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Short communication

# Cognitive coping, goal self-efficacy and personal growth in HIV-infected men who have sex with men

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## Abstract

**Objective:** The relationships between cognitive coping strategies, goal self-efficacy and personal growth were studied in HIV-positive men who have sex with men.

**Methods:** All members of a national organization for people living with HIV received a call for participation. The Cognitive Emotion Regulation Questionnaire, the Goal Obstruction Questionnaire and the Personal Growth Scale were filled out at home by 104 HIV-infected men.

**Results:** Thinking about joyful and pleasant issues instead of thinking about being HIV-positive, thinking about what steps to take and how to handle being HIV-positive, thoughts of attaching a positive meaning to being HIV-positive, thoughts of playing down the seriousness of being HIV-positive or emphasizing its relativity when compared to other events, thoughts of putting the blame of being HIV-positive on others (inversely) and the extent to which one considers oneself able to reengage in alternative meaningful goals were related to personal growth.

**Conclusion:** The study showed that both cognitive coping strategies and goal self-efficacy were related to personal growth. The findings suggest that mainly positive ways to handle being HIV-infected are related to personal growth.

**Practice implications:** These findings suggested that intervention programs for people with HIV should pay attention to cognitive coping strategies and goal self-efficacy.

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**Keywords:** HIV; Cognitive coping; Goal self-efficacy; Personal growth

## 1. Introduction

Personal growth refers to the positive psychological changes experienced as the result of the struggle with highly challenging life circumstances [1,2]. High levels of growth have been reported by people dealing with many highly distressing and traumatic events, including illness [1–4]. Personal growth has been documented among individuals living with HIV/AIDS [5,6]. To date, only a few studies have been performed on factors that might facilitate growth in people with HIV. Finding predictors of growth is important for people living with HIV, as

personal growth has been found to be related to greater immune system functioning and lower rates of AIDS-related mortality [7–9]. Factors related to personal growth could be well integrated into intervention programs. The current study will examine how HIV-positive individuals cope with their chronic disease.

We could only locate one study that examined the way people coped with being HIV-infected and their levels of personal growth. Positive reappraisal coping in HIV-infected women was found to be associated with higher levels of growth [5]. Several cognitive coping strategies, such as positive refocusing, positive reappraisal, putting into perspective (all inversely), catastrophizing and other-blame, have been found to be related to psychological *distress* in people with HIV [10,11]. In the present study, we will focus on a variety of cognitive coping strategies and their relationship with personal growth.

Another way to cope with being HIV-positive is through goal adjustment. Goals can be defined as internal representations of

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desired outcomes [12]. Goals provide the structure that define people's life and imbue life with purpose. Being confronted by unattainable goals may result in enhanced psychological distress. Several studies have shown that people who are able to adjust their goals, report higher levels of subjective well-being [13–16]. The same was found in a group of HIV-infected men [10]. It could well be hypothesized that the confidence one has about the ability to adjust one's goals when important goals are obstructed by being HIV-positive (i.e. goal self-efficacy) is related to personal growth. To our knowledge, no studies have been performed on goal self-efficacy for people living with HIV. The present study will include this aspect.

In conclusion, in the present study we will investigate the relationships between cognitive coping strategies, goal self-efficacy and personal growth in HIV-infected men.

## 2. Methods

### 2.1. Sample

A total of 104 HIV-positive men participated in the present study, 96 (92%) of them reported being homosexual and 8 (8%) bisexual. The mean age of the respondents was 50 years (S.D. = 10.3; range 21–71 years). Half of the men ( $n = 51$ ) had a partner, of whom 32% ( $n = 16$ ) was also HIV-positive. The majority ( $n = 57$ ) reported to be never married, 30% ( $n = 31$ ) was married or lived together, the remaining were either divorced ( $n = 11$ ) or widowed ( $n = 5$ ). Half of the group ( $n = 52$ ) had higher education and half ( $n = 52$ ) had either a full-time or part-time job. On average people had known about their HIV-positive status for 10 years (S.D. = 9.4; range 1–23 years).

### 2.2. Procedure

All 1450 members of the Dutch national organization for people living with HIV received the bimonthly magazine of the organization with information about the study and a call for participation. This same call was also posted at the webpage of the organization. People could contact the organization. To guarantee privacy, the organization mailed the questionnaire, informed consent form and prepaid return envelope to those interested. Reminder and letter of thanks were also sent by the HIV organization.

### 2.3. Measures

#### 2.3.1. Personal growth

Personal growth was measured by the Personal Growth Scale (PGS; N. Garnefski, V. Kraaij, internal publication). The PGS was measured by five items, assessing perceived positive changes in the appreciation of personal life and strengths, after the experience of threatening or stressful events. The items reflect slightly modified items from the Posttraumatic Growth Inventory [17]. The items were made HIV-specific for the present study. For example, respondents were asked on a five-point Likert-type scale to what extent they, due to being HIV-infected: “felt stronger in life than they did before”, and “had

discovered their priorities about what is important in life”. The total score can be obtained by adding up the five items. Principal Component Analysis confirmed the one-dimensional structure of the scale: both the scree criterion and the Kaiser criterion indicated a one-factor solution. In the present study an alpha-reliability was found of .91.

#### 2.3.2. Cognitive coping strategies

Cognitive coping strategies were measured by the Cognitive Emotion Regulation Questionnaire (CERQ) [18,19]. The CERQ assesses what people think at the time of or after the experience of threatening or stressful life events. In the present study respondents were asked which specific cognitive coping strategies they used in relation to being HIV-positive. The CERQ consists of nine conceptually different subscales. Each subscale consists of four items. Each of the items has a five-point Likert-type scale. Subscale scores are obtained by adding up the items. The subscales are self-blame, acceptance, rumination, positive refocusing, refocus on planning, positive reappraisal, putting into perspective, catastrophizing, and other-blame. The psychometric properties of the CERQ have been proven to be good [18,20–23]. In the present study, the alpha-reliabilities of the subscales also appeared to be good, with alphas ranging from .73 to .87.

#### 2.3.3. Goal self-efficacy

Goal self-efficacy was measured by the Goal Obstruction Questionnaire (GOQ; V. Kraaij, N. Garnefski, internal publication). The GOQ measures what people do when important life goals (on various domains) are no longer reachable due to a stressor, in this case being HIV-positive. The goal self-efficacy subscale measures the extent to which one considers oneself able to reengage in alternative meaningful goals, in case that preexisting goals can no longer be reached. The subscales consist of four items asking for goal self-efficacy on four specific domains: (1) work, (2) domestic or caring tasks, (3) social relationships and (4) leisure activities. The items have a five-point Likert-type scale. The subscale score can be obtained by adding up the four items. In the present study an alpha-reliability was found of .90.

### 2.4. Statistical analyses

To study the relationship between cognitive coping, goal self-efficacy and personal growth, Pearson correlations (pairwise deletion) and multiple regression analysis (listwise deletion) were used. Because the sample size was not large enough, only the variables which had a significant Pearson correlation with personal growth were included in the multiple regression analysis (method stepwise).

## 3. Results

### 3.1. Bivariate relationships of cognitive coping strategies and goal self-efficacy with personal growth

Pearson correlations were calculated (Table 1). Positive refocusing, refocus on planning, positive reappraisal, putting

Table 1  
Pearson correlations between all variables

|                            | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8    | 9      | 10      |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|------|--------|---------|
| 1 Personal growth          | –      |        |        |        |        |        |        |      |        |         |
| 2 Self-blame               | –.04   | –      |        |        |        |        |        |      |        |         |
| 3 Acceptance               | .00    | .42*** | –      |        |        |        |        |      |        |         |
| 4 Rumination               | .07    | .54*** | .44*** | –      |        |        |        |      |        |         |
| 5 Positive refocusing      | .35*** | –.14   | –.08   | –.22*  | –      |        |        |      |        |         |
| 6 Refocus on planning      | .22*   | .26**  | .44*** | .51*** | .20*   | –      |        |      |        |         |
| 7 Positive reappraisal     | .75*** | .09    | .12    | .25*   | .40*** | .41*** | –      |      |        |         |
| 8 Putting into perspective | .39*** | .13    | .43*** | .07    | .28**  | .20*   | .40*** | –    |        |         |
| 9 Catastrophizing          | –.06   | .31**  | .33**  | .52*** | –.29** | .29**  | .02    | .05  | –      |         |
| 10 Other-blame             | –.26** | .23*   | .19    | .23*   | –.32** | .11    | –.18   | –.16 | .37*** | –       |
| 11 Goal self-efficacy      | .48*** | –.26*  | –.04   | –.07   | .35*** | .03    | .46*** | .13  | –.26** | –.43*** |

Due to missing values, ns ranged from 97 to 104; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

into perspective, and goal self-efficacy were positively associated with personal growth. Other-blame correlated negatively with personal growth.

### 3.2. Multivariate relationship of cognitive coping strategies and goal self-efficacy with personal growth

Multiple regression analysis was performed (Table 2). The variables which had a significant Pearson correlation with personal growth were included (method forward stepwise). Positive reappraisal and goal self-efficacy remained significant in the model. Both variables had a positive relationship with personal growth.

## 4. Discussion and conclusion

### 4.1. Discussion

The present study focused on how HIV-positive individuals adjust to their chronic disease. More use of positive refocusing, refocus on planning, positive reappraisal, putting into perspective, and less use of other-blame, was related to higher levels of personal growth. The finding that positive reappraisal coping was related to higher levels of personal growth in HIV-infected men, was also found for HIV-infected women in a previous study [5]. Positive refocusing, positive reappraisal,

putting into perspective (all inversely) and other-blame have also been found to be important in relation with symptoms of depression and anxiety in HIV-infected men [10,11]. The present study adds that these coping strategies are also important in relation to personal growth. Summarizing, the findings suggest that mainly positive ways to handle being HIV-infected are related to personal growth. The multivariate analysis adds to this finding that positive reappraisal appears to be the most powerful predictor of personal growth.

Another important predictor, which also came out of the multivariate analyses, was goal self-efficacy. Respondents who reported a higher belief in their ability to adjust their goals when important goals are obstructed by being HIV-positive, reported higher levels of personal growth. Previous studies found goal adjustment to be related to well being [10,13–16]. The present study adds that goal self-efficacy is also related to personal growth.

Of course, there were several methodological considerations, such as the use of self-report instruments, a cross-sectional design and the representativeness. Future studies should overcome these shortcomings, for example by using also other forms of data-collection, by using a longitudinal design, and by approaching HIV-infected men through other means.

### 4.2. Conclusion

Both (positive) cognitive coping strategies and the belief in the ability to adjust life goals appeared to be important predictors of personal growth.

#### 4.2.1. Practice implications

Various studies showed positive effects of cognitive-behavioral oriented interventions [24–27] and coping effectiveness training [28] in improving emotional problems in HIV-infected men. Similar interventions could be offered to improve personal growth. The specific focus of treatment could be then the content of thoughts, combined with working on goal adjustment. Ingredients of treatment should be a combination of (positive) cognitive coping strategies and goal self-efficacy. Studies should be undertaken looking at the effectiveness of such intervention programs.

Table 2  
Relationship between cognitive coping strategies and goal self-efficacy and personal growth: multiple regression analysis

|   | Personal growth |          |
|---|-----------------|----------|
|   | $\beta$         | $t$      |
| Model 1                                       |                 |          |
| Positive reappraisal                          | .74             | 10.85*** |
| $R^2 = .55$ , $F(1,95) = 117.63$ , $p < .001$ |                 |          |
| Model 2                                       |                 |          |
| Positive reappraisal                          | .66             | 8.79***  |
| Goal self-efficacy                            | .18             | 2.36*    |
| $R^2 = .58$ , $F(2,94) = 64.42$ , $p < .001$  |                 |          |

\* $p < .05$ ; \*\*\* $p < .001$ .

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