized, we now present the general conclusions derived from this thesis. These will be followed by a discussion of the implications for practice and limitations of our studies, and finally future lines of research will be proposed.

5.2.1. Resilience and coping as context-dependent constructs

One of the objectives of the studies in part 2 was to examine whether resilience and coping constitute stable elements of the individual or fluctuate depending on the nature of the stressor. Our findings have supported the claim that the degree of resilience varies across adverse situations (Luthar, 2006; Reaching IN... Reaching OUT, 2010), that is, that a person may demonstrate varying degrees of resilience depending on the kind of adversity that they encounter. However, resilience also tends to generalize across contexts to some degree—both stability and variability are found in relation to resilience (see Figure 5.1).

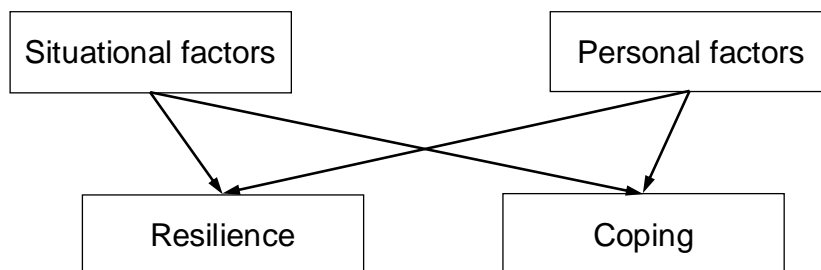


Figure 5.1. Factors with an effect on resilience and coping.

Discrepancies existed in our studies concerning the differences in the levels of resilience shown by different populations. The Spanish BRS validation study found that parents of critically ill children showed a higher degree of resilience than parents of children with cancer. The SSRQA validation study found that, when faced with a health issue of a loved one, people faced with a health issue (e.g., cancer, HIV) showed higher resilience than the general population. Finally, the study comparing the links between resilience and coping in several populations found no differences in the mean degree of resilience across populations. Although

evidence supports that the situation plays an important role at the individual level, it is yet unclear if certain populations as a whole are more prone to achieving resilience outcomes than others. Our results have supported both the existence and non-existence of differences and therefore more studies are necessary (with larger samples) to avoid results due to random sample differences.

As for coping, our findings have also supported the notion that both personal dispositions and the type of demands (e.g., the type of adverse situation) play an important role in determining the degree to which people use certain strategies. Different adverse situations seem to trigger the use of each coping strategies to a varying degree (see Figure 5.1). Therefore, each person may be prone to use different coping strategies depending on the type of threat. This implies a certain degree of generalization of coping strategies across time and situations and a certain degree of variability, which is congruent with the literature (Folkman & Moskowitz, 2004; Moskowitz & Wrubel, 2005; Schwarzer & Schwarzer, 1996; Steed, 1998).

Our findings have also shown some differences regarding the use of coping strategies across populations. Specifically, HIV+ participants reported seeking less help and isolating themselves and expressing their emotions more than other populations, and cancer patients tended to isolate themselves less than the general population. Thus, our findings would suggest that certain populations as a whole are more prone to use certain coping strategies than others.

5.2.2. Resilience and demographic variables

Although briefly, we also tackled in our studies the relationships between resilience and demographic characteristics. In our Spanish BRS validation study, we found that men showed higher resilience than women, a result consistent with previous studies (Bonanno, Galea, Bucciarelli, & Vlahov, 2007; B. W. Smith et al., 2008). Additionally, older people showed greater resilience in our BRS validation study, coherently with previous research (Bonanno et al., 2007; B. W. Smith, Tooley, Christopher, & Kay, 2010). However, this finding did not hold

for the PLHIV in part 4 of this thesis, where age was unrelated to resilience. Finally, participants with a higher education showed higher resilience, as shown by some studies in the literature (Bonanno et al., 2007; Frankenberg, Sikoki, Sumantri, Suriastini, & Thomas, 2013). This would suggest a protective effect of higher education. Nonetheless, this finding did not hold again for the PLHIV in part 4 of this thesis, where there was no relationship between resilience and education level. Further research should explore whether age and education level are indeed not related to resilience among PLHIV or if these results are due to small sample sizes.

5.2.3. Resilience and coping as related constructs in several populations

Another objective of the studies in part 2 of this dissertation was to study the relationship between coping and resilience. That relationship was shown to exist, which supports previous literature linking the two of them (Folkman & Moskowitz, 2004; Leipold & Greve, 2009; Reaching IN... Reaching OUT, 2010; Skinner & Zimmer-Gembeck, 2007; Villasana, Alonso-Tapia, & Ruiz, 2016). Consequently, modifying the coping strategies that individuals use to face problems might be a possible means towards the achievement of positive adaptation.

Concerning the specific coping styles and strategies and their relationship to resilience, our results showed that, without distinguishing between populations, the problem-focused style was related to higher subjective resilience outcomes, as also were the problem-focused strategies of problem solving and positive thinking (included in such coping style), with the exception of thinking avoidance, which was unrelated to resilience. On the other hand, the emotion-focused coping style was associated with lower resilience, as were too the strategies of rumination and emotional expression (included in this coping style), but not self-blame, which showed no association. Finally, the social-focused coping style was unrelated to resilience, as were the two strategies comprised in it—help seeking and self-isolation. Figure 5.2 summarizes these relationships.

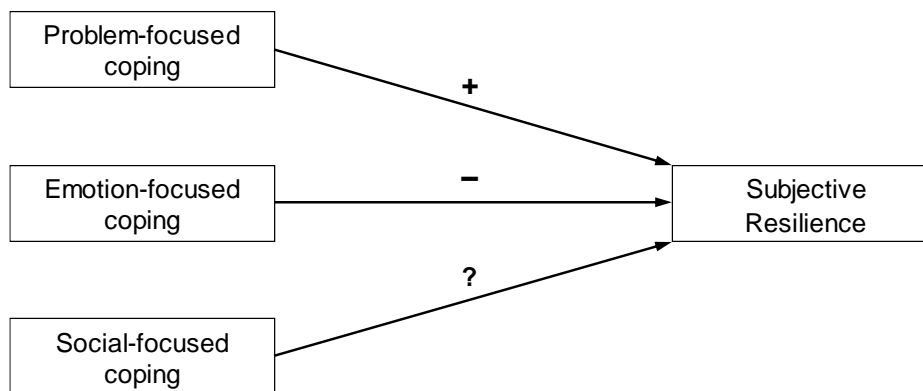


Figure 5.2. Associations between coping styles and resilience.

Note. Positive relationships are represented with the sign “+”, negative relationships with the sign “-”, and absent correlations with the sign “?”.

When we compared the associations between coping and resilience across different populations, however, these varied. Within the general population, higher resilience was related to higher use of problem solving, positive thinking, and thinking avoidance and lower use of rumination, emotional expression, self-isolation, and self-blame. Within PLHIV, higher resilience was associated with higher use of help seeking and positive thinking and lower use of rumination, emotional expression, self-isolation, and self-blame. Within cancer patients, higher resilience was linked to lower use of rumination. Lastly, within parents of children with cancer, higher resilience was associated with higher use of positive thinking and lower use of rumination, self-isolation, and self-blame. These differences are depicted in Figure 5.3.

<u>General population</u>	<u>PLHIV</u>	<u>Cancer patients</u>	<u>Parents of CWC</u>
+ problem solving	problem solving	problem solving	problem solving
+ positive thinking	+ positive thinking	positive thinking	+ positive thinking
+ thinking avoidance	thinking avoidance	thinking avoidance	thinking avoidance
help-seeking	+ help-seeking	help-seeking	help-seeking
- self-isolation	- self-isolation	self-isolation	- self-isolation
- rumination	- rumination	- rumination	- rumination
- emotional expression	- emotional expression	emotional expression	emotional expression
- self-blame	- self-blame	self-blame	- self-blame

Figure 5.3. Associations between coping strategies and resilience across populations.

Note. The figure shows the relationships between resilience and coping strategies. Positive relationships are represented with the sign “+”, negative relationships with the sign “-”. When relationships do not exist, a sign is absent. PLHIV = people living with HIV. CWC = children with cancer.

5.2.4. HIV diagnosis as a threatening event

The studies in parts 3 and 4 of this dissertation were focused on PLHIV. They were aimed at examining both the psychological outcomes following a particularly difficult event—HIV diagnosis—and their predictors.

The participants in our research were mostly men who have sex with men (MSM), which was expected as MSM are 40 times more likely to have been diagnosed with HIV (Halkitis, Wolitski, & Millett, 2013). Furthermore, MSM represent the majority of new infections in Spain (Área de Vigilancia de VIH y Comportamientos de Riesgo, 2016).

The rates of participants who reported scores above the cut-off points to screen for anxiety and depressive disorders eight months post-diagnosis (31.36% in both cases) support the reality that HIV diagnosis represents a threatening event which puts individuals at risk of mental health issues. The mean scores and rates of anxiety and depression reported by participants were similar to those reported in previous studies in Australia, Canada, and South Africa (Heywood & Lyons, 2016; Savard, Laberge, Gauthier, Ivers, & Bergeron, 1998; Wouters, Booyesen, Ponnet, & Baron Van Loon, 2012). Thus, despite possible cultural differences affecting the development of anxiety and depressive symptoms, it seems that HIV diagnosis remains a threatening experience around the world.

What is more, the studies in part 2, as already discussed, showed that PLHIV use coping strategies in a different way when compared with cancer patients, parents of children with cancer, and the general population. Furthermore, the relationship between resilience and coping strategies also proved to be different in this population. Consequently, HIV diagnosis not only is a significantly threatening context, but also specific in the way people cope with it and achieve resilience outcomes.

5.2.5. Resilience, PTG, anxiety, and depression following HIV diagnosis

As we have previously pointed out, significant anxiety and depressive symptoms were present in almost a third of the participants. Even though HIV diagnosis is a threatening event susceptible of causing psychopathology, our results have also provided support to the claims in the trauma literature that resilience and PTG are common phenomena after potentially traumatic events such as being diagnosed with HIV (e.g., Bonanno, 2004; Tedeschi & Calhoun, 1995; Vera Poseck, Carbelo Baquero, & Vecina Jiménez, 2006). Specifically, more than half of the participants scored above the mid-point of the resilience scale, thus reporting moderate resilience or greater. Also, concerning PTG, over half of the participants indicated moderate changes or greater in their philosophy of life and in the self, and over a third also indicated moderate changes or greater in their interpersonal relationships and in overall PTG. The rates of each outcome in our sample are shown in Figure 5.4.

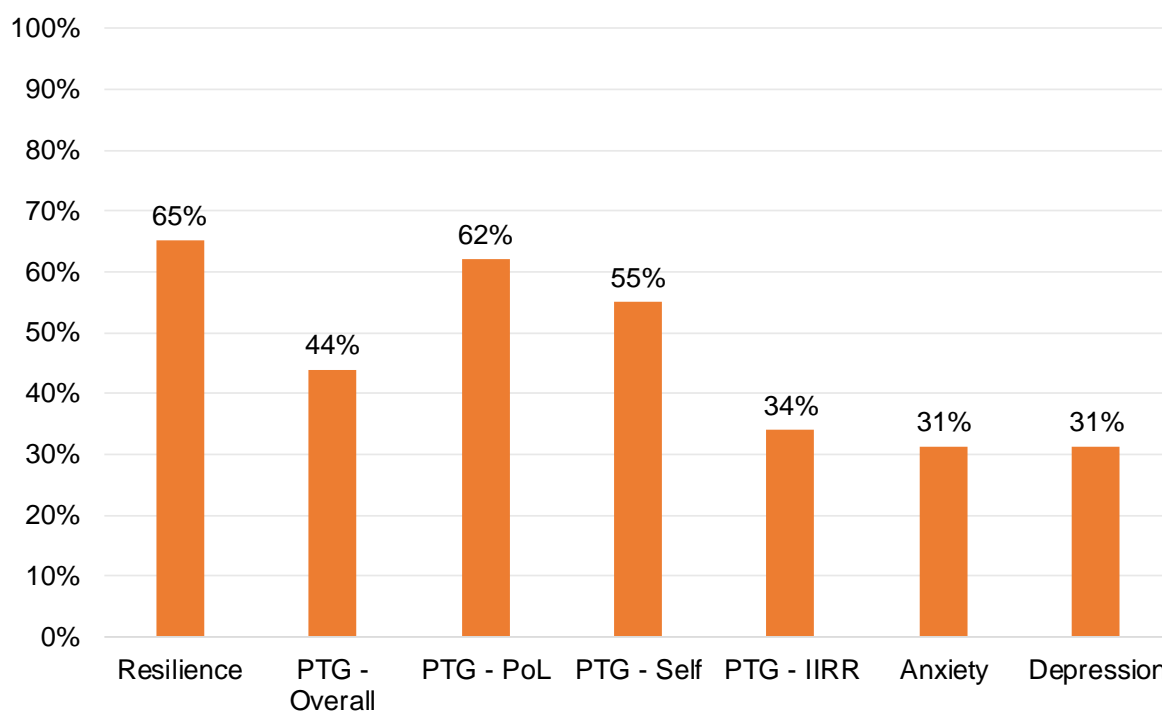


Figure 5.4. Rates of resilience, PTG, anxiety, and depression.

Note. $N = 118$. PTG = Posttraumatic growth. PoL = philosophy of life. IIRR = interpersonal relationships.

An objective of this dissertation was to examine the association between positive and negative post-trauma outcomes. From the beginning of our dissertation, we contemplated resilience and PTG as two different positive outcomes. We indicated that literature has frequently conflated them—sometimes regarding PTG as superior—, and that the relationship between them remained unclear (Westphal & Bonanno, 2007). Specifically, researchers have sometimes considered that resilient individuals tend to struggle much less than others, thus not being bound to engage in the meaning-making behaviors associated with PTG (Westphal & Bonanno, 2007).

Our studies in part 4 of this thesis showed no significant relationship between resilience and PTG outcomes, suggesting that they constitute independent paths following a threatening event. This would imply that individuals on the path to resilience may (or may not) engage in meaning-making behaviors, independently of their level of struggle. Therefore, both outcomes could be possible within the same individual and both of them could be promoted through psychological interventions.

For their part, anxiety and depression were positively related, which is consistent with abundant literature with PLHIV (Herrero et al., 2003; Savard et al., 1998; Wouters et al., 2012). Resilience was negatively related both to anxiety and depression, which was also coherent with previous studies (Fredrickson, Tugade, Waugh, & Larkin, 2003; Maestas, Sherer, Sander, Tulsy, & Nick, 2014; Seligman & Csikszentmihalyi, 2000; Skrove, Romundstad, & Indredavik, 2013).

Lastly, PTG was not associated with anxiety and only the PTG dimension of positive changes in the self showed a correlation with depression, which was weak and negative. This result is congruent with a meta-analysis that examined the associations between PTG, anxiety and depression (Helgeson, Reynolds, & Tomich, 2006). Figure 5.5 shows the relationships found in this dissertation between positive and negative psychological outcomes eight months after HIV diagnosis.

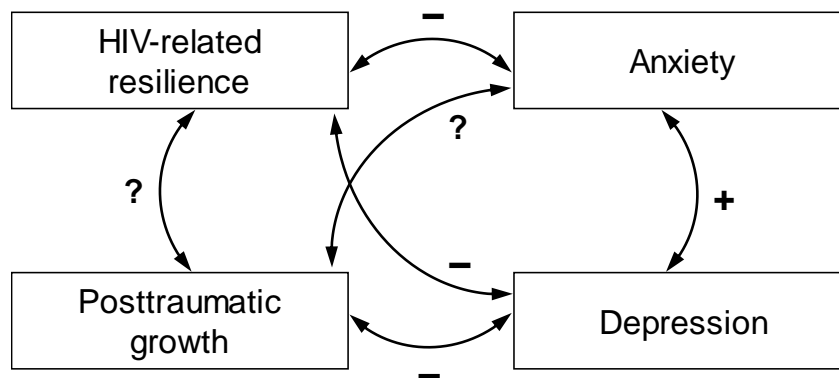


Figure 5.5. Associations between positive and negative post-trauma outcomes.

Note. Positive relationships are represented with the sign “+”, negative relationships with the sign “-”, and absent correlations with the sign “?”.

5.2.6. The role of perceived stress, internalized stigma, and coping strategies as predictors of mental health following HIV diagnosis

The studies in part 4 of this thesis showed that perceived stress, internalized stigma, and coping strategies were able to predict significant proportions of HIV-related resilience, PTG, anxiety, and depression. Starting with perceived stress, higher levels predicted subsequent lower HIV-related resilience and higher anxiety and depression, congruently with literature (Bonanno et al., 2007; Bonanno, Westphal, & Mancini, 2011; Chaudhury, Bakhla, & Saini, 2016; Remor, 2006). Conversely, perceived stress was not able to predict PTG, which was against previous studies (Helgeson et al., 2006). Figure 5.6 shows these associations.

Regarding coping strategies, higher rumination predicted lower resilience, and higher emotional expression predicted higher resilience. Higher self-blame predicted higher depression and anxiety and also higher PTG in the domain of positive changes in philosophy of life. Higher positive thinking predicted lower anxiety and depression and greater positive changes in philosophy of life. Higher thinking avoidance predicted lower anxiety and depression and higher positive changes in the self. Lastly, higher help seeking predicted higher positive changes in the self and in interpersonal relationships. These relationships are depicted in Figure 5.7.

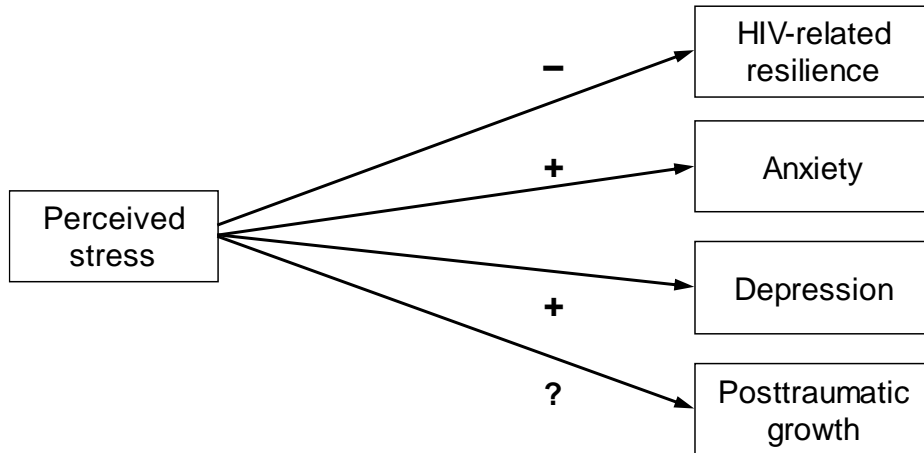


Figure 5.6. Prediction of mental health outcomes from perceived stress.

Note. Positive relationships are represented with the sign “+”, negative relationships with the sign “-”, and absent correlations with the sign “?”.

While some relationships were expected (e.g., positive thinking related to lower anxiety and depression; Moskowitz, Hult, Bussolari, & Acree, 2009), some were not, such as self-blame’s association with greater PTG or thinking avoidance’s association with lower anxiety and depression and greater PTG. These results support the idea that coping strategies are not inherently adaptive or maladaptive, but that they can be either depending on the specific circumstance (DeGenova, Patton, Jurich, & MacDermid, 1994; Moskowitz et al., 2009). Indeed, the use of strategies that may be less effective or even maladaptive in more normative contexts might promote successful adaptation for individuals exposed to potentially traumatic situations (Bonanno, 2005; Westphal & Bonanno, 2007). Likewise, it seems that behavioral elasticity—that is, flexibility in the way of coping—could lead to better outcomes, since the use of coping strategies could be more easily adjusted to the specific adverse context (Westphal & Bonanno, 2007). For instance, while emotional expression was related to higher resilience in the studies in part 4 with newly diagnosed PLHIV, the opposite occurred in the studies of part 2 with PLHIV (regardless of their time since diagnosis). Thus, this strategy seems to be effective for the newly diagnosed, but it could become ineffective over time, in agreement with other studies (Holt et al., 1998).

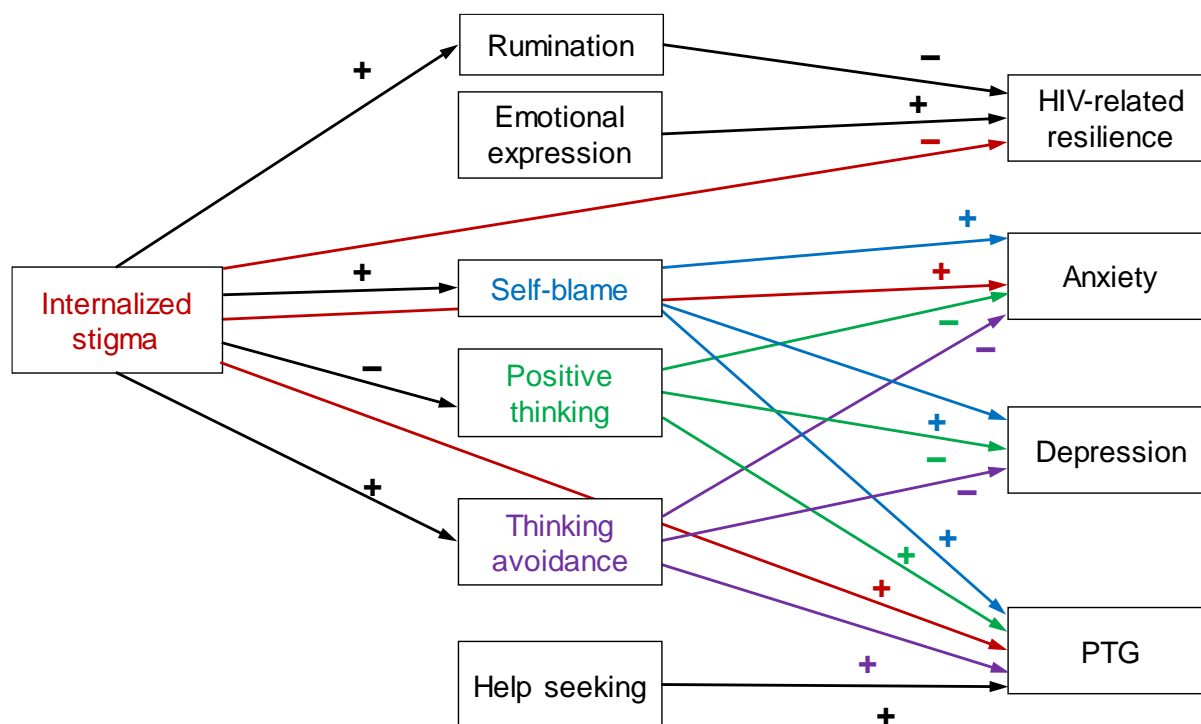


Figure 5.7. Prediction of mental health outcomes from internalized stigma and coping strategies.

Note. Positive relationships are represented with the sign “+” and negative relationships with the sign “-”. Coloring has been applied to make the most dense areas easier to understand.

Concerning internalized stigma, it directly predicted lower resilience, consistently with literature (Earnshaw, Bogart, Dovidio, & Williams, 2013). There was also an indirect prediction effect through rumination. Internalized stigma also directly predicted higher PTG in the domain of interpersonal relationships and indirectly predicted higher positive changes in philosophy of life (through self-blame) and in the self (through thinking avoidance). This positive association with PTG was against previous studies (Murphy & Hevey, 2013; Willie et al., 2016), and we have hypothesized that in certain cultural backgrounds, HIV diagnosis may not be upsetting enough to cause considerable disruption to one’s assumptions about the world (Janoff-Bulman, 2004) and trigger PTG. In this case, the additional stress brought about by internalized stigma may allow for PTG.

With respect to negative outcomes, higher internalized stigma predicted higher anxiety directly. It also indirectly predicted higher overall anxiety and depression through self-blame,

positive thinking, and thinking avoidance. These results are in line with existing literature on the relationships between these variables (Heywood & Lyons, 2016; Willie et al., 2016). Moreover, as already noted, higher internalized stigma was associated with higher rumination, self-blame, and thinking avoidance and with lower positive thinking. These findings are congruent with evidence showing that stigma alters coping behaviors (Hatzenbuehler, Phelan, & Link, 2013; Rueda et al., 2012). The relationships between internalized stigma, coping, and post-trauma outcomes are shown in Figure 5.7.

5.2.7. The role of perceived past resilience in the prediction mental health outcomes after HIV diagnosis

The studies in part 4 of our dissertation showed that subjective perception of resilience outcomes following past health-related adversities was a relevant variable for the prediction of subsequent resilience outcomes, PTG, anxiety, and depression in newly diagnosed PLHIV. Thus, consistently with the literature on resilience in PLHIV and adults suffering from different health-related conditions (Dale et al., 2014; Maestas et al., 2014; Murphy & Hevey, 2013; Yu et al., 2014), our analyses showed that measuring subjective resilience is useful for mental health prediction in PLHIV, in our case following the receipt of a positive HIV diagnosis.

Greater perceived past resilience directly predicted subsequent lower anxiety and depression. There was also an indirect prediction effect through internalized stigma and the coping strategies of self-blame, positive thinking, and thinking avoidance. Overall, the indirect effect also predicted lower anxiety and depression. In the case of resilience outcomes and PTG, perceived past resilience only had an indirect prediction effect. It predicted generally higher subsequent resilience through internalized stigma and the coping strategies of rumination and emotional expression. It also predicted lower overall PTG through internalized stigma and the coping strategies of self-blame, positive thinking, and thinking avoidance. The main direct and indirect relationships are shown in Figure 5.8.

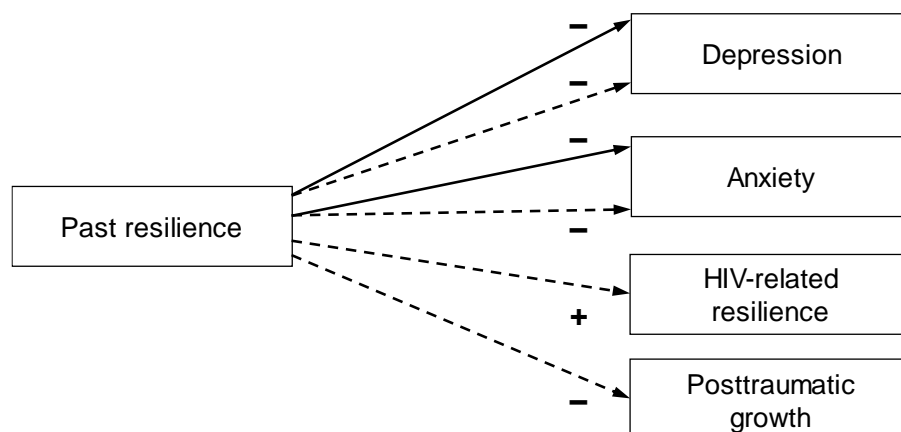


Figure 5.8. Direct and indirect prediction of mental health outcomes from perceived past resilience.

Note. Positive relationships are represented with the sign “+” and negative relationships with the sign “-”. Direct relationships are represented by a solid line. Indirect relationships are represented by a dashed line.

Although more research is needed to establish the predictive value of measuring subjective past resilience, this finding has important implications for clinical practice aimed at predicting mental health outcomes among newly diagnosed PLHIV. These implications will be described in section 5.3.2 of this fifth part.

5.2.8. The importance of social support

The fourth part of our dissertation also investigated social support as a relevant variable for PLHIV. Our data indicated that participants in our study reported in general moderate to high levels of social support. However, our results also showed that social support satisfaction and expectations are decreased following HIV diagnosis, consistently with previous literature (Feigin, Sapir, Patinkin, & Turner, 2013). This highlights the additional stress that PLHIV have to endure and the decrease in social resources to do so. Figure 5.9 shows the temporal evolution of social support from different sources.

Around eight months post-diagnosis, PLHIV's highest satisfaction was with support from healthcare providers, followed by support from friends and from emotional or sexual partners (see Figure 5.9). The relevance of these social support sources has been previously

identified in the literature (Gohain & Halliday, 2014; Heywood & Lyons, 2016; Pichon, Rossi, Ogg, Krull, & Griffin, 2015; Remor, 2002). These results stress the important role that healthcare providers can play in offering valuable support to newly diagnosed PLHIV in a time when support from other sources may be scant. Moreover, support from partners remained unchanged throughout time (see Figure 5.9), therefore being a stable source of social support that can be central to PLHIV's well-being.

Indeed, having a steady partner around the time of diagnosis was a significant predictor of greater satisfaction with support some months after diagnosis, consistently with literature (Burnham et al., 2016; Rao et al., 2012). Other significant predictors of greater subsequent satisfaction with social support included greater approach coping, lower avoidance coping, and higher degree of serostatus disclosure, all of them in line with previous studies (Heywood & Lyons, 2016; Kang & Suh, 2015; Pichon et al., 2015; R. Smith, Rossetto, & Peterson, 2008; Yu et al., 2014). These prediction relationships are depicted in Figure 5.10.

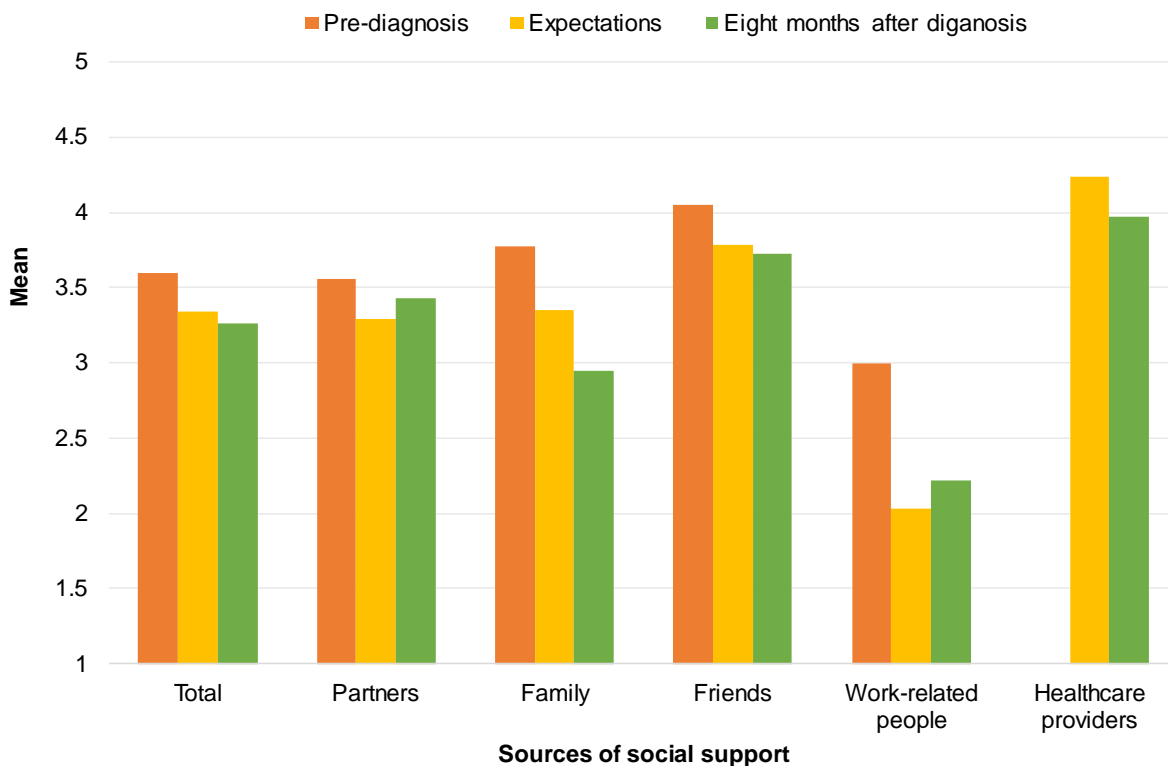


Figure 5.9. Temporal evolution of social support from different sources.

Furthermore, higher social support was related to better mental health in our study—specifically, higher pre-diagnosis social support and higher expectations of social support predicted lower subsequent anxiety and depression. Social support eight months after diagnosis was as well negatively correlated with anxiety and depression at that time and, furthermore, was positively correlated with HIV-related resilience.

These were expected results (Heywood & Lyons, 2016; Kang & Suh, 2015; Rao et al., 2012; Vyavaharkar et al., 2010; Yu et al., 2014), unlike the lack of association that we found between PTG and social support, which was against previous research among PLHIV (Helgeson & Lopez, 2010; Littlewood, Vanable, Carey, & Blair, 2008; Luszczynska, Sarkar, & Knoll, 2007; Siegel & Schrimshaw, 2007; Yu et al., 2014). Some limitations may explain this unexpected finding, like the measurement instrument used, and we will go deeper into limitations in section 5.4 of this fifth part. The relationships between social support and mental health outcomes are shown in Figure 5.10.

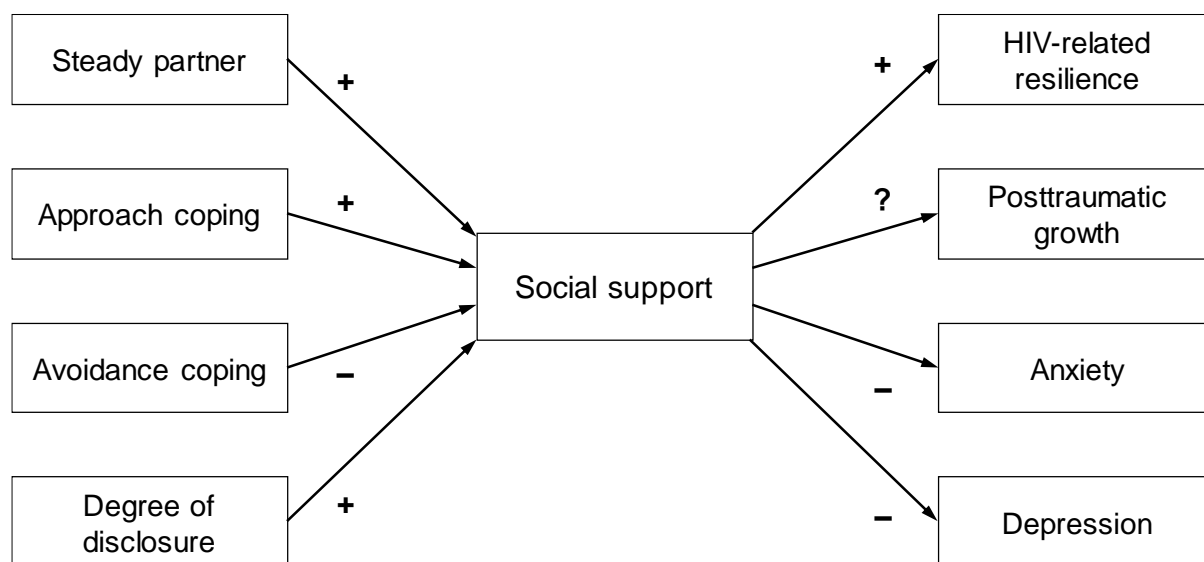


Figure 5.10. Social support predictors and mental health correlates.

Note. Positive relationships are represented with the sign “+”, negative relationships with the sign “-”, and absent correlations with the sign “?”.

5.2.9. Summary of the relationships between the main variables in this dissertation

For clarification purposes, we include in Figures 5.11 and 5.12 two diagrams which summarize the main findings of the current dissertation.

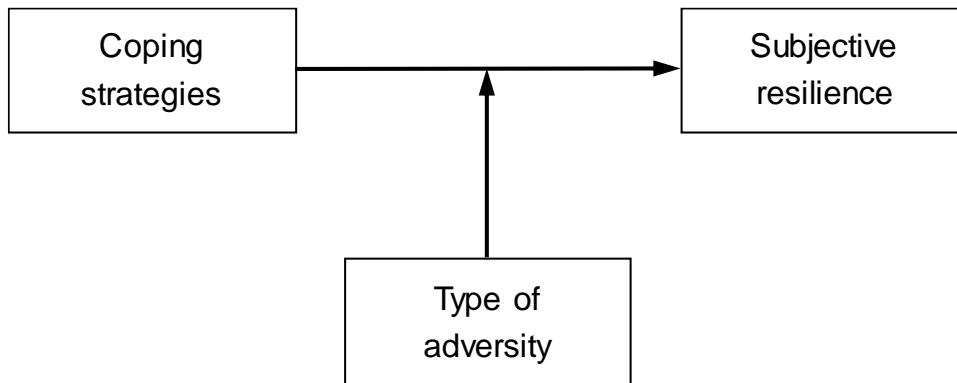


Figure 5.11. Diagram summarizing the main relationships among the variables explored in part 2 of this dissertation.

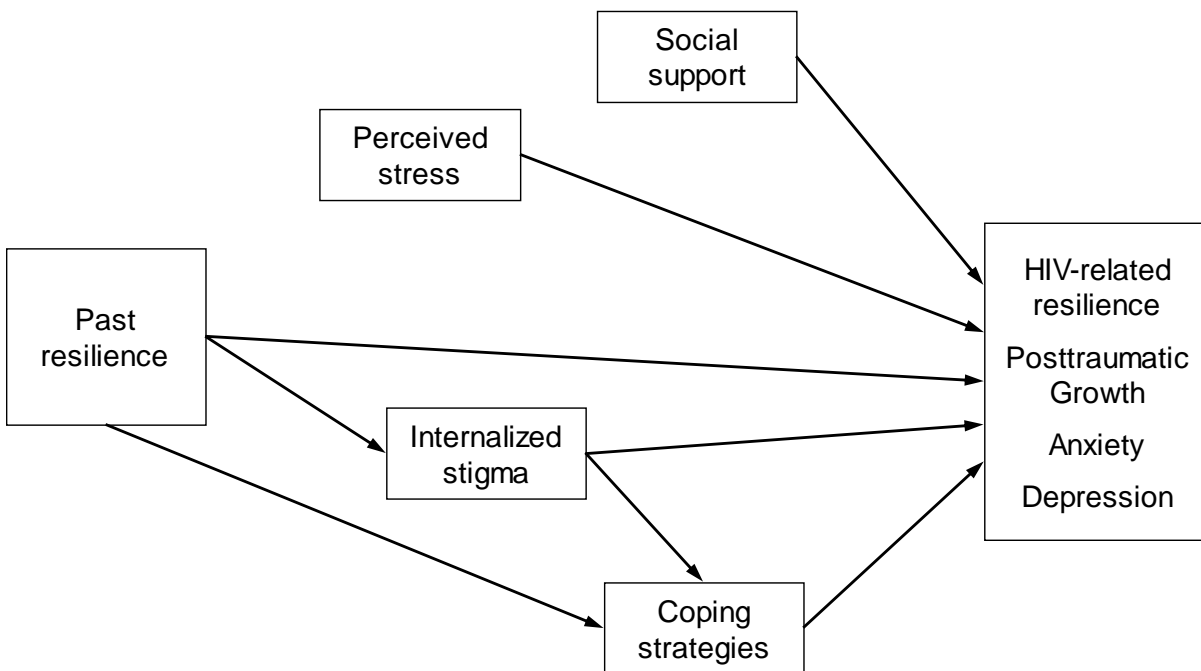


Figure 5.12. Diagram summarizing the main relationships among the variables explored in part 4 of this dissertation.

5.3. IMPLICATIONS FOR PRACTICE

The findings obtained in our dissertation have some theoretical and practical implications for psychological assessment, prevention, and intervention. We will present such implications along the following three subsections.

5.3.1. Implications for assessment

The results of our dissertation entail some implications for psychological assessment. In the second part of this thesis, we provided the Spanish-speaking scientific community with validated instruments to assess resilience and coping in various trauma-exposed samples. Specifically, the SSRQA and the SCQA were designed to take into account the nature of the stressful situation and our analyses showed that environmental demands indeed play an important role. The SCQA was further shortened and validated in PLHIV in the third part of this dissertation. The information provided by situated instruments can be more accurate than the information provided by general measures—such as the Brief Resilience Scale—and thus the utilization of the former instruments is recommended for assessment in research settings and also in clinical ones. However, we are aware that more research on the psychometric properties of these instruments is necessary.

Also concerning coping, the studies in part 4 showed that different strategies were related or not to various mental health outcomes and this finding underscores the usefulness of using lower-order coping classifications. For instance, rumination and emotional expression were associated with HIV-related resilience but they were not with anxiety, depression, or PTG. Conversely, self-blame, positive thinking, and thinking avoidance were related to the latter three but not to resilience. These nuanced results may have not been obtained if the reduction to the approach/avoidance classification had been applied. Therefore, it seems advisable not to reduce the complexities of coping by using two-dimensional categorizations.

In the third part of our dissertation, we also provided clinicians and researchers with two new brief scales to assess internalized HIV stigma and disclosure concerns. These measures had excellent psychometric properties and proved to be related to mental health outcomes along parts 3 and 4. Specifically, internalized stigma has been found to be a central variable for the study of PLHIV's mental health, and so this key variable should be included in researchers' and clinicians' assessments. Moreover, we also reported on the interpretation of the PTGI (the most used scale for PTG assessment) in PLHIV. Although replication of our results would be advisable, researchers and clinicians should consider using the 11 items and the three dimensions that we found in order to assess and interpret PTG in this population.

Finally, in relation to studies included in part 4, structural equation modeling has proved to be very useful for the examination of models involving many variables and complex relationships. Consequently, the use of structural equations modeling is a desirable data analysis method for this kind of research, since it has much to offer.

5.3.2. Implications for prevention

Our findings also have some implications for the prevention of the development of mental health disorders. As our studies in part 4 showed, there were certain variables measured soon after diagnosis that helped predict resilience, PTG, anxiety, and depression six months later. By measuring the perception of past health-related resilience outcomes, perceived stress, internalized stigma, pre-diagnosis social support, and social support expectations, newly diagnosed PLHIV who are at risk of developing an anxiety or depression disorder can be identified. Such early identification would allow the appropriate referral to a mental health professional and the implementation of a prevention program aimed at modifying the mental disorder path towards a positive adaptation path.

Moreover, the assessment of the same variables would also allow to identify individuals who are more likely of achieving a resilience outcome. In this case, healthcare providers could

help PLHIV become more aware of how well they are doing and why, so as to foster the active achievement of positive adaptation. Consequently, perceived past health-related resilience, perceived stress, internalized stigma, pre-diagnosis social support, and social support expectations should be systematically evaluated in PLHIV soon after diagnosis to detect PLHIV at risk of developing mental health problems or following a path towards resilience.

5.3.3. Implications for intervention

The research developed along our dissertation offers some directions to promote positive adaptation in newly diagnosed PLHIV. As our studies showed, stress, internalized stigma, coping, and social support are central elements that could influence the achievement of resilience outcomes and other post-trauma outcomes. Therefore, we provide here some guidance for intervention based on these elements. We believe that such interventions should not only be applied to PLHIV who have already developed psychopathology (Luthar, 2006). Some of them could also be provided in a preventive manner both to those at risk of developing such psychopathology and to those who may be following a regular recovery pathway. By doing that, their risk of suffering negative post-trauma outcomes would be minimized, and their possibilities of achieving resilience outcomes or PTG increased. The specific recommendations and guidance for such interventions are presented in the following lines.

The first variable on which to intervene would be stress around the time of diagnosis. In order to reduce the levels of stress, PLHIV should be provided with relevant and timely information about HIV infection aspects, treatment effectiveness on virologic suppression, normal life expectancy, etc. Mistaken beliefs should be identified and accurate information provided to correct them. Specifically, treatment expectancy-related beliefs about ease of treatment and its efficacy should be addressed (Johnson, Dilworth, Stephens, Lum, & Neilands, 2011). Additionally, offering anticipatory guidance to PLHIV about the next steps in their health care will be useful (e.g., clinical tests, ART uptake, etc.).

An active participation and engagement in their own care (health care empowerment; Johnson, Rose, Dilworth, & Neilands, 2012; Johnson, Sevelius, Dilworth, Saberi, & Neilands, 2012) should be promoted too, as well-engaged patients are more well-informed, accepting of their chronic condition, and committed to their responsibility in their health care, and they also have reduced concerns and are more tolerant of uncertainty (Christopoulos et al., 2013). Finally, PLHIV should be allowed and encouraged to express their emotions and concerns, which should be listened to, acknowledged, and addressed.

These actions are aimed at reducing uncertainty, worry, and helplessness around the time of diagnosis, and facilitating emotional expression. We believe that these interventions should be taken in all instances and would be best provided through the professionals with whom PLHIV interact daily (e.g., physicians, nursing staff) as this would be a more natural setting to them. Thus, providing health caregivers with the necessary training for these interventions would be a previous necessary step. Such training should focus on 1) how to provide trauma-informed care (e.g., knowing the most common reactions in PLHIV), 2) communication skills in healthcare settings, 3) breaking down barriers to promote PLHIV's engagement in their own care, and 4) what information is related to reduced stress and needs to be given to patients.

Internalized stigma, disclosure concerns and behaviors, and social support are more variables on which we can act. To reduce internalized stigma and disclosure concerns and to increase disclosure and gain social support, interventions should address and challenge the beliefs on which stigma is based, namely responsibility for contracting the virus, HIV as highly contagious and as fatal condition with apparent physical decline, homophobia, drug use, and sexual promiscuity. These internalized stigma reduction actions should be focused on reducing internalized stigma not only because of its direct relationship with resilience, but also as a means of reducing disclosure concerns, encouraging disclosure behaviors and adaptive coping, and gaining social support.

These interventions could be carried out in individual format and group-based format, depending on the needs and preferences of the individual—indeed, both formats are compatible and can be helpful in addressing different aspects. The support group format is known to help PLHIV deal with stigma (Lee, Kochman, & Sikkema, 2002), and it also decreases social isolation, provides opportunities for disclosure rehearsal, and constitutes a source of social support (Paudel & Baral, 2015).

The individualized format could be carried out with every patient in the natural course of a medical appointment. Moreover, healthcare providers can also be a very important source of social support for PLHIV and they can help them overcome their internalized stigma and work towards the disclosure of their serostatus. To this end, it is important that healthcare givers clarify their values and attitudes so that they can create safe and stigma-free spaces in the healthcare setting (e.g., no breaches of confidentiality, negative attitudes, differential treatment, unrealistic fears of infection, or unnecessary levels of isolation; Brouard & Wills, 2006). Thus, it may be previously necessary to work with health caregivers in order to 1) challenge any stigmatizing beliefs that they may hold, and 2) provide them with strategies to challenge the stigmatizing beliefs of others (i.e., PLHIV).

We would like to add that, although we have focused on internalized stigma as a variable more susceptible of being modified in the short-term, reducing HIV stigma as a whole should be an objective inside every healthcare setting and outside of it as well. Eliminating stigma and discrimination is emphasized as a key part in achieving the aims of “90–90–90”, the UNAIDS latest HIV reduction strategy, which has a target of 90% of PLHIV being diagnosed, 90% on antiretroviral treatment, and 90% achieving viral suppression by 2020 (Joint United Nations Programme on HIV/AIDS, 2014).

Lastly, interventions aimed at modifying coping strategies should be likewise implemented, as our studies showed that coping strategies influence HIV-related resilience and

other outcomes. Thus, by modifying the coping strategies that a person uses to face adversities, a positive adaptation might be achieved. Such intervention programs would be aimed at fostering the usage of the strategies of emotional expression, positive thinking, thinking avoidance, and help seeking, and at decreasing the usage of rumination and self-blame. As we mentioned above, the effectiveness of a given coping strategy might vary depending on the type of stressful situation or the time; for example emotional expression proved to be effective in the studies of part 4 with newly diagnosed individuals, but it was found to be maladaptive in the studies in part 2. Consequently, flexibility in the use of different coping strategies should also be promoted, and professionals should explain to PLHIV which strategies are most adequate for each circumstance and moment.

A possible way of implementing this coping intervention is by providing coping training, which has been shown to be more effective in PLHIV than actively receiving information and that being on a waiting list (Chesney, Chambers, Taylor, Johnson, & Folkman, 2003). We believe that this intervention would be best applied by a mental health professional (e.g., a psychologist) after the patient has been referred due to possible risk of maladaptation. Additionally, this kind of intervention could also be implemented within the course of a support group, so that individuals that are actively working on their well-being can benefit from it.

Finally, we would like to point out that the possible interventions outlined above would be best implemented through a coordinate effort from all the health caregivers involved, including nursing staff, physicians, and psychologists. It is true that an interdisciplinary approach like this one requires more effort than a more modest methodology. Nonetheless, PLHIV face numerous stressors on account of their HIV and present high rates of distress, and it thus seems crucial to develop and implement well-organized interventions that allow PLHIV to perform well after receiving an HIV-positive diagnosis.

5.4. LIMITATIONS OF THIS THESIS

Our dissertation presents several limitations that need to be considered since they restrict the generalization of the findings and constitute challenges that future research should aim to overcome. We have organized the limitations in subsections concerning the research design, the study variables, the measurement instruments, the recruitment strategy, and the representativeness of the samples.

5.4.1. Research design

The first and one of the most important limitations of our dissertation has to do with the cross-sectional design employed in the studies in parts 2 and 3. As those data are correlational, a causal link could not be established and so we cannot claim that one variable precedes or causes the other. For instance, the finding that the type of aversive situation had an influence on the use coping strategies and on resilience is only a hypothesis, as also is the result that coping contributed to resilience. Another example of this would be the finding that coping strategies led to resilience in different ways depending on the type of population. Our data were compatible with these hypotheses, which offers reasonable expectations about their possible validity, but it is still necessary to test them via longitudinal designs to study potential causality.

In the studies of part 4 we sought to overcome this limitation, which we achieved to do but only partially. We used a longitudinal design which included assessments at two time-points with an interval of six/seven months between them. However, the constraints related to the temporal frame of this thesis prevented the inclusion of more assessment time-points and longer term follow-ups. As only two assessments were included, some variables thus needed to be measured via retrospective questions (e.g., pre-diagnosis perceived resilience, coping), something that can affect the reliability of the responses. Additionally, a person may have not faced a specific stressor in the past (e.g., a serious health-related problem) and thus the validity

of measures of past resilience and coping related to said stressor could be impaired. Finally, the difficulty in recruiting and maintaining in the study people undergoing such a difficult time resulted in a sample of smaller size than those of the studies in the previous parts, which precluded us from performing multi-group analyses to cross-validate the tested models.

5.4.2. Study variables

Part 2 consistently revolved around resilience and coping and we tested the relationships between the two—though they were correlational—and part 3 dealt with methodological issues. It is in part 4 where we find more serious limitations related to study variables. Many variables were examined in relation to resilience in the studies contained in this part (i.e., perceived stress, perceived past resilience, internalized stigma, social support, coping, anxiety, depression, PTG). Nevertheless, these relationships were not examined in a single model that accounted for all of the variables.

The first study in this part explored the relationships between positive and negative outcomes and how perceived stress predicted them. The second study investigated how perceived past resilience, internalized stigma, and coping predicted resilience and PTG, and the third one studied how these variables predicted anxiety and depression. The fourth study tackled social support and its association with resilience and other outcomes and how it could be predicted on the basis of other variables such as coping and stigma.

Therefore, this thesis lacks a model that includes perceived stress, perceived past resilience, internalized stigma, coping, and social support as predictors and resilience, PTG, anxiety, and depression as criteria. Such a model would help better explicate the relationships between variables and their relative predictive power in relation to mental health outcomes. However, this model could not be tested in this thesis, since such a complex model requires a much larger sample that allows for the analysis to be performed. So, the separate examination of relationships remains a limitation of our dissertation.

Aside from a model including all the relevant variables, another limitation of our research has to do with the exclusion of some variables that would potentially help predict resilience and PTG outcomes. As a case in point, experiencing positive emotions related to the traumatic event (e.g., gratitude to others for their help, kindness) has been found to be related to resilience and PTG (Fredrickson et al., 2003; Moskowitz, 2010; Vera Poseck et al., 2006).

Other variables of interest would be life satisfaction (Limonero, Tomás-Sábado, Fernández Castro, Gómez Romero, & Ardilla Herrero, 2012), quality of life (Buseh, Kelber, Stevens, & Park, 2008; Drewes, Gusy, & von Rügen, 2012; Gakhar, Kamali, & Holodniy, 2013), health control perception (Teva, la Paz Bermúdez, Hernández-Quero, & Buéla-Casal, 2005), adherence and engagement in care (Grossman, Purcell, Rotheram-Borus, & Veniegas, 2013; Prado, Lightfoot, & Brown, 2013; Teva et al., 2005), and personal resources such as optimism and hope (Murphy & Hevey, 2013; Pellowski, Kalichman, Matthews, & Adler, 2013; Vera Poseck et al., 2006).

Another significant element would be layered stigma, as PLHIV are often stigmatized not only on account of their serostatus, but also because of their sexual orientation, gender nonconformity, drug use, history of incarceration, immigrant status, or profession as a sex worker (Earnshaw et al., 2013). Again, the inclusion of a greater number of variables—besides increasing participant burden and attrition rates—would require larger samples able to provide enough data for testing complex models. On the positive side, testing such complex models would provide researchers and clinicians with relevant information regarding which variables are the ones with the greatest predictive power, with clear implications for intervention.

5.4.3. Measurement instruments

With regard to the instruments employed in our thesis, all of them were self-report questionnaires, which may have affected the quality or reliability of the collected data. Moreover, while some of those instruments (e.g., the HADS) have been widely validated, some

other measures were especially developed for our studies (e.g., the SSRQA, the SCQA and the SCQA-HIV-SF, the HIV-ISS, the HIV-DCS). Additionally, the BRS was adapted to Spanish samples in our studies and the psychometric properties of the PTGI were first tested among PLHIV. Therefore, the psychometric guarantees of these instruments could not be determined prior to instrument selection. Although the instruments were found to be adequate for the purposes of our studies, most of them would benefit from further validation in different samples and populations.

Concerning specific measures, both the SSRQA and the SCQA considered the role of the type of threat by including five possible adverse situations. However, although constituting a first step in the measurement of the person-situation interaction, the range of situations included in these measures is very limited, as there are many more than five types of adverse situations. Moreover, regarding coping, there are other strategies that people can use besides the ones included in the SCQA, such as religious coping (e.g., Pargament & Cummings, 2010). So, it would be interesting to study how the person-situation model found applies to the other coping strategies and how these are associated with resilience in different trauma-exposed populations.

Similarly, there could be other PTG dimensions that emerge following HIV diagnosis that were not accounted for in the PTGI, the measure used in our research. Lastly, although the index used to measure social support at different time-points provided useful information to our purposes, other measures with demonstrated good psychometric properties would have been a better choice—although a lengthier one. While our thesis has put an effort to reduce participant burden (i.e., the length of assessments), it has come with limitations.

5.4.4. Recruitment strategies

The procedures used to engage participants in the studies and to collect data are also susceptible of having biased our results. Online recruitment and participation limited the access

to the study to those individuals with computer and Internet skills, a limitation that applies fully to studies in part 2 and partially to studies in parts 3 and 4. Regarding studies in these two last parts, individuals not using online social networks had limited opportunity to be recruited, which could imply a sample bias toward people associated with some kind of (virtual) community. Thus, our results may not generalize to the most stigmatized and isolated PLHIV. Participants in parts 3 and 4 were also recruited via a healthcare center in Madrid, which alleviates to some extent the limitation that online social networks pose. However, PLHIV attending other centers or hospitals had little opportunity to be recruited and so our results may not generalize to other healthcare settings, especially those in rural areas.

5.4.5. Representativeness of the samples

Closely related to the limitations caused by the recruitment strategies used in our thesis, the representativeness of the recruited samples also has caused some limitations. Concerning the studies in part 2, we studied resilience and coping with respect to adverse events related to work, close relationships, own health, close person's health, and finances. In these studies, we included participants from the general population, people with health related conditions, and individuals whose children had a health-related problem. Although we measured the degree to which our participants had experienced problems related to work, close relationships, and finances (and how such degree moderated the results), we did not seek and include specific groups of people experiencing financial (e.g., long term unemployment), work-related (e.g., suffering mobbing), or close relationships problems (e.g., going through a divorce), a limitation that grants future research.

Moreover, the general population sample was mainly composed of university workers and students, which might not represent the general population well in terms of educational and socioeconomic level. Additionally, some other subsamples were small (i.e., the cancer

patients and the parents of children with disabilities or development disorders), so 1) results concerning these samples may have been compromised and 2) it was not possible to study differences among people with different specific conditions (e.g., parents of children with cancer versus parents of children with disabilities).

Regarding the studies in parts 3 and 4, we included participants recruited through associations and groups (online), which as discussed implies a sense of some kind of community and could therefore limit the generalization of our results to those without such online contacts. We also recruited our participants through a healthcare center specializing in sexually transmitted infections, which may also limit the generalizability of the results, as a specialized center is likely to be different from other centers (i.e., highly skilled professionals, cutting-edge knowledge, availability of in-center support groups...).

Furthermore, the findings presented in parts 3 and 4 were based on data collected from PLHIV from Spain and Latin America, which limits results generalization to non-Spanish speakers. Different cultural backgrounds and healthcare systems also exist among Spanish-speakers (i.e., between different countries) and the findings could be different if national samples were studied (Bonanno, Westphal, & Mancini, 2012). Additionally, the samples used in parts 3 and 4 were mostly composed of males, so again generalization of findings should not be made to other genders without further replication.

Finally, a self-selection bias applies to all studies included in our dissertation. It is possible that those who agreed to participate were highly motivated and it could be that the most motivated were at the same time those in path leading to resilience outcomes. Thus, the men and women who participated may differ in significant ways from those who chose not to participate, which further limits the generalizability of our findings. Future research is needed to address these limitations and replicate our findings in more representative samples.

5.5. FUTURE LINES OF RESEARCH

The findings obtained in this dissertation, along with their implications and the limitations above described, open some paths to interesting lines for future research.

We begin with the studies in which the SCQA and the SSRQA were developed. These studies represent an innovation in terms of resilience and coping measurement, as they took into account the stable and the variable aspects (i.e., personal and situational). The person-situation model proved to be useful in these studies; however, as discussed previously, there were some limitations: only five types of adverse situations were considered and there were three situations for which specific samples who had suffered through them were not gathered. Building on the limitations described, a future line of research would involve developing or adapting these measures so as to study resilience and coping in different challenging situations.

Such research would benefit from including people who had experienced financial, work-related, or close people relationship problems, as we did not specifically gather samples of these populations. For instance, research could aim to reach the long term unemployed, workers suffering mobbing, and persons going through a divorce. Also, as many other populations face specific potentially traumatic situations (e.g., the death of a loved one, a natural catastrophe), research should also examine how coping and resilience operate in them.

In line with this, also stemming from the studies in part 2, prospective studies could further our understanding of the relationships between resilience and coping in different trauma-exposed populations (e.g., cancer patients, parents of children with disabilities, PLHIV). To do so, it would be necessary to secure large enough samples so that comparisons can be made and results are meaningful. Such studies are crucial so as to replicate our findings, overcome our limitations, and expand our knowledge on the subject.

Another interesting line of research arises from the finding that emotional expression seems to be effective soon after HIV diagnosis (i.e., related to higher resilience) and become

deleterious over time (i.e., associated with lower resilience). Other results also hinted at time as a relevant variable—as a case in point, seeking help appeared to be effective for PLHIV in general (i.e., related to higher resilience in part 2), but was neither adaptive nor maladaptive for newly diagnosed PLHIV (i.e., unlinked to resilience in part 4). Time is usually overlooked in studies but it is a crucial element; in fact, it is what separates resilience from regular recovery. Future research should investigate what role does time play in the effectiveness of different coping strategies. We anticipate that this area of study will bring about important implications for intervention design and implementation.

Regarding the studies exclusively focused on PLHIV, we believe a relevant future line of research would be the translation and adaptation of the internalized HIV stigma and disclosure concerns measures. These instruments demonstrated excellent psychometric qualities and they might also constitute a valuable contribution in other languages given the conceptual confusion that surrounds the construct of stigma in the literature.

As we previously stated, due to sample size limitations in our research, a single model was not able to accommodate all the variables which could help predict positive and negative outcomes in PLHIV. Thus, an important line of research would be to test a comprehensive model including all the mentioned variables. To this end, a longitudinal approach should be used, preferably with assessments at more than two time-points. This model should also test some relationships between variables that our dissertation has not tested (e.g., how perceived stress relates to coping or internalized stigma). Moreover, the sample should be large enough to allow for such a complex analysis, which constitutes a key challenge in this type of studies.

Additionally, there is evidence that some variables like positive emotions are related to resilience and PTG, but we did not consider them in our thesis. It would be interesting to include positive emotions and other relevant constructs in research exploring the predictors of resilience and PTG. For instance, positive emotions could be included in the aforesaid inclusive model.

We also believe that the use of mixed methods (i.e., the combination of qualitative and quantitative methodologies) could contribute to the identification of variables contributing to resilience outcomes and PTG in the specific population of PLHIV. For example, high-resilience PLHIV could be identified by means of validated questionnaires. Afterwards, these PLHIV could be asked open-ended questions concerning the aspects that have helped them achieve a positive adaptation. Lastly, the identified aspects could be integrated into the comprehensive predictive model and be systematically assessed with validated measures (and, if appropriate measures are not available, these could be developed).

Another possible avenue for future research touches on cultural differences. This kind of research would aim to study whether there are cultural differences among Spanish-speakers from different countries. For instance, it could investigate if the predictors of resilience work similarly both in Spaniards, Mexicans, Colombians, etc. The main goal of these studies should be to produce interventions tailored to the specific cultural background of the person so that positive outcomes are maximized.

Finally, the last path for future research we would like to propose involves intervention studies, which is why we consider this line of the utmost relevance. Feasible interventions which tackle the predictors of resilience and PTG in PLHIV should be designed (e.g., stress and internalized stigma reduction, coping strategies use). They should then be implemented among PLHIV and their effectiveness should be evaluated with a pre-post design with a control group or a group that receives a different intervention. Conducting these types of studies would be important for two reasons. First, they would allow to test the validity of the model developed in this thesis. Second, and more importantly, intervention studies would be a first step for the translation and transference of the knowledge generated in our dissertation. The ultimate purpose of such knowledge is to help promote resilience outcomes among PLHIV.

5.6. REFERENCES

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Parte 6

(BIS) Discusión General

6.1. PRINCIPALES RESULTADOS

Con objeto de resumir y clarificar los objetivos y principales resultados obtenidos en los estudios que conforman la presente tesis, estos se presentan en la Tabla 6.1.

Tabla 6.1. Objetivos y principales resultados de los estudios que conforman esta tesis.

Título del estudio	Objetivos principales	Resultados y conclusión
PARTE 2		
Fiabilidad y validez de la versión en español de la Escala Breve de Resiliencia (BRS).	Adaptar la BRS al idioma español y determinar la fiabilidad y validez de sus puntuaciones en una muestra heterogénea.	Las puntuaciones de la BRS mostraron una fiabilidad adecuada, y los análisis factoriales confirmatorios (AFCs) mostraron que representa un solo factor. La BRS mostró adecuada validez convergente, concurrente y predictiva. La BRS española es una escala fiable y válida.
Desarrollo y validación del Cuestionario de Resiliencia Subjetiva Situado para Adultos (SSRQA).	Desarrollar y validar (en términos de validez estructural, convergente y discriminante) el SSRQA, que mide resiliencia frente a diferentes situaciones adversas.	Las puntuaciones del SSRQA mostraron buena fiabilidad y validez convergente, discriminante y estructural. Las situaciones generaron variabilidad en el grado de resiliencia subjetiva, pero esta también se generalizó entre situaciones hasta cierto punto. El SSRQA es un instrumento fiable y válido para medir resiliencia frente a diferentes situaciones aversivas.
Evaluación del afrontamiento desde la perspectiva de la interacción persona-situación: desarrollo del Cuestionario de Afrontamiento Situado para Adultos (SCQA)	Desarrollar y validar el SCQA, el cual tiene en cuenta el carácter situacional del afrontamiento, y analizar la fiabilidad y validez de sus puntuaciones.	Los AFCs mostraron la superioridad del modelo persona-situación: la situación influyó en el uso de las estrategias de afrontamiento. No obstante, el afrontamiento también fue estable hasta cierto punto. Los análisis de regresión mostraron que el afrontamiento contribuye a predecir la resiliencia. Las escalas mostraron una adecuada fiabilidad. El SCQA es un medio fiable y válido de medir afrontamiento situado en varias poblaciones.
Diferencias en el uso de estrategias de afrontamiento según el grado de resiliencia: una comparación entre personas que viven con VIH, pacientes con cáncer, padres de hijos con cáncer y la población general	Estudiar la resiliencia y las estrategias de afrontamiento en varias poblaciones clínicas y no clínicas, y examinar si las relaciones entre resiliencia y afrontamiento varían en función de la población.	Mientras que la resiliencia fue estable entre poblaciones, algunas diferencias emergieron respecto al uso de estrategias de afrontamiento. Hubo también diferencias entre los grupos de alta y baja resiliencia en el uso de estrategias de afrontamiento, y estas diferencias variaron en función de la población específica. Distintas estrategias se relacionan con resultados de resiliencia para diferentes muestras expuestas a estrés.

Tabla 6.1. Objetivos y principales resultados de los estudios que conforman esta tesis (continuación).

Título del estudio	Objetivos principales	Resultados y conclusión
PARTE 3		
Estigma internalizado por VIH y miedo a comunicar el diagnóstico: desarrollo y validación de dos escalas en poblaciones hispanohablantes.	Desarrollar escalas de estigma internalizado y miedo a comunicar el diagnóstico en español y determinar su fiabilidad, sensibilidad y validez estructural y de criterio.	Las escalas mostraron buena fiabilidad (tanto de consistencia interna como de estabilidad temporal), buena sensibilidad y buena validez factorial y de criterio. Las escalas de estigma internalizado y miedo a comunicar el diagnóstico son medios válidos para la medición de dichos constructos.
Cuestionario de Afrontamiento Situado para Adultos: validación de una forma corta en adultos hispanohablantes con VIH desde un enfoque bayesiano.	Acortar el SCQA y estudiar su fiabilidad y su validez estructural y de criterio en una muestra de personas que viven con VIH.	La situación influyó en el grado de uso de determinadas estrategias de afrontamiento. Las puntuaciones de las escalas mostraron una adecuada fiabilidad. Los análisis de correlaciones mostraron que algunas estrategias contribuyen a predecir ansiedad, depresión, resiliencia y grado de comunicación del diagnóstico. La versión abreviada del SCQA es un medio fiable y válido de evaluar afrontamiento situado en personas que viven con VIH.
El Inventario de Crecimiento Postraumático (PTGI): estructura factorial en personas hispanohablantes que viven con VIH.	Examinar la estructura factorial de las puntuaciones del PTGI en hispanohablantes que viven con VIH.	El análisis factorial exploratorio sugirió un modelo de tres factores manteniendo 11 de los 21 ítems originales. Los factores emergidos fueron: cambios en la filosofía de vida, en uno mismo y en las relaciones interpersonales. El AFC sugirió una solución anidada. Los tres factores y la escala global mostraron buena fiabilidad. El PTGI de 11 ítems es un instrumento válido y fiable a utilizar con personas que viven con VIH.
PARTE 4		
Asociaciones entre resiliencia, crecimiento postraumático, ansiedad y depresión, y su predicción a partir de estrés en personas recién diagnosticadas que viven con VIH.	Estudiar las relaciones entre ansiedad, depresión, resiliencia y crecimiento postraumático (CPT) en personas con un diagnóstico de VIH reciente. Examinar cómo el estrés percibido peri-diagnóstico puede explicar su desarrollo posterior.	Las tres dimensiones de CPT estuvieron correlacionadas. Hubo una correlación positiva entre ansiedad y depresión, y una correlación negativa entre estas y resiliencia. La depresión se relacionó de forma negativa y débil con la dimensión de cambios en uno mismo del CPT. El estrés percibido predijo resiliencia (negativamente) y ansiedad y depresión (positivamente). No predijo CPT. La resiliencia está inversamente relacionada con ansiedad y depresión. Minimizar el estrés percibido en torno a momento del diagnóstico resulta de importancia.

Tabla 6.1. Objetivos y principales resultados de los estudios que conforman esta tesis (continuación).

Título del estudio	Objetivos principales	Resultados y conclusión
PARTE 4 (continuación)		
<p>Predictores de resiliencia y crecimiento postraumático en personas recién diagnosticadas que viven con VIH: un estudio longitudinal.</p>	<p>Investigar longitudinalmente el rol que juegan la resiliencia pasada percibida, el estigma internalizado y las estrategias de afrontamiento en la predicción de resiliencia y CPT tras el diagnóstico de VIH.</p>	<p>Las variables rumiación, expresión emocional, estigma internalizado y resiliencia pasada percibida predijeron la resiliencia relativa al VIH ocho meses tras el diagnóstico. Pensar en positivo, auto-culpa, evitar pensar, buscar ayuda y el estigma internalizado predijeron CPT. En ambos casos, el estigma internalizado y la resiliencia pasada predijeron el uso diferencial de las estrategias de afrontamiento. El estigma internalizado y el uso diferencial de estrategias de afrontamiento son variables clave para lograr resiliencia y CPT.</p>
<p>Predictores de ansiedad y depresión en personas recién diagnosticadas que viven con VIH: un estudio longitudinal.</p>	<p>Investigar longitudinalmente el rol que la resiliencia pasada percibida, el estigma internalizado y el afrontamiento juegan en la predicción de ansiedad y depresión tras el diagnóstico de VIH.</p>	<p>La ansiedad y depresión ocho meses tras el diagnóstico fueron predichos por las variables pensar en positivo, auto-culpa, evitar pensar, estigma internalizado y resiliencia pasada. Estos dos últimos predijeron también el uso diferencial de las estrategias de afrontamiento. El estigma internalizado y el uso diferencial de estrategias de afrontamiento son variables clave para reducir los síntomas de ansiedad y depresión.</p>
<p>Apoyo social en personas recién diagnosticadas que viven con VIH: expectativas y satisfacción a lo largo del tiempo, predictores, y correlatos de salud mental.</p>	<p>Explorar cómo el apoyo social de diversas fuentes evoluciona tras el diagnóstico de HIV.</p> <p>Examinar qué variables pueden predecir el apoyo social.</p> <p>Explorar la relación del apoyo social con la resiliencia, el CPT, la ansiedad y la depresión.</p>	<p>Los mayores niveles de apoyo provinieron de los amigos, el personal sanitario y las parejas, y el apoyo social se redujo tras el diagnóstico de VIH, excepto en el caso del apoyo de la pareja.</p> <p>El afrontamiento por evitación predijo negativamente la satisfacción con el apoyo social ocho meses tras el diagnóstico, y tener una pareja estable, un mayor grado de comunicación del diagnóstico y un afrontamiento por acercamiento fueron predictores positivos.</p> <p>El apoyo social se relacionó con menor ansiedad y depresión y con mayores niveles de resiliencia. No se relacionó con CPT.</p> <p>Las intervenciones dirigidas a incrementar el apoyo social harán bien en promover el afrontamiento por acercamiento y la comunicación del diagnóstico, y desalentar el afrontamiento por evitación. Es posible que tales intervenciones mejoren la salud mental.</p>

6.2. CONCLUSIONES GENERALES

Siguiendo los principales resultados resumidos en la tabla anterior, presentamos ahora las conclusiones generales derivadas de esta tesis. Tales conclusiones irán seguidas de una discusión de las implicaciones para la práctica y de las limitaciones de nuestros estudios. Finalmente, propondremos líneas futuras de investigación.

6.2.1. Resiliencia y afrontamiento como constructos dependientes de contexto

Uno de los objetivos de los estudios de la segunda parte era examinar si la resiliencia y el afrontamiento son elementos estables del individuo o fluctúan dependiendo de la naturaleza del estresor. Nuestros resultados han proporcionado apoyo a la afirmación de que el grado de resiliencia varía en función de la situación adversa (Luthar, 2006; Reaching IN... Reaching OUT, 2010); es decir, que una persona puede mostrar grados variados de resiliencia dependiendo del tipo de adversidad a la que se enfrente. Sin embargo, la resiliencia también tiende a generalizarse hasta cierto punto en los diversos contextos: existe tanto una estabilidad como una variabilidad relativas a la resiliencia (véase la Figura 6.1).

Existieron algunas discrepancias en nuestros estudios en lo que respecta a los niveles de resiliencia mostrados por diferentes poblaciones. En el estudio de validación de la BRS en español, se encontró que los padres con hijos críticamente enfermos mostraron un grado mayor de resiliencia que los padres de hijos con cáncer. En el estudio de validación del SSRQA, se encontró que aquellas personas con un problema de salud (p. ej., VIH o enfermedad oncológica) mostraban mayor resiliencia que la población general ante problemas de salud de sus seres queridos. Por último, el estudio que comparó los vínculos existentes entre resiliencia y afrontamiento en varias poblaciones no encontró diferencias entre poblaciones en la media de resiliencia. Si bien la evidencia sugiere que la situación juega un importante papel a nivel individual, aún está poco claro si ciertas poblaciones en sí mismas tienen una mayor tendencia que otras a alcanzar resultados de resiliencia. Nuestros hallazgos han apoyado tanto la

existencia como la no existencia de diferencias a nivel poblacional y es necesario realizar estudios con muestras más numerosas para evitar encontrar resultados debidos a diferencias aleatorias de la muestra.

Por lo que respecta al afrontamiento, nuestros resultados también han apoyado la noción de que tanto las disposiciones personales como el tipo de demanda (p. ej., el tipo de situación adversa) tienen un papel importante a la hora de determinar el grado en que la gente utiliza ciertas estrategias. Parece que diferentes situaciones adversas desencadenan diferentes grados de uso de las distintas estrategias de afrontamiento (véase la Figura 6.1). Por tanto, cada persona puede inclinarse a utilizar diferentes estrategias de afrontamiento en función del tipo de amenaza. Esto implica un cierto grado de generalización de las estrategias de afrontamiento a través del tiempo y de las situaciones y también un cierto grado de variabilidad, lo cual es congruente con la literatura sobre afrontamiento (Folkman & Moskowitz, 2004; Moskowitz & Wrubel, 2005; Schwarzer & Schwarzer, 1996; Steed, 1998).

Nuestros hallazgos también han mostrado que existen algunas diferencias de uso de estrategias de afrontamiento entre las distintas poblaciones. Concretamente, las personas que viven con VIH (PVVIH) buscaron menos ayuda y se aislaron y expresaron sus emociones más que otras poblaciones, y personas con enfermedad oncológica tendieron a aislarse menos que la población general. Nuestros resultados sugerirían, pues, que ciertas poblaciones en sí mismas tienden más que otras a utilizar determinadas estrategias.

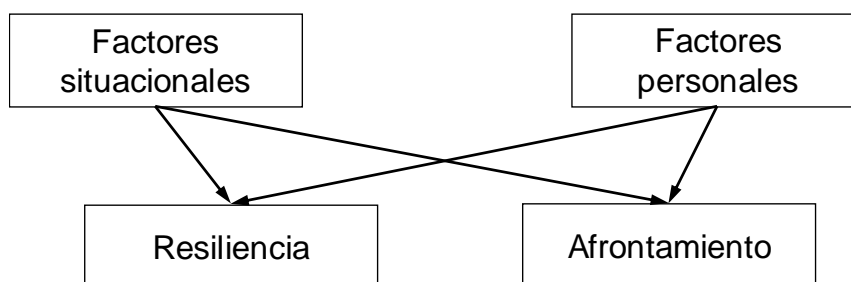


Figura 6.1. Factores que tienen efecto en la resiliencia y el afrontamiento.

6.2.2. Resiliencia y variables demográficas

Aunque de forma breve, también hemos abordado en nuestros estudios las relaciones entre la resiliencia y algunas características demográficas. En el estudio de validación de la BRS en español, encontramos que los hombres mostraban una mayor resiliencia que las mujeres, lo cual es consistente con estudios anteriores (Bonanno, Galea, Bucciarelli, & Vlahov, 2007; B. W. Smith et al., 2008). Además, en ese mismo estudio, una mayor edad se relacionó con un mayor grado de resiliencia, lo que es también coherente con investigaciones previas (Bonanno et al., 2007; B. W. Smith, Tooley, Christopher, & Kay, 2010). Sin embargo, este resultado no se mantuvo para las PVVIH de la parte 4 de esta tesis, donde la edad no mostró ninguna relación con la resiliencia. Finalmente, los participantes de mayor nivel educativo mostraron mayor resiliencia en nuestra validación de la BRS española, como también han encontrado otros estudios de la literatura (Bonanno et al., 2007; Frankenberg, Sikoki, Sumantri, Suriastini, & Thomas, 2013). Esto sugeriría un efecto protector del nivel educativo; no obstante, de nuevo este resultado no se mantuvo para las PVVIH de la parte 4, donde no hubo relación entre resiliencia y nivel educativo. Es necesaria más investigación que explore si la edad y el nivel educativo no se relacionan con resiliencia en el caso de las PVVIH o si estos resultados se deben a muestras de tamaño pequeño.

6.2.3. Resiliencia y afrontamiento como constructos relacionados en diversas poblaciones

Otro de los objetivos de la segunda parte de esta disertación era estudiar la relación entre afrontamiento y resiliencia. Nuestros estudios mostraron que dicha relación existe, lo cual reafirma la literatura previa que los vincula (Folkman & Moskowitz, 2004; Leipold & Greve, 2009; Reaching IN... Reaching OUT, 2010; Skinner & Zimmer-Gembeck, 2007; Villasana, Alonso-Tapia, & Ruiz, 2016). Por tanto, un modo de lograr la adaptación positiva consistiría en modificar las estrategias que los individuos utilizan para afrontar los problemas.

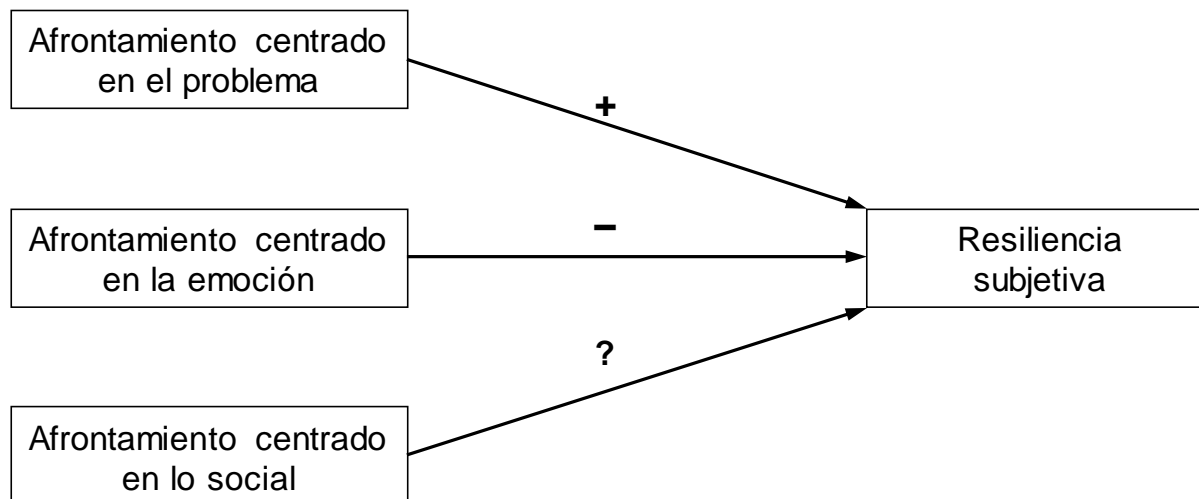


Figura 6.2. Asociaciones entre estilos de afrontamiento y resiliencia.

Nota. Las relaciones positivas están representadas con el signo “+”, las negativas con el signo “-”, y la ausencia de relación con el signo “?”.

Respecto a los estilos y estrategias de afrontamiento específicos y su relación con la resiliencia, nuestros análisis han apuntado a que, sin distinguir entre poblaciones, el estilo centrado en el problema se relaciona con mayor resiliencia subjetiva, al igual que las estrategias de solución de problemas y pensar en positivo (incluidas en dicho estilo), con la excepción de evitar pensar, que no estuvo relacionado con resiliencia. Por otro lado, el estilo centrado en la emoción se asoció con menor resiliencia, al igual que las estrategias de rumiación y expresión emocional (incluidas en este estilo de afrontamiento), pero no fue así en el caso de auto-culpa, que no mostró ninguna relación. Finalmente, el estilo centrado en lo social no se mostró relacionado con la resiliencia, ni tampoco las dos estrategias que lo componen (buscar ayuda y auto-aislarse). La Figura 6.2 resume las relaciones descritas.

Sin embargo, estas asociaciones entre afrontamiento y resiliencia variaron cuando comparamos diferentes poblaciones. En la población general, una mayor resiliencia se asoció con un mayor uso de las estrategias de solución de problemas, pensar en positivo y evitar pensar y con un menor uso de rumiación, expresión emocional, auto-culpa y auto-aislamiento. En las

PVVIH, una mayor resiliencia estuvo relacionada con un mayor uso de búsqueda de ayuda y pensamiento positivo y con un menor uso de rumiación, expresión emocional, auto-culpa y auto-aislamiento. En personas con enfermedad oncológica, una mayor resiliencia se relacionó con un menor uso de la rumiación. Por último, en los padres de hijos con cáncer, una mayor resiliencia se asoció con un mayor uso de pensar en positivo y un menor uso de rumiación, auto-culpa y auto-aislamiento. Estas diferencias entre muestras aparecen en la Figura 6.3.

6.2.4. El diagnóstico de VIH como contexto adverso

Los estudios de las partes 3 y 4 de esta disertación se centraron en las PVVIH y tuvieron por objetivo examinar tanto las consecuencias psicológicas de un evento particularmente difícil (el diagnóstico de VIH) como los posibles predictores de estas.

Los participantes de nuestra investigación fueron en su mayoría hombres que tienen sexo con hombres (HSH), algo esperado ya que los HSH tienen cuarenta veces más probabilidades de haber sido diagnosticados de VIH (Halkitis, Wolitski, & Millett, 2013). Además, los HSH representan la mayoría de las nuevas infecciones en España (Área de Vigilancia de VIH y Comportamientos de Riesgo, 2016).

<u>Población general</u>	<u>PVVIH</u>	<u>Personas con EO</u>	<u>Padres de HHC</u>
+ solución de problemas	solución de problemas	solución de problemas	solución de problemas
+ pensar en positivo	+ pensar en positivo	pensar en positivo	+ pensar en positivo
+ evitar pensar	evitar pensar	evitar pensar	evitar pensar
buscar ayuda	+ buscar ayuda	buscar ayuda	buscar ayuda
– auto-aislamiento	– auto-aislamiento	auto-aislamiento	– auto-aislamiento
– rumiación	– rumiación	– rumiación	– rumiación
– expresión emocional	– expresión emocional	expresión emocional	expresión emocional
– auto-culpa	– auto-culpa	auto-culpa	– auto-culpa

Figura 6.3. Asociaciones entre estrategias de afrontamiento y resiliencia a través de las poblaciones.

Nota. La figura muestra las relaciones entre resiliencia y estrategias de afrontamiento. Las relaciones positivas están representadas con el signo “+” y las negativas con el signo “–”. Cuando no existe relación, el signo está ausente. PVVIH = personas que viven con VIH. EO = enfermedad oncológica. HHC = hijos con cáncer.

La elevada tasa de participantes que, ocho meses tras el diagnóstico, obtuvo puntuaciones por encima del punto de corte para la detección de trastornos de ansiedad y depresión (31,36% en ambos casos) corrobora que el diagnóstico de VIH constituye un evento amenazante que puede poner a las personas en riesgo de sufrir problemas psicológicos. Las tasas y las puntuaciones medias de ansiedad y depresión encontradas fueron similares a las halladas en otros estudios en Australia, Canadá y Sudáfrica (Heywood & Lyons, 2016; Savard, Laberge, Gauthier, Ivers, & Bergeron, 1998; Wouters, Booyesen, Ponnet, & Baron Van Loon, 2012). Por tanto, y pese a posibles diferencias culturales que puedan afectar al desarrollo de síntomas ansiosos y depresivos, parece que el diagnóstico de VIH sigue siendo una experiencia altamente adversa alrededor del mundo.

Además, como ya hemos mencionado, los estudios de la parte 2 mostraron que las PVVIH utilizan estrategias de afrontamiento de un modo diferente a las personas con enfermedad oncológica, los padres de hijos con cáncer y la población general. Asimismo, la relación entre resiliencia y afrontamiento también fue diferente en esta población. En consecuencia, el diagnóstico de VIH no solo es un contexto significativamente amenazador, sino que también es específico en cuanto a la forma en que las personas lo afrontan y logran alcanzar resultados de resiliencia.

6.2.5. Resiliencia, crecimiento postraumático, ansiedad y depresión tras el diagnóstico de VIH

Como ya hemos señalado, casi un tercio de participantes presentaron síntomas significativos de ansiedad y depresión. Pese a que el diagnóstico de HIV es un evento adverso susceptible de causar psicopatología, nuestros resultados también han proporcionado apoyo a las afirmaciones presentes en la literatura sobre trauma acerca de que tanto la resiliencia como el crecimiento postraumático (CPT) son fenómenos comunes tras sufrir un evento potencialmente traumático como es recibir un diagnóstico de VIH (e.g., Bonanno, 2004; Tedeschi & Calhoun, 1995; Vera Poseck, Carbelo Baquero, & Vecina Jiménez, 2006). Concretamente, más de la mitad de los participantes puntuaron por encima del punto medio de

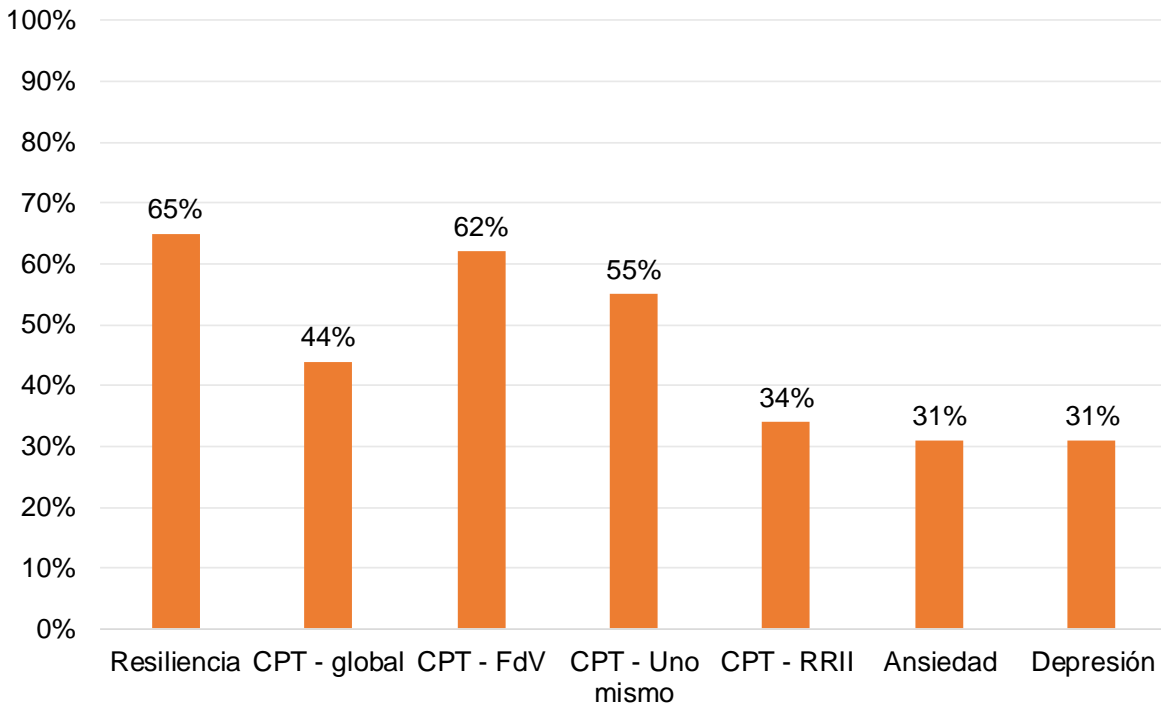


Figura 6.4. Tasas de resiliencia, CPT, ansiedad y depresión.

Nota. $N = 118$. CPT = crecimiento postraumático. FdV = filosofía de vida. RRII = relaciones interpersonales.

la escala de resiliencia, reportando por tanto una resiliencia moderada o mayor. Además, en cuanto al CPT, más de la mitad de los participantes indicaron haber tenido cambios como mínimo moderados en su filosofía de vida y en sí mismos y más de un tercio los tuvo en sus relaciones interpersonales y en el CPT global. La Figura 6.4 muestra las proporciones de cada consecuencia psicológica halladas en nuestra muestra.

Uno de los objetivos de esta disertación consistía en examinar la asociación entre las consecuencias psicológicas positivas y negativas posteriores al trauma. Desde el comienzo de esta tesis, hemos contemplado la resiliencia y el CPT como dos consecuencias o resultados positivos y diferentes entre sí. Hemos indicado que la literatura los ha mezclado habitualmente, en ocasiones viendo el CPT como superior, y que la relación entre ambos estaba poco clara (Westphal & Bonanno, 2007). Concretamente, los investigadores en ocasiones han considerado que los individuos resilientes viven la adversidad con menos estrés que otros, y por lo tanto no se implicarían en las conductas de dotación de significado que suelen asociarse con el CPT

(Westphal & Bonanno, 2007). Sin embargo, los estudios de la parte 4 de esta tesis no han encontrado ninguna relación significativa entre resiliencia y CPT, sugiriendo así que estos constituyen resultados independientes tras un evento adverso. Esto implicaría que puede que las personas que se encuentran en la senda que lleva a la resiliencia estén llevando a cabo conductas de dotación de significado o puede que no lo estén haciendo, con independencia de lo mal que lo estén pasando. Por consiguiente, ambas consecuencias podrían darse en el mismo individuo y ambas podrían promoverse mediante intervenciones psicológicas.

Por su parte, la ansiedad y la depresión estuvieron positivamente relacionadas, lo cual es consistente con abundante literatura sobre PVVIH (Herrero et al., 2003; Savard et al., 1998; Wouters et al., 2012). La resiliencia, a su vez, se asoció negativamente con la ansiedad y la depresión, lo que también es congruente con estudios previos (Fredrickson, Tugade, Waugh, & Larkin, 2003; Maestas, Sherer, Sander, Tulsy, & Nick, 2014; Seligman & Csikszentmihalyi, 2000; Skrove, Romundstad, & Indredavik, 2013). Por último, el CPT no se relacionó con ansiedad, y únicamente la dimensión de cambios positivos en uno mismo mostró una correlación con depresión, que fue débil y negativa. Este resultado coincide con lo encontrado en un meta-análisis que examinó las asociaciones entre CPT, ansiedad y depresión (Helgeson, Reynolds, & Tomich, 2006). La Figura 6.5 indica las relaciones encontradas en esta tesis entre las consecuencias positivas y negativas ocho meses tras el diagnóstico de VIH.

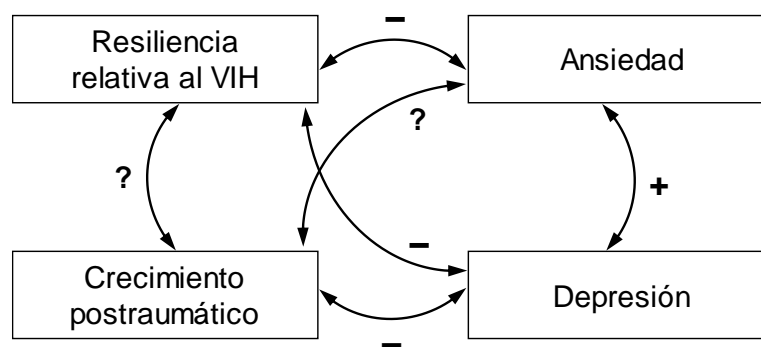


Figura 6.5. Asociaciones entre consecuencias postraumáticas positivas y negativas.

Nota. Las relaciones positivas están representadas con el signo "+", las negativas con el signo "-", y la ausencia de relación con el signo "?".

6.2.6. El rol del estrés percibido, el estigma internalizado y las estrategias de afrontamiento como predictores de salud mental tras el diagnóstico de VIH

Los estudios de la cuarta parte de esta tesis mostraron que el estrés percibido, el estigma internalizado y las estrategias de afrontamiento predecían proporciones significativas de resiliencia relativa al VIH, CPT, ansiedad y depresión. Comenzando por el estrés percibido, un mayor nivel de este predijo una menor resiliencia relativa al VIH y unos niveles mayores de ansiedad y depresión, conforme con la literatura previa (Bonanno et al., 2007; Bonanno, Westphal, & Mancini, 2011; Chaudhury, Bakhla, & Saini, 2016; Remor, 2006). Al contrario, el estrés percibido no emergió como predictor del CPT, lo cual no sigue la línea de estudios anteriores (Helgeson et al., 2006). La Figura 6.6 muestra estas asociaciones.

Respecto a las estrategias de afrontamiento, una menor rumiación y una mayor expresión emocional predijeron una mayor resiliencia. Mayores niveles de auto-culpa predijeron mayor depresión y ansiedad y también un mayor CPT en el dominio de cambios positivos en la filosofía de vida. Un mayor uso de la estrategia de pensar en positivo predijo niveles menores

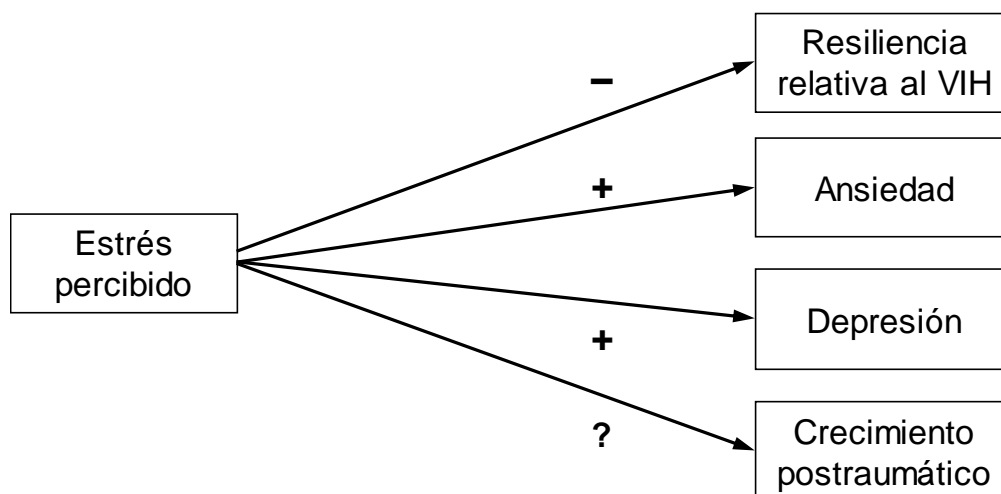


Figura 6.6. Predicción de salud mental a partir de estrés percibido.

Nota. Las relaciones positivas están representadas con el signo “+”, las negativas con el signo “-”, y la ausencia de relación con el signo “?”.

de ansiedad y depresión y también cambios mayores en la filosofía de vida. Un uso elevado de la estrategia de evitar pensar predijo una menor ansiedad y depresión y también un mayor cambio positivo de CPT con respecto a uno mismo. Por último, un alto uso de la estrategia de buscar ayuda predijo cambios positivos mayores en uno mismo y en las relaciones interpersonales. Estas relaciones se muestran en la Figura 6.7.

Mientras que algunas de estas asociaciones eran esperables (p. ej., pensar en positivo relacionado con menor ansiedad y depresión; Moskowitz, Hult, Bussolari, & Acree, 2009), algunas no lo fueron, como la que hubo entre la auto-culpa y un mayor CPT o la que tuvo evitar pensar con menores niveles de ansiedad y depresión y con mayor CPT. Estos resultados proporcionan apoyo a la idea de que las estrategias de afrontamiento no son intrínsecamente adaptativas o desadaptativas, sino que pueden resultar adaptativas o desadaptativas en función de las circunstancias concretas (DeGenova, Patton, Jurich, & MacDermid, 1994; Moskowitz et al., 2009). De hecho, el uso de estrategias que conllevarían una menor efectividad en contextos normativos puede promover la adaptación exitosa en aquellos individuos expuestos a situaciones potencialmente traumáticas (Bonanno, 2005; Westphal & Bonanno, 2007).

De la misma forma, parece que la elasticidad comportamental (es decir, la flexibilidad en la forma de afrontar la adversidad) podría conducir a mejores resultados, ya que resultaría más fácil ajustar las estrategias de afrontamiento al contexto adverso específico (Westphal & Bonanno, 2007). Por ejemplo, mientras que la expresión emocional se relacionó con una mayor resiliencia en los estudios de la cuarta parte con PVVIH recién diagnosticadas, ocurrió lo contrario en los estudios de la segunda parte con las PVVIH, donde el tiempo desde el diagnóstico no fue un factor. Por tanto, parece que esta estrategia resulta efectiva para los recién diagnosticados, pero que podría tornarse inefectiva con el tiempo, de acuerdo con otros estudios que enfatizan la importancia del tiempo (Holt et al., 1998).

En cuanto al estigma internalizado, este predijo de forma directa una menor resiliencia, de forma congruente con la literatura (Earnshaw, Bogart, Dovidio, & Williams, 2013), y hubo asimismo un efecto de predicción indirecta a través de la rumiación. El estigma internalizado también predijo de forma directa un mayor CPT en el dominio de relaciones interpersonales y, de forma indirecta, un mayor CPT en la filosofía de vida (a través de la auto-culpa) y en uno mismo (a través de evitar pensar). Esta relación positiva con el CPT va en contra de algunos estudios anteriores (Murphy & Hevey, 2013; Willie et al., 2016) y hemos hipotetizado que, en ciertos contextos culturales, es posible que el diagnóstico de VIH no sea lo suficientemente traumático como para causar un trastorno considerable a las creencias de uno mismo sobre el mundo (Janoff-Bulman, 2004) y desencadenar el CPT. En tal caso, el estrés adicional generado por el estigma internalizado podría permitir el desarrollo del CPT.

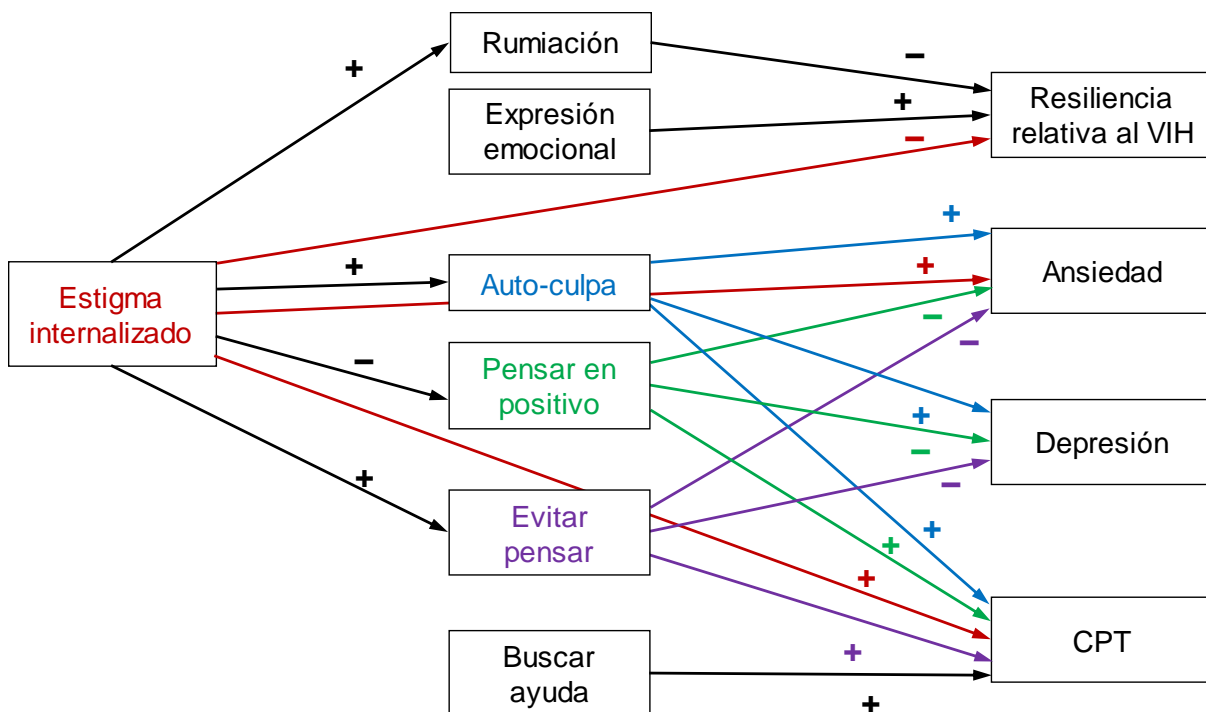


Figura 6.7. Predicción de salud mental a partir del estigma internalizado y las estrategias de afrontamiento.

Nota. Las relaciones positivas están representadas con el signo “+” y las negativas con el signo “-”. Se ha aplicado un coloreado para facilitar la comprensión de las áreas más densas. CPT = crecimiento postraumático.

Con respecto a las consecuencias postraumáticas negativas, un mayor estigma internalizado predijo mayor ansiedad de forma directa, y también predijo de manera indirecta mayor ansiedad y depresión generales a través de auto-culpa, pensar en positivo y evitar pensar. Estos resultados van en la línea de la literatura existente (Heywood & Lyons, 2016; Willie et al., 2016). Además, como se ha mencionado, un mayor estigma se asoció con mayores niveles de rumiación, auto-culpa y evitar pensar y con menores niveles de pensar en positivo. Estos resultados son congruentes con evidencias existentes de que el estigma altera las conductas de afrontamiento (Hatzenbuehler, Phelan, & Link, 2013; Rueda et al., 2012). La Figura 6.7 muestra las relaciones entre el estigma internalizado, el afrontamiento y las consecuencias postraumáticas.

6.2.7. El rol de la resiliencia pasada percibida en la predicción de salud mental tras el diagnóstico de VIH

Los estudios de la cuarta parte de esta disertación indicaron que la percepción subjetiva de resultados de resiliencia tras adversidades pasadas relacionadas con la salud fue una variable relevante para la predicción de las consecuencias posteriores de resiliencia, CPT, ansiedad y depresión en PVVIH recién diagnosticadas. Por tanto, y de acuerdo con la literatura sobre resiliencia en PVVIH y en adultos con diferentes condiciones de salud (Dale et al., 2014; Maestas et al., 2014; Murphy & Hevey, 2013; Yu et al., 2014), nuestros análisis mostraron que medir la resiliencia subjetiva resulta útil para la predicción de la salud mental de las PVVIH, en este caso tras la recepción del diagnóstico positivo de VIH.

Un mayor grado de resiliencia pasada percibida predijo de forma directa menores niveles posteriores de ansiedad y depresión. Hubo también un efecto de predicción indirecta a través del estigma internalizado y las estrategias de auto-culpa, pensar en positivo y evitar pensar. En general, el efecto indirecto también predijo menor ansiedad y depresión. En el caso de la resiliencia relativa al VIH y el CPT, la resiliencia pasada percibida solo tuvo un efecto de

predicción indirecta. Predijo en general una mayor resiliencia posterior a través del estigma internalizado, la rumiación y la expresión emocional. También predijo un CPT más bajo a través del estigma internalizado y de las estrategias de auto-culpa, pensar en positivo y evitar pensar. La Figura 6.8 muestra las principales relaciones directas e indirectas.

Aunque se hace necesario realizar más estudios para establecer el valor predictivo de evaluar la resiliencia pasada subjetiva, este hallazgo tiene importantes implicaciones para la práctica clínica que busque predecir la salud mental en PVVIH recién diagnosticadas. Tales implicaciones serán descritas en la sección 6.3.2 de esta sexta parte de la disertación.

6.2.8. La importancia del apoyo social

La cuarta parte de esta tesis investigó también el apoyo social como variable relevante para las PVVIH. Nuestros resultados han indicado que, en general, los participantes informaron de niveles de apoyo social moderados a altos. Sin embargo, nuestros datos también han mostrado que la satisfacción con el apoyo social y las expectativas del mismo se redujeron tras el diagnóstico, de forma coherente con la literatura previa (Feigin, Sapir, Patinkin, & Turner, 2013). Esto pone de relieve el estrés adicional que las PVVIH tienen que soportar y la

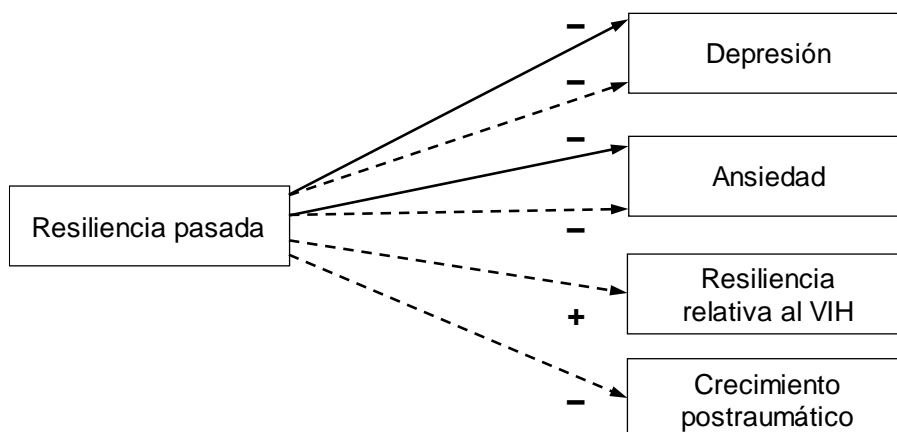


Figura 6.8. Predicción directa e indirecta de salud mental a partir de la resiliencia pasada percibida.

Nota. Las relaciones positivas están representadas con el signo “+” y las negativas con el signo “-”. Las relaciones directas están representadas mediante líneas continuas y las indirectas mediante líneas discontinuas.

disminución de los recursos sociales de los que disponen para hacerle frente. La Figura 6.9 muestra la evolución temporal del apoyo social proveniente de diferentes fuentes.

En torno a ocho meses tras el diagnóstico, la satisfacción más alta de las PVVIH fue con el apoyo social del personal sanitario, seguido del apoyo social de amigos y del de parejas sentimentales o sexual (véase la Figura 6.9). La relevancia de estas fuentes de apoyo social ha sido anteriormente identificada en la literatura (Gohain & Halliday, 2014; Heywood & Lyons, 2016; Pichon, Rossi, Ogg, Krull, & Griffin, 2015; Remor, 2002). Este resultado subraya el importante papel que pueden jugar los profesionales sanitarios a la hora de ofrecer un valioso apoyo a las PVVIH recién diagnosticadas en unos momentos en que el apoyo de otras fuentes puede ser escaso. Además, el apoyo de las parejas permaneció inalterado a través del tiempo (véase la Figura 6.9), por lo que constituye una fuente estable de apoyo social que puede ser fundamental para el bienestar de las PVVIH.

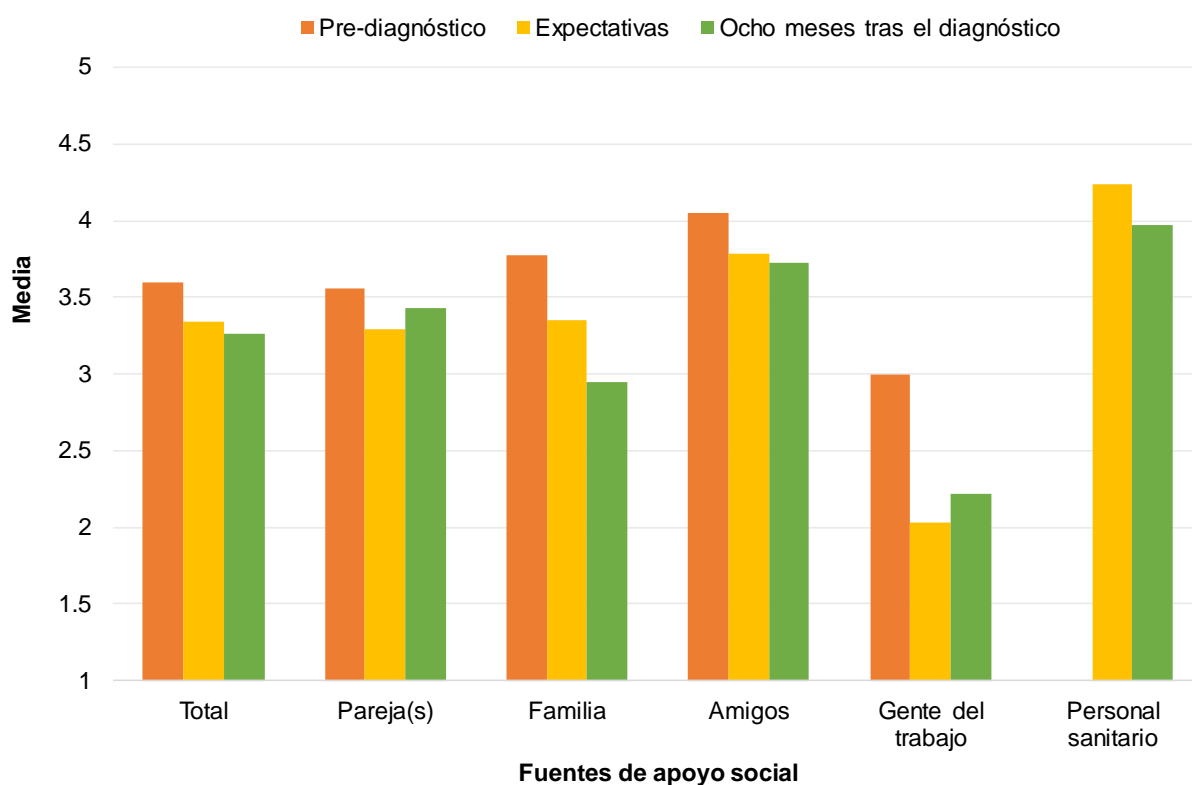


Figura 6.9. Evolución temporal del apoyo social de distintas fuentes.

En efecto, tener una pareja estable en torno al momento del diagnóstico fue un predictor significativo de mayor satisfacción con el apoyo social algunos meses después, de manera consistente con la literatura (Burnham et al., 2016; Rao et al., 2012). Otros predictores significativos de mayor satisfacción posterior con el apoyo social fueron un mayor afrontamiento por acercamiento, un menor afrontamiento por evitación y un mayor grado de comunicación del diagnóstico, todos ellos en línea con otros estudios (Heywood & Lyons, 2016; Kang & Suh, 2015; Pichon et al., 2015; R. Smith, Rossetto, & Peterson, 2008; Yu et al., 2014). Estas relaciones de predicción se muestran en la Figura 6.10.

Por otra parte, un mayor apoyo social se relacionó en nuestro estudio con mejor salud mental. Concretamente, un mayor apoyo social pre-diagnóstico y unas expectativas mayores predijeron menor ansiedad y depresión posteriores. El apoyo social ocho meses tras el diagnóstico también correlacionó negativamente con ansiedad y depresión y, además, estuvo positivamente asociado a la resiliencia relativa al VIH. Estos fueron resultados esperados (Heywood & Lyons, 2016; Kang & Suh, 2015; Rao et al., 2012; Vyavaharkar et al., 2010; Yu et al., 2014), a diferencia de la falta de asociación entre CPT y apoyo social, la cual fue contraria

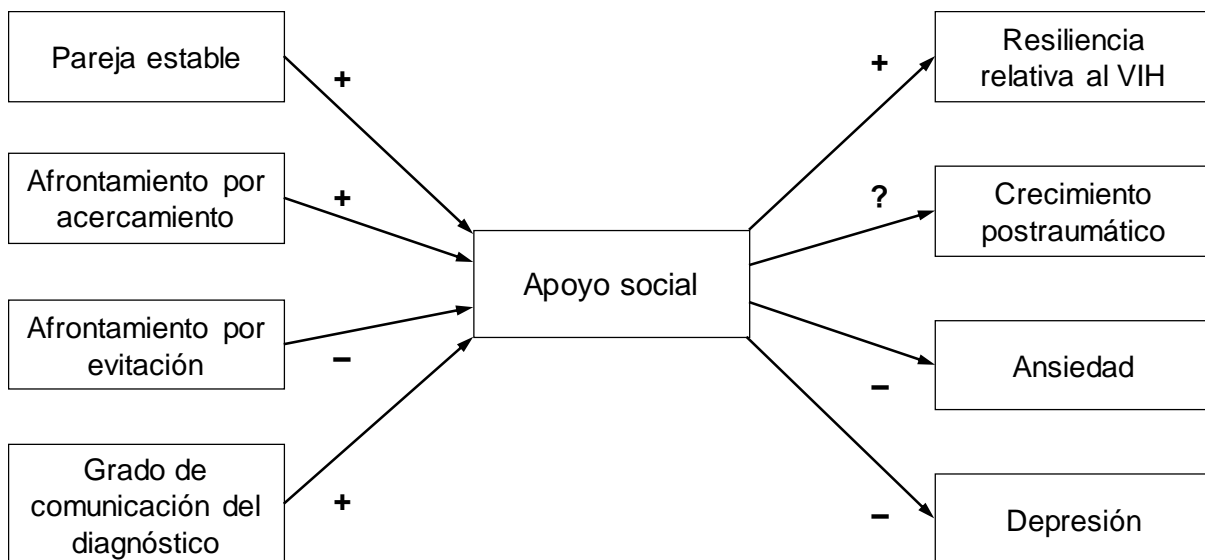


Figura 6.10. Predictores del apoyo social y correlatos de salud mental.

Nota. Las relaciones positivas están representadas con el signo "+", las negativas con el signo "-", y la ausencia de relación con el signo "?".

a lo hallado en investigaciones anteriores con PVVIH (Helgeson & Lopez, 2010; Littlewood, Vanable, Carey, & Blair, 2008; Luszczynska, Sarkar, & Knoll, 2007; Siegel & Schrimshaw, 2007; Yu et al., 2014). Algunas limitaciones pueden explicar este hallazgo inesperado (p. ej., el instrumento de medida utilizado) y profundizaremos en ellas en la sección 6.4 de esta sexta parte. La Figura 6.10 refleja las relaciones encontradas entre apoyo social y salud mental.

6.2.9. Resumen de las relaciones entre las principales variables de esta disertación

Con objeto clarificador, incluimos en las Figuras 6.11 y 6.12 dos diagramas que resumen los principales hallazgos de esta disertación.

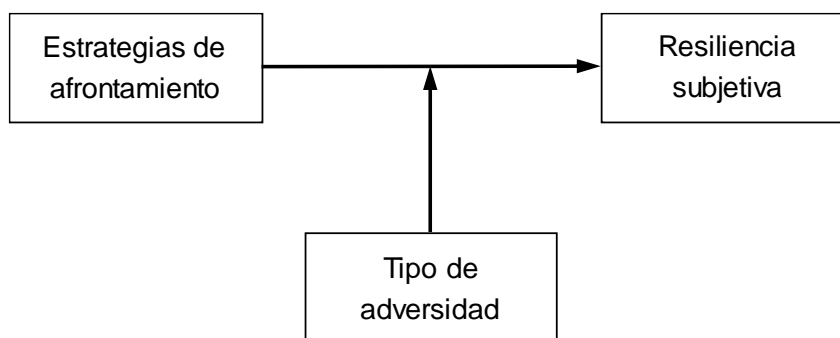


Figura 6.11. Diagrama resumen de las principales relaciones entre las variables exploradas en la segunda parte de esta disertación.

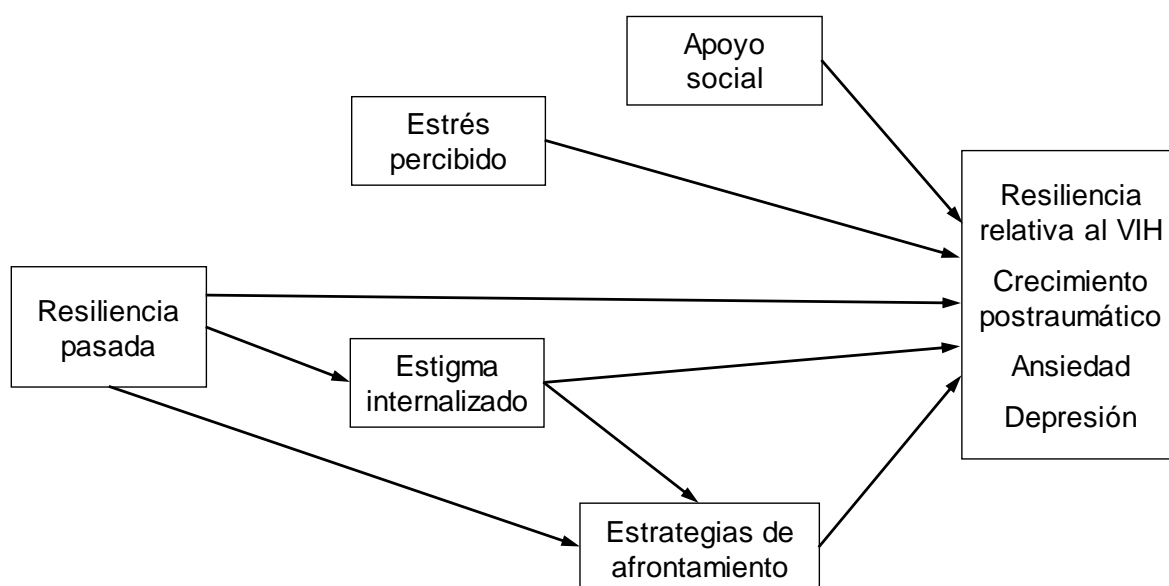


Figura 6.12. Diagrama resumen de las principales relaciones entre las variables exploradas en la cuarta parte de esta disertación.

6.3. IMPLICACIONES PARA LA PRÁCTICA

Los hallazgos obtenidos en esta disertación tienen algunas implicaciones teóricas y prácticas para la evaluación, la prevención y la intervención psicológicas. Presentamos ahora dichas implicaciones en las siguientes tres subsecciones.

6.3.1. Implicaciones para la evaluación

Los resultados de esta disertación conllevan algunas implicaciones para la evaluación psicológica. En la segunda parte de esta tesis, proveímos a la comunidad científica hispanohablante de instrumentos validados para evaluar resiliencia y afrontamiento en varias muestras expuestas a eventos traumáticos. Concretamente, diseñamos el SSRQA y el SCQA con objeto de tomar en cuenta la naturaleza de la situación estresante y los análisis realizados indicaron que las demandas del entorno en efecto juegan un papel importante. Además, el SCQA fue acortado y validado en PVVIH en la tercera parte de esta disertación. La información que proporcionan estos instrumentos situados puede ser más precisa que la proporcionada por medidas más generales (como la Brief Resilience Scale) y, por tanto, recomendamos la utilización de los primeros para la evaluación tanto en el ámbito investigador como en el clínico. Sin embargo, somos conscientes de que es necesario realizar más investigaciones sobre las propiedades psicométricas de estos instrumentos.

Siguiendo con el afrontamiento, los estudios de la cuarta parte señalaron que ciertas estrategias estuvieron relacionadas con la salud mental y algunas otras no lo estuvieron. Este resultado enfatiza la utilidad de utilizar clasificaciones de afrontamiento de primer orden. Por ejemplo, la rumiación y la expresión emocional se asociaron con la resiliencia relativa al VIH, pero no lo hicieron con la ansiedad, la depresión o el CPT. Por el contrario, la auto-culpa, pensar en positivo y evitar pensar se relacionaron con la ansiedad, la depresión y el CPT, pero no con la resiliencia. Estos matices podrían no haberse obtenido de haber utilizado una

clasificación como la de acercamiento/evitación. Por consiguiente, parece recomendable no reducir las complejidades del afrontamiento mediante categorizaciones bidimensionales.

En la tercera parte de esta disertación proporcionamos dos nuevas escalas breves a los investigadores y profesionales clínicos para evaluar el estigma internalizado y el miedo a comunicar el diagnóstico. Estas escalas tuvieron unas propiedades psicométricas excelentes y estuvieron relacionadas con la salud mental a lo largo de las partes 3 y 4. Concretamente, el estigma internalizado ha resultado ser una variable cardinal en el estudio de la salud mental de las PVVIH, por lo que esta variable clave debería ser incluida en las evaluaciones de investigadores y profesionales clínicos. Informamos asimismo en esta tercera parte acerca de la interpretación del PTGI (la escala más utilizada para la evaluación del CPT). Si bien es recomendable replicar nuestros resultados, los investigadores y profesionales clínicos deberían considerar la utilización de los 11 ítems y las tres dimensiones encontradas en esta tesis de cara a la evaluación e interpretación del CPT en esta población.

Por último, en relación a los estudios de la cuarta parte, el modelado de ecuaciones estructurales ha probado ser de marcada utilidad para la examinación de modelos que incluyen gran cantidad de variables y presentan relaciones complejas. Por tanto, el uso del modelado de ecuaciones estructurales constituye un método de análisis de los datos deseable para este tipo de investigaciones, dado que tiene mucho que ofrecer.

6.3.2. Implicaciones para la prevención

Nuestros hallazgos también tienen algunas implicaciones para la prevención del desarrollo de trastornos mentales. Como han mostrado los estudios de la cuarta parte, hubo ciertas variables que fueron medidas poco tiempo después del diagnóstico y que ayudaron a predecir los niveles de resiliencia, CPT, ansiedad y depresión seis meses después. Medir la percepción de resultados de resiliencia pasados relacionados con la salud, el estrés percibido, el estigma internalizado, el apoyo social pre-diagnóstico y las expectativas del mismo puede

contribuir a identificar aquellas PVVIH recién diagnosticadas que están en riesgo de desarrollar trastornos de ansiedad o depresión. Tal identificación temprana permitiría, a su vez, la derivación a un profesional de la salud mental y la implementación de programas de prevención dirigidos a modificar la senda del trastorno mental hacia una senda de adaptación positiva.

Además, evaluar dichas variables también permitiría identificar a los individuos con más posibilidades de lograr un resultado de resiliencia. En este caso, el personal sanitario podría ayudar a las PVVIH a ser más conscientes de lo bien que están reaccionando y de por qué, con el objeto de promover una consecución activa de la adaptación positiva. Por consiguiente, las variables de percepción de resiliencia pasada relacionada con la salud, estrés percibido, estigma internalizado, apoyo social pre-diagnóstico y expectativas de apoyo social deberían evaluarse de forma sistemática en PVVIH recién diagnosticadas, de cara a detectar a aquellos en riesgo de desarrollar problemas de salud mental o que estén siguiendo un camino hacia la resiliencia.

6.3.3. Implicaciones para la intervención

Las investigaciones llevadas a cabo en esta disertación ofrecen algunos indicios sobre cómo promover la adaptación positiva en PVVIH recién diagnosticadas. Como han mostrado nuestros estudios, el estrés, el estigma internalizado, el afrontamiento y el apoyo social son elementos fundamentales que pueden influir en el logro de la resiliencia y de otras consecuencias postraumáticas. Por tanto, proporcionaremos aquí una orientación para la intervención basada en estos elementos. En nuestra opinión, tales intervenciones no deberían ser aplicadas únicamente a PVVIH que ya hayan desarrollado psicopatología, sino que algunas de ellas podrían también proporcionarse de forma preventiva a aquellos que estén siguiendo una trayectoria de recuperación típica o que estén en riesgo de desarrollar psicopatología (Luthar, 2006). De esa forma, el riesgo de sufrir consecuencias postraumáticas negativas se vería minimizado, al tiempo que aumentarían las posibilidades de llegar a resultados de

resiliencia o CPT. A continuación, presentamos las recomendaciones específicas para realizar tales intervenciones.

La primera variable sobre la que intervenir sería el estrés en torno al momento del diagnóstico. Para reducir los niveles de estrés, debería proporcionarse a las PVVIH información relevante y oportuna acerca de los aspectos de la infección por VIH, la efectividad de los tratamientos para la supresión virológica, la esperanza de vida normal, etc. Asimismo, debería identificarse cualquier creencia errónea que tenga la persona y proporcionarle información correcta para corregirla. Concretamente, deberían abordarse las expectativas relativas a la facilidad para seguir el tratamiento y a la eficacia de este (Johnson, Dilworth, Stephens, Lum, & Neilands, 2011). Además, sería de gran utilidad ofrecer a las PVVIH una orientación anticipatoria sobre los siguientes pasos a seguir en la asistencia sanitaria que reciben (p. ej., pruebas clínicas, inicio del tratamiento antirretroviral, etc.)

Debería promoverse también la participación e implicación activa de las PVVIH en su propio cuidado (empoderamiento en el cuidado de la salud; Johnson, Rose, Dilworth, & Neilands, 2012; Johnson, Sevelius, Dilworth, Saberi, & Neilands, 2012), ya que los pacientes con una buena implicación tienden a estar mejor informados, aceptar mejor su condición crónica, sentirse responsables del cuidado de su propia salud, tener menos preocupaciones y tolerar mejor la incertidumbre (Christopoulos et al., 2013). Por último, se debería permitir y animar a las PVVIH a expresar sus emociones y preocupaciones, las cuales deberían ser escuchadas, reconocidas y abordadas.

Las actuaciones descritas tienen por objetivo facilitar la expresión emocional y reducir la incertidumbre, preocupación e indefensión de la persona en los momentos cercanos al diagnóstico. Desde nuestro punto de vista, estas intervenciones deberían llevarse a cabo en todos los casos y sería mejor hacerlo a través de los profesionales con los que las PVVIH interactúan a diario (p. ej., médicos, enfermeros, etc.), ya que sería un entorno más conocido

para ellas. Por tanto, sería necesario el entrenamiento del personal sanitario como paso previo para realizar dichas intervenciones. Tal entrenamiento debería incluir los siguientes aspectos: 1) cómo proporcionar asistencia sanitaria en el contexto del trauma (p. ej., saber cuáles son las reacciones más comunes en PVVIH), 2) habilidades de comunicación en el entorno sanitario, 3) romper las barreras necesarias para poder promover la implicación de las PVVIH en el cuidado de su propia salud y 4) saber qué informaciones reducen el estrés y que por ello es conveniente dar a los pacientes.

Otras variables sobre las que se puede actuar son el estigma internalizado, el miedo a la comunicación del diagnóstico, las conductas de comunicación del diagnóstico y el apoyo social. Para reducir el estigma internalizado y el miedo a comunicar el diagnóstico y para incrementar la comunicación del mismo y el apoyo social, las intervenciones deberían abordar y ayudar a poner en entredicho las creencias sobre las que se asienta el estigma, a saber: la responsabilidad por haber contraído el virus, el VIH como condición mortal y altamente contagiosa que tiene un declive físico muy aparente, la homofobia, el consumo de drogas y la promiscuidad sexual. Estas actuaciones deberían centrarse en reducir el estigma internalizado no solo por su relación directa con la resiliencia, sino también como medio de reducir el miedo a comunicar el diagnóstico, promover la comunicación de este y el afrontamiento adaptativo y ganar apoyo social.

Estas intervenciones podrían llevarse a cabo en formatos tanto individuales como grupales, en función de las necesidades y preferencias de la persona. De hecho, ambos formatos son compatibles y podrían ser útiles para abordar diferentes aspectos. Por un lado, es sabido que el formato de grupo de apoyo ayuda a las PVVIH a lidiar con el estigma (Lee, Kochman, & Sikkema, 2002), y también ayuda a reducir el aislamiento social, proporciona oportunidades para practicar la comunicación del diagnóstico y constituye una fuente de apoyo social en sí misma (Paudel & Baral, 2015).

Por otro lado, el formato individual permite llevar a cabo las actuaciones con todos los pacientes durante el curso natural de la consulta médica. Además, los profesionales sanitarios pueden también constituir una importante fuente de apoyo para las PVVIH y ayudarles a superar su estigma internalizado y a trabajar hacia la comunicación de su estado serológico. A tal fin, es importante que los profesionales sanitarios clarifiquen sus valores y actitudes, de forma que puedan crear espacios de asistencia sanitaria seguros y sin estigma (p. ej., sin brechas en la confidencialidad, actitudes negativas, trato diferente, miedos de infección no realistas o niveles de aislamiento innecesarios; Brouard & Wills, 2006). Por lo tanto, puede ser necesario realizar un trabajo previo con el personal sanitario con ánimo de 1) ayudarles a cuestionar las creencias estigmatizadoras que puedan tener y 2) proporcionarles estrategias para que puedan ayudar a las PVVIH a poner en entredicho tales creencias.

Nos gustaría puntualizar que nos hemos centrado en el estigma internalizado por ser una variable susceptible de ser modificada a corto plazo. Sin embargo, reducir el estigma por VIH en general debería ser un objetivo en todos los entornos sanitarios y también fuera de ellos. La última estrategia de reducción del VIH de ONUSIDA, la estrategia “90–90–90”, ha enfatizado que eliminar el estigma y la discriminación resulta esencial para conseguir los objetivos que ha marcado para 2020: diagnosticar al 90% de las PVVIH, que el 90% estén con tratamiento antirretroviral, y que el 90% logren la supresión viral (Joint United Nations Programme on HIV/AIDS, 2014).

Por último, deberían igualmente implementarse intervenciones destinadas a modificar las estrategias de afrontamiento, ya que nuestros estudios han mostrado que el afrontamiento puede influir en la resiliencia relativa al VIH y en otras consecuencias posteriores al trauma. Por tanto, modificar las estrategias utilizadas para afrontar las adversidades puede ayudar a alcanzar una adaptación positiva. Un programa de intervención de estas características debería promover el uso de las estrategias de expresión emocional, pensar en positivo, evitar pensar y

buscar ayuda, y reducir la utilización de la rumiación y la auto-culpa. Como señalamos anteriormente, la efectividad de una determinada estrategia de afrontamiento puede variar en función del tipo de situación estresante; por ejemplo, la expresión emocional mostró ser efectiva en los estudios de la cuarta parte con individuos recién diagnosticados, mientras que resultó desadaptativa para las PVVIH de los estudios de la segunda parte. En consecuencia, debería promoverse también la flexibilidad en el uso de las diferentes estrategias de afrontamiento y los profesionales deberían explicar a las PVVIH qué estrategias resultas más adecuadas para cada momento y circunstancia.

Una posible manera de implementar esta intervención es proporcionar un entrenamiento en afrontamiento, lo cual ha mostrado ser más efectivo en PVVIH que la mera recepción activa de información y que estar en una lista de espera (Chesney, Chambers, Taylor, Johnson, & Folkman, 2003). Pensamos que la mejor manera de aplicar esta intervención sería a través de un profesional de la salud mental (p. ej., un psicólogo) y una vez que el paciente haya sido derivado debido a un posible riesgo de desadaptación. Adicionalmente, este tipo de intervenciones podrían igualmente implementarse durante el desarrollo de un grupo de apoyo, de forma que aquellos individuos que están activamente implicados en mejorar su bienestar puedan beneficiarse de ellas.

Finalmente, nos gustaría señalar que las posibles intervenciones que acabamos de esbozar tendrían una mejor implementación a través del esfuerzo coordinado de todos los profesionales de la salud involucrados, incluyendo médicos, enfermeros y psicólogos. Aunque es cierto que un enfoque interdisciplinar como este requiere de más esfuerzo que uno más modesto, las PVVIH se enfrentan a numerosos estresores debido a su infección por VIH y presentan altas tasas de angustia y sufrimiento. Es por ello que se hace crucial desarrollar e implementar intervenciones con una buena estructuración que permitan a las PVVIH mantener un buen funcionamiento tras la recepción de un diagnóstico positivo de VIH.

6.4. LIMITACIONES DE ESTA TESIS

La presente disertación está sujeta a varias limitaciones que es necesario considerar, dado que restringen la generalización de los resultados y suponen retos a superar por parte de investigaciones futuras. Las siguientes subsecciones presentan las limitaciones organizadas en función de los elementos implicados: el diseño de la investigación, las variables estudiadas, los instrumentos de medida, la recogida de datos y la representatividad de las muestras.

6.4.1. Diseño de la investigación

La primera limitación de esta disertación (y una de las más importantes) tiene que ver con el diseño transversal empleado en los estudios de las partes 2 y 3. Debido a la naturaleza correlacional de los datos, no se ha podido establecer una relación de causalidad, por lo que no podemos afirmar que una variable dada preceda a otra. Por ejemplo, el hallazgo sobre la influencia que el tipo de situación adversa tiene sobre el uso de estrategias de afrontamiento y sobre la resiliencia es una hipótesis, como también lo es el resultado sobre la contribución de las estrategias de afrontamiento a la resiliencia. Otro ejemplo de esto lo constituye el descubrimiento relativo a la relación diferente que existe entre afrontamiento y resiliencia en función del tipo de población. Nuestros datos fueron compatibles con estas hipótesis, lo cual ofrece expectativas razonables sobre su posible validez, pero se hace necesario poner a prueba dichas hipótesis mediante diseños longitudinales para estudiar la posible causalidad.

Tratamos de superar esta limitación en los estudios de la cuarta parte, lo cual conseguimos solo en parte. Utilizamos un diseño longitudinal que incluyó evaluaciones en dos momentos con un intervalo de seis/siete meses entre uno y otro. Las restricciones relacionadas con el marco temporal de esta tesis impidieron la inclusión de más evaluaciones y de seguimientos a más largo plazo. Dado que solo se incluyeron dos evaluaciones, algunas variables hubieron de ser medidas de forma retrospectiva (p. ej., la resiliencia subjetiva pre-

diagnóstico, el afrontamiento). Esto es algo que puede afectar a la fiabilidad de las respuestas proporcionadas. Además, es posible que una persona no se haya enfrentado a un tipo concreto de estresor en el pasado (p. ej., un problema de salud serio), por lo que la validez de la información recogida sobre resiliencia pasada y afrontamiento referido a dicho estresor podría verse deteriorada. Por último, la dificultad para acceder a los participantes y para mantenerlos en el estudio en unos momentos tan delicados para ellos provocó que la muestra tuviera un tamaño menor que las de los estudios de las partes anteriores. Esto impidió llevar a cabo análisis multi-grupo para evaluar la validez cruzada de los modelos desarrollados.

6.4.2. Variables estudiadas

La segunda parte de esta tesis giró consistentemente en torno a la resiliencia, el afrontamiento y las relaciones entre ambos, y la tercera parte se ocupó de algunos problemas metodológicos. En es la cuarta parte donde encontramos limitaciones más serias en relación a las variables estudiadas. Hubo muchas variables en esta parte que se estudiaron en relación a la resiliencia (p. ej., estrés percibido, resiliencia pasada percibida, estigma internalizado, apoyo social, afrontamiento, ansiedad, depresión, CPT); no obstante, estas relaciones no se estudiaron en un único modelo que englobara todas las variables.

El primer estudio de esta cuarta parte exploró las relaciones entre las consecuencias psicológicas positivas y negativas y cómo el estrés percibido era capaz de predecirlas. El segundo estudio investigó la forma en que la resiliencia pasada percibida, el estigma internalizado y el afrontamiento podían predecir resiliencia y CPT, y el tercero estudió cómo estas variables predecían ansiedad y depresión. El cuarto estudio se desarrolló en torno al apoyo social, su asociación a la resiliencia y otras consecuencias y su predicción en base a otras variables como estigma y afrontamiento.

Por tanto, esta tesis carece de un modelo que incluya como predictores el estrés percibido, la resiliencia pasada percibida, el estigma internalizado, el afrontamiento y el apoyo

social, y como criterios la resiliencia, el CPT, la ansiedad y la depresión. Un modelo así explicaría mejor las relaciones entre las variables y también informaría mejor acerca de su poder predictivo en relación a la salud mental. Sin embargo, este modelo no pudo ser puesto a prueba en esta tesis, dado que su complejidad hace necesaria una muestra de tamaño mucho mayor que permita llevar a cabo los análisis. Así, la exploración de estas relaciones por separado constituye una limitación de esta tesis.

Otra limitación de nuestra investigación tiene que ver con la exclusión de variables que podrían ayudar a predecir resiliencia y CPT. A modo de ejemplo, la experimentación de emociones positivas relacionadas con el evento traumático (p. ej., gratitud hacia los demás por su ayuda, amabilidad) se ha relacionado con resiliencia y CPT (Fredrickson et al., 2003; Moskowitz, 2010; Vera Poseck et al., 2006).

Otras variables de interés podrían ser la satisfacción con la vida (Limonero, Tomás-Sábado, Fernández Castro, Gómez Romero, & Ardilla Herrero, 2012), la calidad de vida (Buseh, Kelber, Stevens, & Park, 2008; Drewes, Gusy, & von Rügen, 2012; Gakhar, Kamali, & Holodniy, 2013), la percepción de control sobre la salud (Teva, la Paz Bermúdez, Hernández-Quero, & Buela-Casal, 2005), la adherencia e implicación en el cuidado de la salud (Grossman, Purcell, Rotheram-Borus, & Veniegas, 2013; Prado, Lightfoot, & Brown, 2013; Teva et al., 2005) y algunos recursos personales como el optimismo o la esperanza (Murphy & Hevey, 2013; Pellowski, Kalichman, Matthews, & Adler, 2013; Vera Poseck et al., 2006).

El estigma superpuesto sería otro elemento importante a considerar, dado que las PVVIH a menudo son estigmatizadas no solo a causa de su estado serológico, sino también en base a cuestiones de orientación sexual, disconformidad de género, consumo de drogas, historia de encarcelamiento, estatus de inmigrante o profesión relacionada con el trabajo sexual (Earnshaw et al., 2013). La inclusión de un mayor número de variables, por un lado, requeriría de muestras

más grandes capaces de proporcionar suficientes datos para poner a prueba modelos complejos. Esto supondría, además, una mayor carga para los participantes y dificultaría asimismo el mantenimiento de estos en el estudio; pero, por otro lado, aportaría a los investigadores y profesionales clínicos una información muy relevante sobre qué variables son las que tienen un mayor poder predictivo, con claras implicaciones de cara a la intervención.

6.4.3. Instrumentos de medida

Respecto a los instrumentos empleados en esta tesis, todos ellos fueron cuestionarios de auto-informe, lo que puede haber afectado a la calidad o fiabilidad de los datos recogidos. Además, mientras que algunos de esos instrumentos (p. ej., el HADS) han sido ampliamente validados, otras escalas fueron especialmente desarrolladas para nuestros estudios (p. ej., el SSRQA, el SCQA y el SCQA-HIV-SF, la HIV-ISS, la HIV-DCS). Asimismo, nuestros estudios adaptaron la BRS al español y determinaron por primera vez las propiedades psicométricas del PTGI en PVVIH hispanohablantes. En consecuencia, las garantías psicométricas de estos cuestionarios no se pudieron establecer de forma previa a la selección de instrumentos. Aunque tales garantías resultaron adecuadas para los propósitos de nuestros estudios, sería beneficioso su validación adicional en muestras y poblaciones distintas.

En relación a instrumentos específicos, tanto el SSRQA como el SCQA tuvieron en cuenta el papel del tipo de adversidad mediante la inclusión de cinco posibles situaciones adversas. Sin embargo, aunque esto constituye un primer paso en la medición de la interacción persona-situación, el rango de situaciones incluidas es ciertamente limitado, ya que existen muchos más de cinco tipos de posibles adversidades. Además, respecto al afrontamiento, existen otras estrategias que las personas pueden utilizar aparte de las incluidas en el SCQA, como por ejemplo el afrontamiento religioso (p. ej., Pargament & Cummings, 2010). Por lo tanto, sería interesante estudiar cómo el modelo de la interacción persona-situación es aplicable

a otras estrategias de afrontamiento y cómo estas se asocian a la resiliencia en diferentes poblaciones expuestas a traumas.

De forma similar, podrían existir otras dimensiones de CPT que emerjan tras el diagnóstico de VIH y que no hayan sido tenidas en cuenta por el PTGI, el instrumento utilizado en nuestra investigación. Finalmente, aunque el índice utilizado para medir apoyo social en diferentes momentos temporales proporcionó información útil, otras escalas con buenas propiedades psicométricas podrían haber sido una mejor opción (aunque una más larga). Si bien esta tesis se ha esforzado en reducir la carga de los participantes (es decir, la longitud de las evaluaciones), esto ha generado limitaciones.

6.4.4. Recogida de datos

Los procedimientos utilizados para captar el interés de los potenciales participantes y para recoger los datos también pueden haber sesgado los resultados obtenidos. El acercamiento a los participantes a través de internet y la participación de estos mediante el mismo método limitó el acceso a los estudios a únicamente aquellas personas con habilidades de manejo de ordenadores y de internet, limitación que es aplicable a los estudios de la segunda parte en su totalidad y de forma parcial a los estudios de las partes tercera y cuarta.

En cuanto a los estudios de estas dos últimas partes, aquellas personas que no utilizaran redes sociales no tuvieron apenas ocasión de participar en los estudios, lo que podría implicar un sesgo muestral hacia personas vinculadas a algún tipo de comunidad virtual. Por tanto, es posible que los resultados no sean generalizables a las PVVIH más aisladas y estigmatizadas. Algunos participantes de las partes 3 y 4 también provinieron de un centro de salud en Madrid, lo cual alivia hasta cierto punto la limitación relativa a las redes sociales. No obstante, no pudieron participar en los estudios aquellas PVVIH que acudieran a otros centros u hospitales, por lo que los resultados podrían no generalizarse a otros contextos de asistencia sanitaria, especialmente en zonas rurales.

6.4.5. Representatividad de las muestras

Muy relacionada con las limitaciones relativas a la recogida de datos, la representatividad de las muestras también ha traído consigo algunas limitaciones. En relación a los estudios de la segunda parte, se estudió la resiliencia y el afrontamiento respecto a eventos adversos relacionados con cinco áreas: trabajo, relaciones personales cercanas, salud, salud de un ser querido y economía. Se incluyeron en dichos estudios participantes de la población general, personas con condiciones de salud e individuos con hijos con un problema de salud. Si bien se midió el grado en que los participantes habían experimentado adversidades relativas al trabajo, relaciones cercanas y economía (y cómo estos moderaban los resultados obtenidos), no se incluyeron muestras específicas de grupos que experimentaran problemas económicos (p. ej., paro de larga duración), de trabajo (p. ej., sufrir acoso laboral) o de relaciones cercanas (p. ej., atravesar un divorcio), limitación que ha de superarse en futuras investigaciones.

Además, la población general se compuso sobre todo de trabajadores de universidad y de estudiantes, lo cual podría no representar bien a la población general en términos de nivel educativo y socioeconómico. Asimismo, algunas submuestras fueron pequeñas (a saber, las personas con enfermedad oncológica y los padres de hijos con minusvalías o trastornos del desarrollo), por lo que 1) los resultados relativos a estas submuestras pueden haberse visto comprometidos y 2) no fue posible estudiar las diferencias entre personas con diferentes condiciones específicas (p. ej., los padres de hijos con cáncer versus los de hijos con minusvalías).

En relación a los estudios de las partes 3 y 4, en estos se incluyó a participantes provenientes de asociaciones y grupos a través de internet, lo que como ya se ha discutido puede implicar algún tipo de sentido de comunidad y puede limitar la generalización de los resultados para el caso de las PVVIH que no tienen tales contactos a través de internet. También se incluyó a participantes por medio de un centro de salud especializado en infecciones de transmisión sexual, lo cual también puede limitar la generalizabilidad de los resultados, ya que

un centro especializado es probablemente diferente de otros centros (por ejemplo, profesionales altamente cualificados y especializados, conocimientos muy actualizados, disponibilidad de grupos de apoyo en el propio centro...).

Además, los hallazgos presentados en las partes 3 y 4 se basaron en datos sobre PVVIH de España y Latinoamérica, lo cual impide la generalización de los resultados a los no hispanohablantes. Igualmente, existen diferentes contextos culturales y sistemas de salud entre diferentes países dentro del conjunto hispanohablante y, por ello, los resultados podrían ser diferentes si se estudiaran muestras nacionales (Bonanno, Westphal, & Mancini, 2012). Asimismo, las muestras de estos estudios se compusieron en su gran mayoría de hombres, por lo que los resultados no deberían generalizarse a otros géneros sin antes haber sido replicados.

Finalmente, existe un sesgo de autoselección que es aplicable a todos los estudios de esta disertación. Es posible que aquellos que accedieron a participar estuvieran altamente motivados, y podría ser que los más motivados sean a la par los que más posibilidades tienen de alcanzar resultados de resiliencia. Por tanto, puede que los hombres y mujeres que participaron difieran de manera significativa de aquellos que prefirieron no participar, lo cual limitaría nuevamente la generalización de resultados. Es necesario que nuevas investigaciones aborden estas limitaciones y repliquen los resultados en muestras más representativas.

6.5. LÍNEAS FUTURAS DE INVESTIGACIÓN

Los resultados obtenidos en esta disertación, junto con las implicaciones y limitaciones recién descritas, abren senderos a interesantes líneas de investigación para el futuro.

Comenzando con los estudios que desarrollaron el SSRQA y el SCQA, estos representan una innovación en términos de evaluación de la resiliencia y el afrontamiento, dado que tienen en cuenta los aspectos estables y variables (es decir, personales y situacionales). El modelo persona-situación probó su utilidad en estos estudios; no obstante, como ya se ha mencionado,

hubo algunas limitaciones: se consideraron únicamente cinco tipos de situaciones adversas y hubo tres situaciones para las que no se recogieron muestras específicas que las hubieran experimentado. En base a estas limitaciones, una línea de investigación futura implicaría desarrollar o adaptar estos instrumentos para estudiar la resiliencia y el afrontamiento frente a diferentes situaciones desafiantes.

Tales investigaciones deberían incluir personas que hayan experimentado problemas económicos, de trabajo o de relaciones cercanas, dado que no se recogieron específicamente datos de estas muestras. Por ejemplo, podrían incluirse parados de larga duración, trabajadores que sufran acoso laboral o personas que estén pasando por un divorcio. De igual modo, dado que hay muchas otras poblaciones que se enfrentan a situaciones potencialmente traumáticas (p. ej., la muerte de un ser querido, una catástrofe natural), debería investigarse también cómo operan en ellas la resiliencia y el afrontamiento.

En esta misma línea, y también producto de los estudios de la segunda parte, los estudios futuros podrían ampliar nuestra comprensión sobre la naturaleza de las relaciones existentes entre resiliencia y afrontamiento en diferentes poblaciones expuestas a traumas (p. ej., personas con enfermedad oncológica, padres de hijos con minusvalías, PVVIH). Para ello, sería necesario conseguir muestras lo suficientemente grandes, de forma que puedan realizarse comparaciones y estas resulten significativas. Este tipo de estudios son cruciales de cara a replicar nuestros resultados, superar nuestras limitaciones y expandir nuestro conocimiento sobre la materia.

Otra línea de investigación interesante surge del hallazgo sobre la aparente efectividad de la expresión emocional cuando el diagnóstico de VIH es reciente (se asoció con mayor resiliencia) y su efecto nocivo cuando ha pasado más tiempo (se asoció con menor resiliencia). Hubo otros resultados que también apuntaron al tiempo como variable de gran relevancia. Por ejemplo, buscar ayuda fue efectivo para las PVVIH en general (se asoció con mayor resiliencia en la segunda parte), pero para las recién diagnosticadas no resultó una estrategia adaptativa ni

desadaptativa (no se relacionó con resiliencia en la cuarta parte). Habitualmente, en los estudios no se tiene en cuenta el tiempo, pero este parece ser un elemento fundamental; de hecho, es lo que diferencia a la resiliencia de la recuperación típica. La investigación futura debería explorar qué papel juega el tiempo en la efectividad de las diferentes estrategias de afrontamiento. Anticipamos que este área de estudio traerá consigo importantes implicaciones para el diseño e implementación de intervenciones.

En cuanto a los estudios que se centraron exclusivamente en PVVIH, creemos que una línea de investigación futura relevante consistiría en traducir y adaptar las escalas de estigma internalizado y miedo a comunicar el diagnóstico. Estos instrumentos mostraron unas excelentes propiedades psicométricas y, dada la confusión conceptual que rodea el constructo del estigma en la literatura, podrían constituir asimismo una valiosa contribución en otras lenguas.

Como planteamos anteriormente, las limitaciones de tamaño muestral impidieron desarrollar un único modelo que englobara todas las variables predictoras de salud mental en PVVIH. Por ello, una línea importante de investigación sería poner a prueba un modelo integrador que incluya todas las variables mencionadas. Un enfoque longitudinal resultaría apropiado para tal fin, preferiblemente con evaluaciones en más de dos momentos. Dicho modelo debería analizar también algunas relaciones entre variables que en esta tesis no se han examinado (p. ej., entre el estrés y el afrontamiento o el estigma internalizado). Además, la muestra debería ser lo suficientemente grande para permitir realizar un análisis tan complejo, lo que constituye un reto crítico en este tipo de estudios.

Al mismo tiempo, existe evidencia de que ciertas variables que no fueron consideradas en esta tesis están relacionadas con resiliencia y CPT, como es el caso de las emociones positivas. Sería interesante, pues, incluir las emociones positivas y otros constructos relevantes en los estudios que investiguen los predictores de resiliencia y CPT. Podrían incluirse, por ejemplo, en el citado modelo integrador.

En nuestra opinión, el uso de métodos mixtos (es decir, la combinación de metodologías cualitativas y cuantitativas) podría contribuir positivamente a identificar variables influyentes en la resiliencia y el CPT en la población concreta de PVVIH. Por ejemplo, se podría identificar a PVVIH que muestren alta resiliencia mediante cuestionarios validados. Tras esto, se podría plantear preguntas abiertas a estas PVVIH acerca de los aspectos que les han ayudado a alcanzar una adaptación positiva. Por último, los aspectos identificados podrían ser añadidos al modelo predictivo integrador y ser evaluados de forma sistemática con instrumentos validados (o, en caso de que no existan escalas apropiadas, estas podrían desarrollarse).

Otra posibilidad de la investigación futura tiene que ver con las diferencias culturales. Esta clase de estudios perseguiría explorar si existen diferencias entre los hispanohablantes de diferentes países. Por ejemplo, se podría investigar si los predictores de la resiliencia operan de forma similar en españoles, mexicanos, colombianos, etc. El principal objetivo de estos estudios debería ser generar intervenciones adaptadas al contexto cultural específico de la persona, de forma que se maximicen las consecuencias positivas.

Finalmente, la última vía para la investigación futura que querríamos proponer consiste en realizar estudios de intervención, por lo que la consideramos de suma importancia. Deberían diseñarse intervenciones viables que aborden los predictores de la resiliencia y el CPT en PVVIH (p. ej., reducción del estrés y el estigma internalizado, uso de estrategias de afrontamiento). El siguiente paso sería implementarlas en PVVIH y evaluar su efectividad mediante un diseño pre-post con un grupo control o con un grupo que reciba otra intervención diferente. Realizar esta clase de estudios es de gran importancia por dos razones. La primera es que permitirían poner a prueba la validez del modelo desarrollado en esta tesis. La segunda y más importante es que tales estudios de intervención constituirían un primer paso para la traducción y transferencia del conocimiento generado en esta disertación. El propósito último de tal conocimiento es ayudar a alcanzar resultados de resiliencia entre las PVVIH.

6.6. REFERENCIAS

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