SELF-ESTEEM, SOCIAL SUPPORT, INTERNALIZED HOMOPHOBIA
AND THE COPING STRATEGIES OF HIV+ GAY MEN

By

WILLIAM DEAN NICHOLSON

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Department of COUNSELLING PSYCHOLOGY

The University of British Columbia
Vancouver, Canada

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Abstract

This study had two aims: (a) to examine the relationship between self-esteem, social support, internalized homophobia and the coping strategies used by HIV+ gay men; and (b) to examine the relationship between the use of specific coping strategies and mood state. Eighty-nine HIV+ gay men completed a questionnaire package consisting of the Nungesser Homosexual Attitudes Inventory, the Rosenberg Self-Esteem Scale, the Profile of Mood States, the Revised Kaplan Scale, and the Ways of Coping Scale. Hierarchical stepwise regressions were conducted on the data with Avoidant (Escape-Avoidance and Distancing) and Proactive (Seeking Social Support and Positive Reappraisal) coping serving as criterion variables and self-esteem, social support, homophobia, and the interaction terms of homophobia x self-esteem and homophobia x social support serving as predictor variables. After removing the effects of time since diagnosis and stressor type, only small amounts of the total variance for each coping strategy could be explained by the predictor variables. Correlations between mood state and coping strategies were also low or nonsignificant. A reconsideration of the literature and an examination of the correlations between coping strategies suggested a different pattern of coping behaviours. The regressions were reanalysed using Escape-Avoidance and Accepting Responsibility (EAR coping) and Seeking Social Support and Planful Problem Solving (SPS coping). The

equation predicting EAR coping reached significance ($F(2,86)=20.2, p<.01$). Homophobia and self-esteem entered the equation and accounted for 30% of the explained variance. The equation predicting SPS coping also achieved significance ($F(3,85)=3.9, p<.05$) with stressor type, homophobia and time since diagnosis entering and accounting for 9% of the total variance. A third regression equation predicting mood state also achieved significance ($F(4,84)=22.4, p<.01$). After removing the effects of time since diagnosis, which accounted for 4% of the total variance, EAR coping entered and explained 32% of the total variance. Homophobia and self-esteem entered after the coping variable, contributing 3% and 10%, respectively to the total variance after the other significant variables. The results help clarify the relationship between personal, environmental and contextual variables and the greater use of specific coping strategies in HIV+ gay men, as well as the relationship between coping strategies and mood state.

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Dedication

I would like to dedicate this thesis to all those people who are coping with HIV (in hopes that a cure may soon be found), and to all those who suffer unjustly from stigmatization and social bias.

Introduction

Homosexual and bisexual men who test positive for the Human Immunodeficiency Virus (HIV) face many of the same adjustment issues as other chronically or terminally ill people. There are a number of concerns unique to both the disease and the gay community, however, which can create specific problems for gay men. In coping with illness concerns, the use of different coping strategies can have differing effects on adjustment. The purpose of this study was to examine whether certain personal, environmental and contextual factors relevant to HIV+ gay men, were associated with the coping strategies they used in dealing with infection related stress.

Early coping research suggested that people coping with illness concerns were more likely to use coping strategies aimed at regulating their emotional reactions to the illness than strategies aimed at changing or tackling the problem, particularly if the situation seemed out of their control (Folkman & Lazarus, 1980; Pearlin & Schooler, 1978). Subsequent research, however, has identified a number of specific clusters of behaviours and cognitions constituting different strategies for dealing with a stressor (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986), and people with chronic or terminal illness have been found to use different strategies to varying degrees (Feifel, Strack, & Nagy, 1987; Felton, Revenson, & Hinrichsen, 1984; Namir, Wolcott, Fawzy, & Alumbaugh, 1987).

Coping has been conceptualized as a process of continuing appraisal and reappraisal of the person/environment interaction (Lazarus & Folkman, 1984). Because the appraisals of a stressor and choice of strategies used in response to it are affected by a wide range of factors, research examining coping processes must be broadly framed to include the personal, environmental and contextual factors relevant to the stressful encounter (Holahan & Moos, 1987; Lazarus & Folkman, 1984; Parkes, 1986). In research with different populations, studies have shown that various combinations of factors predict the use of different coping strategies (Holahan & Moos, 1987; Long, 1989; Parkes, 1986). With respect to illness concerns, for example, Feifel et al. (1987) found that personality variables such as negative self-perception and contextual variables such as length of illness were significantly associated with the greater use of Avoidance or Acceptance-Resignation coping as compared to Confrontation coping.

In coping with illness the use of different coping strategies has been associated with differing degrees of psychological adjustment. Coping strategies aimed at minimizing or denying the threat, or involving a retreat into wishful fantasizing, have been shown to correlate positively with emotional distress and low self-esteem. Conversely, coping aimed at reinterpreting the illness as a positive challenge for growth has been associated with higher levels of well-being and self-esteem (Felton et al.,

1984; Parker et al., 1988), while problem-focused coping has been shown to be negatively associated with symptoms of psychological distress (Folkman, Lazarus, Gruen, & DeLongis, 1986).

Empirical research suggests that an HIV infection can be a difficult and stressful situation for a gay man to cope with (Donlough, Wolcott, Gottlieb, & Landsverk, 1985; Wolcott, Namir, Fawzy, Gottlieb, & Mitsuyasu, 1986). Given the negative impact stress can have on psychosocial well-being and because there is speculation that stress may affect the immune system and hence the progression of the disease (Coates, Temoshok, & Mandel, 1984; Solomon & Temoshok, 1987), there is a need to understand the relationship between illness related stressors relevant to HIV+ gay men and the coping strategies they use in dealing with their infection.

The Acquired Immune Deficiency Syndrome (AIDS) crisis has been unique in that it has impacted not only on individuals, but on an entire subculture. Because the majority of diagnosed cases of AIDS and HIV infection in North America have been in homosexual or bisexual men (Greig, 1987), AIDS has largely been associated with the male homosexual community. As a result, there has been a tendency to see AIDS as a homosexual problem, with gay men being stigmatized, both because of their sexual orientation and because of their connection with the disease (Dupras, Samson, Levy, & Tessier, 1989; Herek & Glunt, 1988; Nichols,

1984; Valdiserri, 1987).

This homophobic reaction, however, has not been confined to the heterosexual community. An increase in internalized homophobia has been pointed to as one of the clear psychological reactions of gay men to the AIDS crisis (Hirsch & Enlow, 1984) with gay men internalizing society's homophobic prejudice and adopting a negative view of their orientation and lifestyle (Harowski, 1987; Price, Omizo, & Hammett, 1986; Ross & Rosser, 1988). For some gay men the nature and threat of the disease provokes the emergence of unresolved issues regarding their sexual orientation (Grant & Anns, 1988), which may cause some men to blame themselves for their infection and see it as punishment for their lifestyle (Dilley, Ochitill, Perl, & Volberding, 1985; Furstenberg & Olson, 1984). While a positive attitude towards homosexuality has been shown to correlate positively with lower emotional distress (Wolcott, Namir et al., 1986), self-blame regarding infection and health improvement has been associated with emotional distress and health related behaviours in gay men with AIDS and ARC (Moulton, Sweet, Temoshok, & Mandel, 1987).

HIV infection poses a threat to the self-esteem of gay men. A lowering of self-esteem is a common response to the stigma of being ill (Furstenberg & Olson, 1984) and patients with chronic physical illnesses have been shown to have impaired self-esteem (Simmons, Klein, & Simmons, 1977). Because HIV is generally a sexually transmitted disease, the

threat of infection through sexual activity can also have a negative impact on the identity and self-esteem of gay men (Price et al., 1986), particularly since the development of an ego-syntonic gay identity in the gay community has traditionally been reinforced through sexual activity (Forstein, 1984; Furstenberg & Olson, 1984; Harowski, 1987; Morin, Charles, & Malyon, 1984). Studies have found that a certain proportion of infected gay men do manifest low levels of self-esteem after diagnosis, although their levels of self-esteem prior to infection were not known (Donlou et al., 1985; Wolcott, Namir et al., 1986).

As a result of the stigma surrounding the disease, an HIV infected person faces the possibility of real and/or perceived social isolation (Dilley et al., 1985; Haney, 1988; Morin et al., 1984). Individuals risk discrimination at work, as well as discrimination by friends and family. This threat makes some men reluctant to discuss their infection (Donlou et al., 1985), and they may in turn deliberately withdraw from potential social support systems (Acevedo, 1986; Hirsch & Enlow, 1984). For others, fears of being contaminated and infecting others may cause them to avoid intimate or physical contact (Grimshaw, 1987). For gay men with AIDS and ARC (AIDS-Related Complex), social support has been associated with emotional distress (Wolcott, Namir et al., 1986; Zich & Temoshok, 1987) and with types of coping used (Namir et al., 1987).

Research has shown that coping strategies used in

response to a health stressor change with time as circumstances change (Feifel et al., 1987). Furthermore, Lipowski (1970) suggests that the particulars and perception of an illness can affect the coping response used. An HIV diagnosis can result in a number of diverse stressors which are likely to change over time (Grant & Anns, 1988). The types of coping strategies that gay men use in response to these stressors, therefore, may be affected both by the nature of the particular stressor and by the time since receiving an HIV+ diagnosis.

A number of researchers suggest that the interaction of various factors may contribute significantly to the prediction of coping strategies (Long, 1989; Parkes, 1986). Hirsch and Enlow (1984) have noted that healthy gay men with high levels of internalized homophobia tended to manifest more guilt and depression and withdraw from social support systems than gay men with low internalized homophobia. Similarly, attitude towards homosexuality in HIV+ gay men could be expected to interact with self-esteem and perception of social support with a cumulative effect.

There is already some indication that a variety of coping strategies are used by HIV+ gay men and that use of these strategies may be related to various psychosocial factors (Hirsch & Enlow, 1984; Namir et al., 1987; Mandel, 1986). The purpose of this study was to examine the relationship between internalized homophobia, self-esteem, perceived social support and the interactive effects of

these variables in HIV+ gay men, with the use of different coping strategies. In particular, it was expected that after accounting for the effects of time since diagnosis and stressor type, low levels of self-esteem and social support, and a negative attitude towards homosexuality, and the interaction terms of homophobia times self-esteem and times social support, would be associated with the greater relative use of coping aimed at avoiding, denying or minimizing the emotional impact and significance of the diagnosis. A second expectation was that, again after accounting for the effects of time since diagnosis and stressor type, higher levels of self-esteem and social support, in conjunction with a positive attitude towards homosexuality, and the interaction terms of homophobia times self-esteem and times social support, would be associated with the greater relative use of coping aimed at engaging social support and reinterpreting the infection as an opportunity for personal growth.

Further, it was expected that the subjective experience of emotional well-being in infected gay men would be negatively correlated with the greater use of an avoidant style of coping and positively correlated with the greater use of a support seeking and positive reappraising form of coping. Based on the findings of other health related studies, however, the magnitude of these correlations was expected to be moderate.

Review of Literature

Since it was first diagnosed and recorded in 1981, Acquired Immune Deficiency Syndrome (AIDS) has been the focus of world wide attention. The alarm surrounding the spread of this fatal disease has provoked a great deal of medical research into its etiology and treatment. Research into the psychological aspects of the disease has not been as prolific (Kinnier, 1986). This is an unfortunate situation given the degree of fear, stress and anxiety the disease inspires, not only in people who are infected, but in the public at large. In order for people to cope more effectively with AIDS it is important to understand the relevant issues and stressors associated with an HIV infection.

Stress and Coping

Investigating how people cope with stressful events has been an important research area of health counselling. In the cognitive-transactional model of stress and coping developed by Lazarus and Folkman (1984), stress is viewed as "a relationship between the person and the environment that is appraised by the person as relevant to his or her well-being and in which the person's resources are taxed or exceeded" (Folkman & Lazarus, 1985, p. 152). Coping is the method by which an individual deals with a stressor and is conceptualized as a dynamic and interactional process consisting of an ongoing series of "appraisals and reappraisals of the shifting person-environment

relationship" (Lazarus & Folkman, 1984, p. 142).

Lazarus and Folkman (1984) posit two stages of appraisal in the coping process: primary and secondary. With the primary appraisal the individual assesses the personal relevance of the encounter and determines whether it is irrelevant, benign-positive or stressful. Stressful encounters are appraised as threat, challenge or harm-loss. A threat appraisal suggests the potential for harm or loss, a challenge appraisal holds the potential for growth or gain, while a harm-loss appraisal indicates injury already endured, be it of a physical, material or psychological nature. The secondary appraisal is characterized by the question "What can I do?", and consists of the individual evaluating the coping resources he or she has available to use in response to the stressor.

The way that an individual attempts to cope with a stressful encounter is to a large degree affected by the appraisals that are made of the encounter. Folkman and Lazarus (1985, 1988b) speculate that the way an individual appraises a stressful situation, whether it demands action or requires the person to take a 'wait and see' stance, and the threat it poses to the person's psychological or physical health could influence the coping strategies used. If the primary appraisal of a situation is that it is irrelevant, the individual would not be expected to adopt any different coping strategy in response. Similarly, the individual would be expected to mount a different response

to the stressor if the secondary appraisal were one of challenge rather than one of threat.

Functions of coping. Because different appraisals of a stressor can yield different coping responses it is apparent that coping can serve different functions. Coping which is aimed at managing or altering the person-environment relationship causing the problem has been labeled instrumental or problem-focused coping, whereas coping which attempts to regulate the individual's emotional responses to the stressful situation has been called palliative or emotion-focused coping (Lazarus & Folkman, 1984).

Although research has shown that people generally use a combination of both forms of coping in response to a stressor (Folkman & Lazarus, 1980, 1985), research also suggests that certain circumstances favour the predominance of one form of coping over the other. In the early stage of dealing with a stressor, for example, problem-focused strategies may be used to a greater degree while there appears to be positive steps that can be taken in response to the stressor. Emotion-focused strategies are more likely to be used later in the process if the individual does not feel he or she can exert an effect on the outcome (Folkman & Lazarus, 1985; Folkman, Lazarus, Dunkel-Schetter et al., 1986). Generally speaking, problem-focused coping strategies are more likely to be used in situations in which there appears to be the possibility for constructive action or in which more information is required before the

individual can act (Folkman & Lazarus, 1980, 1985; Folkman, Lazarus, Dunkel-Schetter et al., 1986). Emotion-focused coping behaviours, on the other hand, tend to take precedence when the individual feels that he or she has little control over the situation or that problem-focused strategies will be ineffective. This is particularly true in coping with health or illness concerns (Felton & Revenson, 1984; Folkman & Lazarus, 1980; Pearlin & Schooler, 1978).

The Ways of Coping Scale. In order to assess coping functions Folkman and Lazarus (1980) developed a 68-item instrument which measured the use of a wide range of cognitive and behavioural coping responses. Respondents were asked to indicate 'yes' or 'no' whether they had used the response in dealing with a stressor. The items were seen as being either problem-focused in nature or emotion-focused. Examples of problem-focused responses included "made a plan of action and followed it", or "changed something so things would turn out all right", while emotion-focused responses included such items as "tried to forget the whole thing" and "accepted sympathy and understanding from someone".

The Ways of Coping Scale (WOCS) was later revised into a 67-item instrument (Folkman & Lazarus, 1985). Revisions included the rewording or deletion of certain responses and the addition of new responses. Rather than a 'yes' or 'no', subjects were asked to respond to the items along a 4-point

Likert-type scale indicating frequency of use (e.g., 0 = not at all to 4 = a great deal). Thus, the WOCS became a measure of coping response frequency.

Coping strategies. Further research with the 68-item and 67-item WOCS demonstrated that within the broader matrix of problem- and emotion-focused coping there are specific substrategies which can be isolated. These strategies consist of clusters of behavioural and cognitive responses which represent a more specific function or approach to coping. Factor analysis of WOCS scores have isolated between five and eight separate coping subscales or factors in a wide range of studies with different populations (cf. Coyne, Aldwin, & Lazarus, 1981; Folkman & Lazarus, 1985; Folkman, Lazarus, Dunkel-Schetter et al., 1986; Revenson, 1981; Vingerhoets & Flohr, 1984). Although there are some minor differences in the number of subscales and the items which comprise them, all the studies have yielded a seeking social support scale, a positive reappraisal scale, an accepting responsibility or self-blame scale, and a problem-solving scale. That these various studies have produced similar results across different populations provides empirical support for the validity of the subscales and their use in coping research.

The theoretical framework of the present study is based on the eight subscales described by Folkman, Lazarus, Dunkel-Schetter et al. (1986). They are: (a) Confrontive (CON) ("stood my ground and fought for what I wanted"); (b)

Distancing (D) ("went on as if nothing had happened", "tried to forget the whole thing"); (c) Self-Control (SC) ("tried to keep my feelings to myself"); (d) Seeking Social Support (SSS) ("accepted sympathy and understanding from someone"); (e) Accepting Responsibility (AR) ("realized I brought the problem on myself"); (f) Escape-Avoidance (EA) ("avoided being with people in general", "tried to make myself feel better by drinking or taking drugs"); (g) Planful Problem Solving (PPS) ("made a plan of action and followed it"), (h) Positive Reappraisal (PR) ("came out of the experience better than I went in").

Although the use of separate coping subscales may be accessed by the WOCS, Folkman, Lazarus, Gruen, and DeLongis (1986) caution that there is likely considerable intercorrelation between the strategies. This has been demonstrated by studies in which the relationships between the eight coping strategies discussed above have been examined (Folkman, Lazarus, Dunkel-Schetter et al., 1986; Folkman, Lazarus, Gruen, & DeLongis, 1986; Folkman & Lazarus, 1988a). Correlation matrixes between the eight strategies have yielded r 's ranging from -0.16 to 0.55 for various subject populations, indicating varying degrees of colinearity between the different strategies. Distancing and Escape-Avoidance, for example, have had r 's ranging from 0.12 to 0.36 with the majority being over 0.26. Higher intercorrelations are consistently observed between Self-Controlling, Accepting Responsibility and Distancing and

between Self-Controlling, Accepting Responsibility and Escape-Avoidance across all studies. Similarly, Seeking Social Support and Positive Reappraisal have yielded r 's across the same studies ranging from 0.27 to 0.45, again suggesting a moderate degree of colinearity.

In contrast Distancing had little correlation with either Positive Reappraisal or Seeking Social Support. Correlation coefficients ranged from 0.06 to 0.13 for Distancing and Positive Reappraisal and from -0.16 to 0.00, indicating a slight negative relationship between Seeking Social Support and Distancing, as might be intuitively expected. Similarly, low to moderate intercorrelations were also observed between Escape-Avoidance and Seeking Social Support and Positive Reappraisal. Correlations ranged from 0.04 to 0.38 between Escape-Avoidance and Seeking Social Support and from 0.23 to 0.31 between Escape-Avoidance and Positive Reappraisal.

These figures suggest that different combinations of strategies are more likely to be used together than are other combinations. Distancing, for example, is not likely to be used in combination with Positive Reappraisal or Seeking Social Support. Similarly, Escape-Avoidance seems to be somewhat more strongly associated with Distancing, than with Positive Reappraisal or Seeking Social Support. The stronger positive correlations between Seeking Social Support and Positive Reappraisal, however, suggest that they are more likely to be used conjointly.

Thus, although in broad terms coping may serve a problem- and/or emotion-focused function, it is not adequate to speak of these terms of as if either were a homogeneous group of behaviours and cognitions (Fleishman, 1984).

Distancing and Positive Reappraisal, which are both forms of emotion-focused coping, for example, are quite different in their intent and would not be expected to be used together in response to a stressor. At the same time, certain strategies are more likely to be used in conjunction with certain other strategies. The presence of different strategies which, while serving the same broad function (i.e., emotion- or problem-focused), are unlikely to be used simultaneously, suggests that other factors acting during the secondary appraisal process help determine the relative dominance of certain coping strategies over others. These findings underlie the importance of considering coping strategies separately or in conjunction with related strategies when conducting research into coping processes.

Mitigating Factors in the Coping Process

An individual's appraisals of a stressor can be affected by a variety of factors. These factors are typically grouped into three broad categories: (a) personal factors which originate within the individual, such as optimism or self-esteem, (b) environmental factors which originate outside of the individual, such as monetary support or work demand, and (c) situational or contextual factors which are relevant to the stressful episode, such as

type of stressor or its perceived importance to the individual (Holahan & Moos, 1987; Lazarus & Folkman, 1984; Parkes, 1986). In the case of health concerns, the nature of the illness is a situational factor which can affect the appraisals made by the individual (Lipowski, 1970).

Although the way in which personal, environmental and situational factors can affect an individual's appraisal of a stressor is relatively obvious, the relationship between coping strategies and these factors is considerably more complex. Folkman and Lazarus (1988b) consider the relationship between emotional states and coping strategies to be highly interactional, with mood state affecting coping and coping subsequently affecting mood. The use of an avoidant strategy, for example, may prove useful in dealing with fear or anxiety in the early stage of a stressor, and thus contribute to a more positive mood state. If the continued use of avoidance results in appropriate action not being taken and a worsening of the situation, however, this could result in a worsened mood state.

The transactional complexity of the interactions makes it very difficult to assign relative importance or a causal ordering to the effects of coping strategies and the various factors on the coping process. As a result, research has proceeded in two ways: (a) using personal, environmental and contextual variables to predict coping strategies, and (b) using coping strategies (often in conjunction with other variables) to predict some measure of adjustment.

Self-esteem and social support. Two variables which are believed to have moderating effects on the appraisal and adjustment process are self-esteem and social support. As a personality variable, Lazarus and Folkman (1984) consider self-esteem to be part of a larger factor they call positive belief. Higher levels of self-esteem have been shown to positively correlate with reduction of stress or more successful coping in studies of healthy adults dealing with daily stressors and people adjusting to spinal cord injuries (DeLongis, Folkman, & Lazarus, 1988; Pearlin & Schooler, 1978; Van Den Bout, Van Son-Schoones, Schipper, & Groffen, 1988).

Social support has been shown to play an important role in dealing with traumatic life events such as major illness or loss (see reviews by DiMatteo & Hays, 1981; Silver & Wortman; 1980, Turner, 1983). Having reviewed the relevant literature, Lazarus and Folkman (1984) suggest that low levels of social support are associated with negative health outcomes. Recent coping research has found social support to be a significant environmental factor in the adjustment to daily living and work-related stress (Holahan & Moos, 1987; Long, 1989; Parkes, 1986).

In discussing social support research, however, it is often difficult to generalize across studies because social support is not a well-defined concept. Researchers often operationalize social support in different ways and use instruments which measure different concepts (Barrera, 1986;

Pearson, 1986; Turner, Frankel, & Levin, 1983). Social support, for example, has been conceived of in terms of enacted support, perceived support and social embeddedness, and has been quantified with instruments assessing numbers and types of others in an individual's network, numbers and types of actual social contacts, and frequency of and satisfaction with support received.

Cobb (1976) conceived of social support as information belonging to one or more of the following classes: (a) information leading the subject to believe that he or she is cared for and loved; (b) information leading the subject to believe that he or she is esteemed and valued; and (c) information leading the subject to believe that he or she belongs to a network of communication and mutual obligation. As such, Cobb's definition falls into the category of perceived social support, as opposed to enacted support or social embeddedness (Barrera, 1986).

An instrument designed by Kaplan (1977), based on Cobb's definition, attempts to measure social support along these three factors. Subsequent work with the original scale and a revised version by Turner et al. (1983) found that factor analyses yielded two principle factors: a love-esteem factor and a network factor. Using the revised instrument Turner et al. were able to show significant correlations between social support and psychological distress in a group of 523 discharged psychiatric patients, and between social support and anger, anxiety and depression

in 989 physically disabled adults (all p 's < .01).

Coping strategies as criterion variables. Because of the wide number of factors which can influence the coping process, coping must be examined within a broadly framed and integrative perspective in which both the additive, as well as the interactive effects, of different variables is considered (Holahan & Moos, 1987; Lazarus & Folkman, 1984; Parkes, 1986). A number of recent studies have used coping strategies as criterion variables in multiple regression models, into which a variety of personal, environmental and contextual variables have been entered as predictor variables, testing their strength of association with the coping strategies.

Holahan and Moos (1987) found that a collection of sociodemographic variables, including education and income, personality dispositions of self-confidence and an easygoing manner, and contextual factors of family support and negative life events, made significant contributions to predicting active-behavioural, active cognitive and avoidance coping in samples of 424 community based individuals (194 men, 230 women, mean age = 39) and 424 persons entering psychiatric treatment for unipolar depression (189 men, 235 women, mean age = 41). Respondents were asked to consider the most stressful episode they had experienced in the past week.

Hierarchical stepwise regressions using coping strategies as criterion variables were conducted for both

groups. Sociodemographic variables were entered first, followed by personality variables and contextual variables. In both groups all three variable groups were significantly associated with the coping strategies, with the exception that background variables were not related to active-cognitive coping in either group. Family support and self-confidence were positively associated with both active strategies while being negatively associated with avoidance. Individuals who had more personal and environmental resources were more likely to rely on active coping and less likely to rely on avoidance coping. Avoidance coping tended to be more strongly associated with negative events and was used in response to a threatening situation when personal and contextual resources were scarce.

Parkes (1986) examined the relationship between individual differences (extraversion and neuroticism), environmental factors (social support and work demand) and situational characteristics (type of stressful episode and its perceived importance) and the use of general, direct and suppression coping strategies in dealing with work-related stress in a group of 135 first-year female nursing students. Coping strategies were derived from the WOCS. Separate hierarchical stepwise regression analyses were conducted with additive and specific interactive effects of the variables predicting the coping strategies.

The results indicated that different combinations of the variables were significant predictors of coping

strategies, in both the additive and interactive models. With direct coping, for example, the additive effects of individual differences and situational factors were both significant and together accounted for 20% of the total variance, whereas with suppression coping the situational factors alone were significant and accounted for 11% of the total variance. With respect to general coping all factors contributed significantly to the equation and explained 27% of the total variance. When the interactive effects were included in the regression equations, extraversion, neuroticism, and social support x importance of episode, neuroticism x work demand and extraversion x importance of episode were all significant. Neuroticism and extraversion x importance of episode were negatively associated with direct coping, whereas the remaining significant factors were positively associated. The interactive terms of extraversion x neuroticism and work demand x importance of episode were both significantly positively associated with suppression coping, while the terms of importance of episode x episode type, and neuroticism x work demand were negatively associated. In all, the variables accounted for 17% of the total variance.

Long (1989) examined the ability of the additive and interactive effects of personal (instrumentality and expressiveness) (Bem, 1981), environmental (work demands and interpersonal work resources) and situational (stressful episode importance) factors to predict active, problem

reappraisal or avoidance coping strategies, as measured by a modified version of the WOCS, with respect to work-related stress. Subjects were 132 managers (60 men, mean age = 42, 72 women, mean age = 39). A series of hierarchical stepwise regression analyses were conducted in which the additive effects of the personal, environmental and contextual variables were entered with respect to active, problem reappraisal, avoidance and total coping, followed by the hypothesized interactive effects.

The results suggested that with respect to avoidance coping, sex and importance of episode had a significant positive association while the personality variable and work resources were negatively associated. In the case of reappraisal coping sex and the personality variable were both significantly positively associated. The personality variable, environmental variable, and the importance of the episode were all positively associated with active coping. Sex, expressiveness and importance of episode were positively associated with total coping. The interactive terms were largely nonsignificant in accounting for the explained variance. These results suggest that different types of variables have greater or lesser importance in predicting the use of specific coping strategies.

In the area of coping with illness concerns, Feifel et al. (1987) examined the relationship between demographic, illness and psychological variables and three coping strategies (confrontation, avoidance, acceptance-

resignation) used by medically ill patients to deal with their illness. The sample consisted of 223 male with different illnesses (cancer, $n=74$; myocardial infarction, $n=77$; chronic nonthreatening illness, $n=72$) with a mean age of 54 years. Demographic variables included age, socioeconomic status, verbal IQ and length of illness. Psychological variables included mood state, religiosity, locus of control, self concept, and perceived social support. A combination of hierarchical and stepwise analyses, with the coping strategies as criterion variables, were conducted in which the demographic variables were entered, followed by illness classifications, the psychological variables and the remaining variables. The variables were entered in such an order as to account for random variables first, then fixed variables, and finally dispositional variables.

Belonging to a non-life-threatening group was found to be negatively associated with confrontation coping while extroversion and the seriousness of the illness were positively associated. Socioeconomic status and self-direction were negatively associated with avoidance coping. A negative self-perception was positively associated with avoidance coping. Length of illness, negative self-perception, negative affective expression and reduced attentional focus were positively associated with acceptance-resignation coping, while positive expectations about recovery and about the future were negatively

associated.

These results suggest that a poor self-concept is associated with greater use of avoidance and acceptance-resignation coping strategies. Similarly, the longer one has had an illness the more acceptance-resignation coping one is likely to use. It is also important to note that a pessimistic outlook regarding the future is associated with greater acceptance-resignation. The fact that confrontation was less likely to be used by those patients who did not have a life-threatening illness suggests that the seriousness of the illness also has a bearing on the type of coping used.

In general, then, research suggests that it is important to consider a wide range of personal, environmental and contextual variables when examining the use of certain coping strategies. As of yet it is not possible to distinguish clear patterns of variables with coping strategies. It might be tentatively said that a lack of personal resources (such as self-esteem or positive affect) are associated with a greater use of avoidant forms of coping. The research also suggests that the nature of the stressor also has some bearing on the association between predictor variables and coping strategies. Further research needs to take into account, therefore, not only the particular contextual circumstances surrounding the stressful encounter, but also the specific stressful encounter itself. It may be that research in which

participants are responding to a general or loosely defined stressor misses differences based on reactions to different stressors.

A further difficulty in reviewing coping research is the lack of generalizability of the instruments used to measure coping and coping strategies. Although many of the studies cited have used the WOCS or some modified version of it, a number have used different instruments. Even those which have used the WOCS have often used different coping strategies composed of different items. In some cases the choice of items and strategies is based on previous research, in other cases it is based on factor analysis of the items or some theoretical basis for selection. Whereas some researchers argue that the determination of coping strategies should be done a priori the actual data gathering and should be based on a theoretical framework (Carver, Scheier, & Weintraub, 1989), other researcher have determined the strategies based on a factor analysis of the data (cf. Folkman & Lazarus, 1985; Folkman, Lazarus, Dunkel-Schetter et al., 1986). Although the relative merits of these differences in approach have yet to be fully discussed, the fact that different instruments and strategies are used presents problems in interpreting coping research.

Adaptiveness of Coping Strategies

It cannot generally be said that any one strategy of coping is adaptive or maladaptive because an individual may

use different coping strategies at different times or in response to different stressors. Both Folkman and Lazarus (1980) and Pearlin and Schooler (1978), in studies with community based samples of adults, found evidence to suggest that different strategies were more or less likely to be used and were more or less effective depending on the context and nature of the stressful encounter. Typically there are three functions which coping can serve: (a) address or change the stress inducing problem so that it is no longer stressful, (b) change the appraisal of the situation or modify the subjective meaning of the situation, (c) manage the emotional response to the situation (Lazarus & Folkman, 1984). The appropriateness of a coping strategy, therefore, depends as much on the function it is trying to serve, as on the broader particulars of the person-environment relationship in which the stressor is experienced. Because the person-environment relationship is constantly shifting, both because of and in spite of the individual's coping responses, a coping strategy which is effective or appropriate at one point in time may or may not be effective at a later point in time. Similarly, a coping strategy used at an inappropriate time may have a negative effect on the overall coping process.

Although different strategies may appear to serve the same function (i.e., managing emotional responses or altering the stressful problem), Folkman and Lazarus (1988b) suggest that the relationships between strategies and their

effects are not always the same. Denial, for example, is an emotion-focused form of coping that is commonly used in response to a life-threatening illness (Folkman & Lazarus, 1988b; Hirsch & Enlow, 1984; Kubler-Ross, 1969; Stulberg & Buckingham, 1988). In some cases denial is a reasonable coping mechanism in that it may act as a buffer to the hopelessness and powerlessness that the individual experiences (Hirsch & Enlow, 1984; Moynihan, Christ, & Silver, 1988; Price et al., 1986). Denial becomes maladaptive, however, when it interferes with a person seeking medical help or results in behaviours which could further aggravate the course of the disease.

As another example, Distancing and Positive Reappraisal (Folkman, Lazarus, Dunkel-Schetter et al., 1986) are considered to have similar functions in that they both are ways of changing the subjective meaning of the person-environment situation. Folkman and Lazarus (1988b) note, however, that selective attention is often easier to maintain than is distortion of reality. Thus, Distancing as a strategy may not provide continued relief from distress in the face of contradictory evidence from the environment, whereas Positive Reappraisal can provide a boost to self-esteem and may be encouraged by others. Similarly, as an emotion-focused strategy, the aim of Escape-Avoidance (Folkman, Lazarus, Dunkel-Schetter et al., 1986) is to help reduce the emotional distress of the individual. Folkman and Lazarus (1988b) cite a number of studies, however, in

which the use of Escape-Avoidance has been found to be associated with greater depression, anxiety and psychosomatic symptoms.

Although denial, Distancing, Positive Reappraisal and Escape-Avoidance are all strategies which serve a similar purpose in reducing the emotional distress of the individual, there is some suggestion that whereas Positive Reappraisal may be associated with more positive emotional states, denial, Distancing and Escape-Avoidance may be associated with more negative states. Thus, though emotion-focused coping strategies are not maladaptive in general terms, if used inappropriately they can result in a worsened emotional state, and in the case of coping with illness, they can potentially increase the health risk for the individual who uses them (Christman et al., 1988; Felton & Revenson, 1984; Felton et al., 1984; Lazarus & Folkman, 1984; Lipowski, 1970).

Coping strategies as predictor variables. A number of studies have examined the relationship between coping strategies, personal, environmental and contextual variables, and a variety of measures of emotional adjustment. Coping strategies and other variables have been used to predict emotional states (Folkman & Lazarus, 1988a), psychological symptoms (Folkman, Lazarus, Gruen, & DeLongis, 1986), distress and marital adjustment (McLaughlin, Cormier, & Cormier, 1988), and psychological adjustment to chronic illness (Felton & Revenson, 1984; Felton et al., 1984),

rheumatoid arthritis (Parker et al., 1988) and myocardial infarction (Christman et al., 1988). Studies have shown various coping strategies to be significantly associated with the outcome measures.

Folkman and Lazarus (1988a) examined the relationship between emotional states throughout a stressful encounter, coping strategies and four emotional outcomes (worried/fearful, disgusted/angry, confident, pleased/happy) in a community group of middle-aged individuals ($N=85$, mean age of women = 39.6, mean age of men = 41.4) and a second group of older individuals ($N=161$, mean age of women = 68.9, mean age of men = 68.3). The younger sample indicated their emotional reactions at the beginning, middle and end of the stressful encounter. The older sample indicated their emotional reactions at the most stressful point during the encounter and at the end. Respondents were not asked to respond to a specific predetermined stressor. The mean scores across time for each person were calculated. Coping strategies were assessed with the WOCS. Hierarchical stepwise regressions were conducted in which the mean emotional scores, emotions at the beginning of the encounter (younger group), emotions at height of encounter (older group) and coping strategies were entered and compared with the four emotional outcomes for each group.

Coping strategies contributed to a significant proportion of the variance in three out of the four regressions in the younger group and in all four analyses in

the older group. In all cases, however, the total variance accounted for by the coping strategies was less than nine percent. In the younger group Distancing and Confrontive coping were positively associated with disgusted/angry and negatively associated with confident and pleased/happy. Conversely, Positive Reappraisal and Planful Problem-Solving were negatively associated with the disgusted/angry outcome, and positively associated with confident and pleased/happy. Accepting Responsibility was negatively associated with the confident outcome. In the older group Accepting Responsibility and Positive Reappraisal were positively associated with worried/fearful, while Planful Problem Solving was negatively associated with disgusted/angry. Seeking Social Support and Planful Problem Solving were positively associated with confident and pleased/happy. Escape-Avoidance was also positively associated with confident and Distancing was negatively associated with pleased/happy.

Although Folkman and Lazarus had expected that Positive Reappraisal and Distancing would both help reduce distress, the evidence suggested that Positive Reappraisal was only associated with an improved emotional state in the younger group and that it was associated with an increase in fear and worry in the older group. Similarly, in the three analyses where Distancing was found to have an effect it contributed to a worsened emotional state. Seeking Social Support, on the other hand, was related to a better

emotional state in the older group.

This study provides evidence demonstrating that the use of different coping strategies is associated with different emotional outcomes. The fact that differences were found between the younger and older group suggest that other psychosocial or demographic variables not assessed by the study may be associated with the choice of strategies and their relation to emotional state. Two problems with the study need to be considered. First, the different data gathering format for the younger and older group may have contributed to the different results. Second, because subjects were allowed to respond to any stressful situation, any response differences based on the nature of the stressor is lost. Given that different stressors are likely to invoke the use of different strategies, it is also likely that this will have an impact on emotional outcomes. These two methodological weaknesses detract from the reliability of the results.

In an earlier study, Folkman, Lazarus, Gruen, and DeLongis (1986) examined the relationship between personality factors, primary and secondary appraisals, coping strategies and measure of psychological symptoms and somatic health in a community based sample of 150 adults. There were 75 men and 75 women in the sample, with mean ages of 41 and 40 years respectively. Coping strategies were assessed with the WOCS.

A hierarchical regression equation was conducted in

which personality characteristics, appraisals and coping strategies were used to predict psychological symptoms. Confrontive coping was positively associated with the outcome variables while Planful Problem Solving was negatively correlated. The authors noted the lack of significant associations with any of the emotion-focused strategies, and suggest that this is due to colinearity amongst the scales. As with the previously described study, the respondents were replying to a nonspecific stressor. It is unlikely that this pattern of response would be the same for specifically identified types of stressors, and as such the results are not necessarily generalizable.

McLaughlin et al. (1988) found that levels of stress, distress and marital adjustment were associated with frequency and number of coping strategies used in a group of 69 multiple-role women (mean age = 30). Two coping strategies were examined, time-management and self-care. Coping was evaluated in terms of type of strategy in general, and number and frequency of specific strategy items used.

Pearson correlations revealed that, in general, higher levels of distress and poor marital adjustment were associated with a limited range of coping strategies and infrequent use of strategies. Further analysis consisted of noncumulative multiple correlations in which coping strategies (time-management, self-care, total coping) were used to predict distress, stress and marital adjustment. In

each case significant correlations were found (all p 's < .05) between coping strategy and measure of adjustment.

Felton et al. (1984) examined the relationship between demographic factors, diagnosis, and coping strategies in predicting different measures of psychological adjustment in a group of 170 chronically ill patients (hypertension, $n=38$; diabetes, $n=44$; rheumatoid arthritis, $n=45$; cancer, $n=42$). The sample was primarily white, middle-class, consisting of 67 men and 103 women, with a mean age of 61. They had had their illness for 65 months on average. Six coping strategies were assessed using a modified version of the WOCS.

A hierarchical analysis of covariance indicated that wish-fulfilling fantasy was the only strategy to be significantly correlated to diagnosis (rheumatoid arthritis). Length of illness was not related to coping strategies. A series of hierarchical multiple regressions equations were conducted in which demographics, diagnosis, individual coping strategies and the interaction terms of coping with diagnosis were used to predict adjustment, measured in terms of positive affect, negative affect, self-esteem and illness acceptance. Cognitive restructuring and information seeking were positively associated with positive affect, while emotional expression, wish-fulfilling fantasy, and self-blame were negatively associated with negative affect. While cognitive restructuring was positively associated with self-esteem, emotional expression, wish-

fulfilling fantasy and self-blame were negatively associated. Similarly, threat minimization was positively associated with acceptance of illness while emotional expression, wish-fulfilling fantasy and self-blame were negatively associated. Individual strategies accounted for between 3% and 11% of the explained variance.

These results suggest that in dealing with illness related stress, emotion-focused strategies such as emotional expression, wish-fulfilling fantasy and self-blame, are generally associated with poorer psychological adjustment. Cognitive restructuring, however, may be associated with more positive affect and higher self-esteem. The authors note that by having participants respond to illness related stress in general, rather than to specific stressors, between disease differences may have been obscured. Further, this approach also fails to distinguish between different stressors experienced within a particular disease group, the nature of which may also be related to coping strategies and adjustment.

Felton and Revenson (1984) examined the relationship of two coping strategies, one palliative and one instrumental, with acceptance of illness and emotional affect. The subjects came from the same study as Felton et al. (1984) and consisted of 151 patients (hypertensive, $n=33$; diabetic, $n=41$; arthritic, $n=45$; cancer, $n=32$) who agreed to both the initial interview and a 7-month follow-up. Wish-fulfilling fantasy was chosen as an emotion-focused strategy and

information seeking was chosen as a problem-focused strategy because of their theoretical and empirical importance in coping with health concerns. The coping strategies were derived from the WOCS, and consisted of 5 items for the information seeking subscale and 8 items for the wish-fulfilling fantasy.

A series of multiple regression analyses were conducted to determine the effects of illness controllability, coping strategies and the interactive effects of the two, on adjustment measured in terms of positive affect, negative affect and illness acceptance at each interview. Somewhat surprisingly, after accounting for illness controllability, information seeking was significantly positively associated with both positive and negative affect, accounting for 13% and 4% of the variance respectively at Time 1. The authors note, however, that the entire equation predicting negative affect did not reach significance, and therefore brings into question the significance of information seeking with negative affect. Information seeking was not significantly related to any of the outcome variables at Time 2. Wish-fulfilling fantasy had a significant positive relation with negative affect and a negative relationship with acceptance of illness at both Time 1 (accounting for 11% and 15% of variance respectively), and at Time 2 (accounting for 8% and 15% of variance respectively). In both cases the interactive effects were nonsignificant.

Another regression equation was conducted in which

adjustment at Time 1, illness controllability, coping and the interactions of controllability and coping were used to predict adjustment at Time 2. In this case information seeking was negatively associated with negative affect, and accounted for 2% of the explained variance, while wish-fulfilling fantasy was negatively associated with acceptance of illness and explained 3% of the variance.

These results suggest that different strategies have different associations with measures of emotional adjustment, and may be related to time. In particular, wish-fulfilling fantasy seems to be associated with poorer affective state and less acceptance of illness consistently over time, whereas information seeking is associated with a better affective state in the early stages of coping.

Parker et al. (1988) examined the relationship between coping strategies and a number of indicators of psychological adjustment in a group of 84 patients with rheumatoid arthritis. The group consisted of 81 men and 3 women, whose mean age was 61. Coping strategies were assessed with a modified version of the WOCS. Canonical correlations and multiple regressions were used to examine the relationship between coping strategies and adjustment.

The subjects were grouped according to disease duration (0-5 years, 6-10 years, 11-20 years, 20+ years). A one-way MANOVA revealed no significant group differences on coping strategies used. The canonical correlation revealed a significant relationship between coping strategies and the

adjustment measures. Multiple regressions showed that cognitive restructuring was negatively associated with depression, while wish-fulfilling fantasy and self-blame were positively associated with depression. Similarly, wish-fulfilling fantasy and self-blame were positively associated with daily hassles. Wish-fulfilling fantasy, self-blame and threat minimization were positively associated with psychological distress, while cognitive restructuring was negatively associated. Subjects were then grouped into high cognitive restructuring/low wish-fulfilling fantasy (HC/LW), and low cognitive restructuring/high wish-fulfilling fantasy (LC/HW) and compared on the hassles and depression measures. Significant differences were found between the groups on both measures.

Once again these results indicate that wish-fulfilling fantasy, self-blame and threat minimization are positively associated with greater emotional distress, while cognitive restructuring is associated with less distress. The grouping of subjects based on the relative use of the two strategies provides a useful example of a means of examining the effect of patterns of coping responses. The fact that no other relevant psychosocial variables were included in the correlation or regression equations weakens the study, however, as other research suggests that other variables are significant in predicting adjustment and may have a greater impact than coping strategies alone.

Christman et al. (1988) examined the relationship

between various demographic variables, illness severity and illness uncertainty, coping strategies (palliative, emotive, confrontive) with emotional distress in a group of 16 female and 54 male myocardial infarction patients (mean age = 58). Emotional distress was measured with the Profile of Mood States (POMS; McNair, Lorr, & Droppelman, 1971). Measurements were taken prior to discharge and at one and four week intervals after discharge.

Hierarchical multiple regressions were conducted for each measurement examining the relationship between demographics, uncertainty, and coping in explaining emotional distress. Uncertainty was significantly positively related to emotional distress at all three measurements, accounting for between 16% and 26% of the explained variance. At the one week point coping strategies accounted for 27% of the variance explaining emotional distress. Of this, 23% was explained by emotive coping, which had a positive correlation with emotional distress. Coping strategies did not contribute significantly to the variance at the other two measurements. Uncertainty was negatively correlated with confrontive coping, which in turn was negatively associated with emotional distress.

These results suggest that uncertainty is a significant predictor of emotional distress in this population, and that shortly after discharge emotive coping is also associated with greater emotional distress. It is surprising that emotive coping was not more strongly associated with

uncertainty as would be expected based on previous research. This relationship may have become more evident as time since discharge increased, a possibility which is suggested by the increasing correlation between the variables across the three measurements.

Taken together these studies provide strong evidence demonstrating that, in conjunction with other variables, coping strategies are associated with different degrees and types of adjustment. With respect to coping with illness concerns the evidence suggests emotion-focused strategies such as wish-fulfilling fantasy or self-blame are associated with greater emotional distress, whereas cognitive restructuring is associated with an improved emotional state. As with the research on coping strategies as criterion variables, a discussion of the above studies as a whole is hampered by the fact that different instruments and coping strategies are used. Another weakness of the studies is that types of stressors have not been clearly defined, possibly resulting in an inability to distinguish different response patterns for different stressors. The moderating effect of other variables on the choice of strategies used is also not well defined. Folkman, Lazarus, Gruen, and DeLongis (1986) suggest that problem-focused strategies (Planful Problem Solving, Confrontive, Seeking Social Support) may be more strongly affected by situational variables, whereas Positive Reappraisal may be more strongly affected by personality factors. In order to have a clearer

understanding of the relationship of coping strategies to adjustment, both with regards to health concerns and with respect to stress in general, it is important that analyses be made which take into account the impact of different types of stressors, and that the personal, environmental and contextual variables which help determine the use of certain coping strategies be better understood.

HIV Infection and Its Consequences

The HIV/AIDS continuum. AIDS is the end stage of an illness progression which begins with exposure to the Human Immunodeficiency Virus (HIV). When an individual receives an HIV+ diagnosis it indicates that he or she has been exposed to and is a carrier of the virus. Once exposed, however, there is not a consistent course of development from HIV seropositivity to full-blown AIDS. HIV+ individuals may manifest no health problems for many years, or they may develop symptoms such as night sweats, excessive diarrhea, loss of weight, swollen glands, and persistent coughs. These various symptoms have at times been called AIDS-Related Complex (ARC). The status of full-blown AIDS is typically reserved for evidence of specific symptoms and opportunistic infections including Kaposi's sarcoma, Pneumocystis carinii pneumonia, wasting and dementia. A recent study found that after three years, 22% of an HIV+ population had developed AIDS with an additional 19% having developed AIDS related conditions. The study projected that by six years over half of the population would develop AIDS

and 75% would have AIDS or AIDS related conditions (Moss et al., 1988).

Although earlier articles often referred to ARC as a specific condition it has proven difficult to clearly define as a diagnostic entity. The current trend is to no longer use ARC as a descriptive term, the distinction being made between HIV positive status and full blown AIDS. In this study, unless otherwise stated, HIV+ will refer to both nonsymptomatic HIV positive status as well as ARC.

As a result of the increased health risk and the nature and severity of the associated illnesses, an AIDS diagnosis is usually seen as distinctive from an HIV+ or ARC diagnosis. In terms of psychological reactions and coping issues, as well, distinctions have been made between people with AIDS and people with HIV or ARC (Miller & Green, 1985; Morin et al., 1984; Moynihan et al., 1988; Ross & Rosser, 1988). Given that qualitative differences may exist between people who are HIV+ and people who have AIDS, it is important that research into the psychosocial aspects of HIV infection distinguish between the two groups.

Psychological reactions to infection. An HIV+ diagnosis has the potential to impact on all aspects of a person's life. Similar to others who have chronic or terminal illness (Kubler-Ross, 1969), the reactions of people with HIV or AIDS can include feelings of guilt, shame, self-blame, anger, depression and denial (Furstenberg & Olson, 1984; Hirsch & Enlow, 1984; Morin et al., 1984;

Ross & Rosser, 1988; Stulberg & Buckingham, 1988; Wolcott, Namir et al., 1986). In some cases, the threat associated with infection can contribute to meaningful changes in the individual's life (Grimshaw, 1987). Predominantly, though, writers talk of the negative reactions to infection.

Because HIV can remain dormant or only result in low grade infections for a number of years, HIV+ individuals have no clear sense of their present or future health status and must live with a high degree of uncertainty and ambiguity. As a result of this uncertainty HIV+ individuals have been described as being in the "grey zone" (Morin et al., 1984), playing a "waiting game" (Miller & Green, 1985) in which they must be constantly vigilant for the tell-tale signs of ARC or AIDS. This uncertainty can cause an enormous amount of stress and anxiety, as well as feelings of loss of control and a sense of powerlessness, in the lives of infected individuals (Furstenberg & Olson, 1984; Haney, 1988; Kinnier, 1986; Miller & Green, 1985). The feelings of hopelessness and anxiety may be worse for people with HIV than for people with AIDS (Moynihan et al., 1988).

AIDS, homosexuals and society. Before the disease was better understood and before it was officially recognized, AIDS was known as Gay-Related Immuno-Deficiency (GRID) or simply as the "gay plague" (Macks & Turner, 1986). This has in large part been due to the fact that to date in North America the majority of diagnosed cases of AIDS and HIV

infection have been in homosexual or bisexual men. As of April, 1987, 66% of the diagnosed cases of AIDS in the U.S. were in gay men (Greig, 1987). Of the 2046 diagnosed cases of AIDS in Canada as of December, 1988, 1765 or 86.3% of those were in homosexual or bisexual men (Federal Centre for AIDS) and 1985 of the 2430 people who tested positive for HIV in B.C. between October, 1985 and July, 1988, 1917 were homosexual or bisexual men (AIDS Information Line). This preponderance of cases in the gay community has served to exaggerate the prevailing homophobic sentiments of society to the point that the "traditional dread of homosexuality has become part of the irrational reaction to AIDS" (Nichols, 1984, p. 86), which in turn has created a negative metaphor with respect to the disease (Herek & Glunt, 1988; Valdiserri, 1987) encompassing both AIDS and the gay community.

AIDS represents a threat to the lifestyle and identity of the gay male and the gay community (Price et al., 1986). The apparent connection between homosexuality and AIDS is also felt within the gay community, and may be heightened or exaggerated as a result of the homophobic climate surrounding the community. One consequence of this threat is that some gay men develop an internalized homophobic reaction in which they experience their own sexuality and lifestyle in a negative way (Grant & Anns, 1988; Harowski, 1987; Hirsch & Enlow, 1984; Ross & Rosser, 1988). Hirsch and Enlow (1984) state that:

An increase in internalized homophobia is one of the clear presenting psychological reactions to the threat of AIDS for the gay man...Within the gay community, the homophobic response to AIDS is amplified, incorporated into the perception of the self, and internalized into the individual's negative self-image (pp. 275-276).

There is often a tendency for people to assign guilt and responsibility to the ill for their illness (Namir, 1986; Valdiserri, 1987), and the ill themselves often "assume a burden of guilt in accepting the notion that their lifestyle or personal inadequacies have caused...their illness" (Cassileth, Lusk, Miller, Brown, & Miller, 1985, p. 1555). Some have openly touted AIDS as evidence of the immorality of homosexual practices and lifestyle (Fletcher, 1984) and many writers have noted with dismay the presence of a 'blame the victim' mentality in both the straight and gay communities (Batchelor, 1984; Furstenberg & Olson, 1984; Grimshaw, 1987; Haney, 1988; Harowski, 1987; Herek & Glunt, 1988; Kopelman, 1988; Quadland & Shattls, 1987; Ross, 1988). As a result, some gay men blame themselves for their infection and see their diagnosis as punishment for their orientation and lifestyle (Dilley et al., 1985; Furstenberg & Olson, 1984).

The particulars of an HIV+ diagnosis present a potentially large number of complicating factors which could impinge on or affect the coping of gay men. Gay men must face not one threat but a host of potential stressors.

These can range from concerns about the future, difficulties in telling others of one's diagnosis, changes in lifestyle, or feelings of guilt and blame over being infected, to name a few. Given the stigma surrounding AIDS and the homophobic sentiment present in much of today's society it is possible that, with respect to Cobb's (1976) definition of social support, HIV+ gay men would not likely feel loved, valued, respected and part of a network of mutual obligation with respect to society at large. As well, gay men run the risk of internalizing this negative attitude, further damaging a self-esteem already shaken as a result of infection with a potentially lethal sexually transmitted disease. Taken together these various factors could be expected to affect the coping strategies used by HIV+ gay men in response to the stresses associated with their infection.

Psychosocial AIDS Research

Although there has been considerable research into the medical aspects of AIDS, there has been considerably less research into the psychosocial aspects of the illness. The disparity is even greater when the distinction is made between people who are HIV+ and people with full blown AIDS. Many writers have reported anecdotal information on the psychosocial consequences of AIDS and/or HIV infection for gay men, but there have been to date only a handful of studies which have investigated the problem empirically. A number of the studies that have been undertaken examined the relationships between factors such as social support,

internalized homophobia, self-esteem, coping strategies and self-blame, and mood states or emotional distress. The analyses used in these studies typically consisted of determining the Pearson product-moment correlations amongst the variables. More sophisticated analyses, such as multiple regressions, were less commonly used.

AIDS and social support. Social support is a factor which has been examined by many of the studies. Social support was conceptualized in different ways by different researchers but typically was evaluated in terms of some combination of numbers of peoples in the respondent's support network, availability of support, type of support desired and satisfaction with support received.

Donlou et al. (1985) conducted a study which examined the relationship between social support, self-esteem and mood state. Four gay men with ARC and 17 with AIDS participated, all of who were outpatients at UCLA Medical Center. Social support was assessed by the Resources and Social Supports Questionnaire (Meyers, 1982), a newly devised instrument, for which reliability and validity studies were underway. The instrument conceived of social support in terms of numbers and types of individuals in the respondent's network (i.e., family, friends, lovers, health care professionals), the probability that the respondent would ask for help from this person and the likelihood help would be useful if received. The instrument did not distinguish between available and utilized support. Self-

esteem was measured by the 9-item Simmons scale (Simmons et al., 1977), and mood state was evaluated using the POMS.

Pearson correlations were calculated for the 21 respondents between the POMS subscales and total mood disturbance, the self-esteem scale, and the social support scales. The study found no significant differences between AIDS and ARC subjects on any of the variables. Self-esteem was not significantly correlated with the total social support score but was negatively correlated with the professional component of the social support scale ($r = -.59$, $p < .01$), and correlated positively with the partner/lover component ($r = .58$, $p < .01$). This is somewhat surprising given that professionals were ranked much higher than lovers on the likelihood that they would be asked for help and that their support would be helpful. This perhaps suggests that respondents with low self-esteem felt they had no other option but to seek help from professionals, whereas men with higher self-esteem were more likely to have or be able to approach a partner/lover for support. The total mood disturbance score on the POMS (POMS-TMD) did not correlate significantly with any of the social support scores.

As part of a larger study Wolcott, Namir et al. (1986) assessed social support in a group of 50 gay men who were AIDS outpatients within three months of diagnosis. Social support was assessed with the same instrument used by Donlou et al. (1985). Unlike Donlou et al., Wolcott, Namir et al. made a distinction between social support satisfaction and

numbers of people that the individual received help from, thus the results are somewhat different. Social support satisfaction was found to correlate positively with self-esteem, as measured by the Simmons scale ($r=.51$, $p<.01$), and negatively with mood disturbance as measured by the POMS ($r=-.54$, $p<.001$). The number of people helping did not correlate significantly with self-esteem but did correlate with mood disturbance ($r=-.34$, $p<.05$). Neither aspect of social support correlated significantly with homophobia as measured by the Nungesser Homosexual Attitudes Inventory (NHAI; Nungesser, 1979). Contrary to the authors' expectations, gay men with AIDS were not found to have small dysfunctional social support networks.

The two studies provide conflicting information on numbers in support networks and types of social support deemed desirable as compared to types used. In terms of numbers, Donlou et al. (1985) found respondents had a mean of 39.0 ($SD=11.3$) in their social network, excluding professionals, that they felt they could turn to for support. Of these, 81% felt they were likely to ask a close friend for help, followed by 47% for a doctor and 42% for a professional counsellor. Family members and lovers ranked below 40%. Wolcott, Namir et al. (1986), however, reported a mean of 9.3 ($SD = 8.4$) for number in social network. Similarly, Donlou et al. found that subjects had a mean of 17.8 family members in their social network, while Wolcott, Namir et al. found a mean of 2.3. Wolcott, Namir et al.

took this to indicate a possible estrangement between gay men and their families, yet this contention would not seem to be supported by Donlou et al.'s findings. At the same time, however, Donlou et al. also found that respondents did not perceive family members to be a helpful resource and were more likely to turn to friends or professionals for help.

Wolcott, Fawzy, Landsverk, and McCombs (1986) examined the psychosocial service needs of AIDS patients and their families. Subjects were individuals who were receiving help from the AIDS Project/Los Angeles (AP/LA) and the Gay and Lesbian Community Services Centre (GLCSC). Seventy-one men with AIDS and 7 family members of AIDS patients were surveyed. Unfortunately, not only did the authors neglected to describe the instruments used in their survey, but after surveying 30 subjects they shortened their research form. Because of these procedural weaknesses the reliability of the data must be considered.

With respect to social support, 90% of the respondents said they turned to friends for support, 82% to physicians, 73% to family members, with only 44% turning to lovers or spouses. These figures are somewhat different from those found by Donlou et al. (1985) where, although friends also ranked high and lovers low, physicians and family members were also found to rank lower. With respect to the degree of helpfulness, 90% of subjects rated lovers as extremely or very helpful, followed by 87% for family, with 52% rating

physicians as extremely or very helpful. This again differs from Donlou et al.'s findings in which lovers, family and doctors were ranked by less than 43% of the subjects as very helpful. In the case of Donlou et al., however, the subjects were responding to how helpful support would likely be, whereas with Wolcott, Fawzy et al. subjects were responding to actual help received.

AIDS subjects rated a greater interest in medical information than emotional support, which in turn was rated higher than practical assistance. However, in all cases those who stated interest in a service outnumbered those who actually utilized a service. For example, 93% expressed an interest in current treatment information while only 43% utilized such information. Similarly, while 81% of respondents indicated an interest in individual therapy and 73% in group therapy, only 28% had actually engaged in individual therapy and only 36% in group therapy. Similarly, Wolcott, Namir et al. (1986) found that 31% of respondents were currently in individual therapy and 18% were in group therapy. In contrast, Donlou et al. (1985) found that 43% of the respondents felt that they would be likely to ask a professional counsellor for help. These figures indicate that although expressed interest in social support may be high, fewer gay men actually seek out support, particularly of a professional nature.

In another study Zich and Temoshok (1987) expected to find that social support would correlate negatively with

indices of distress, which were in part assessed by the subscales of the POMS. Fifty-three gay men with ARC and 50 with AIDS made up the sample. The social support instrument was newly created by the first author, and examined the perception of social support along four parameters: how desirable it was, how available, how often used, and how useful. The instrument consisted of eight questions which the subject answered along a 5-point scale with respect to each of the above four parameters. The questions were also broken down into two subscales of three questions each which addressed emotionally-sustaining support ("someone to talk to", "someone who understands your problems or feelings") and problem-solving support ("someone who gives you suggestion or advice about how to solve a problem", "someone to whom you can turn when you need to borrow something"). The instrument did not assess numbers or types of support. Reliability coefficients for the total eight questions for each parameter ranged from .84 to .89, while for the emotionally-sustaining questions they ranged from .74 to .88 and from .64 to .73 for the problem-solving. The authors provide no validity data for the instrument. Being newly devised, the validity and reliability of the instrument must be questioned.

With respect to persons with ARC, neither the desirability nor the usefulness of the social support correlated significantly with the distress indices. The perceived availability of support, however, correlated

negatively with the depression-dejection subscale on the POMS ($r = -.43$, $p < .01$), the tension-anxiety subscale ($r = -.32$, $p < .05$), and the anger-hostility subscale ($r = -.44$, $p < .005$). Similarly, how often a support was used correlated negatively with depression-dejection ($r = -.40$, $p < .05$) and anger-hostility ($r = -.31$, $p < .05$). These results tend to suggest that it is the perceived availability and the enacted use of social support that is more important in determining distress for gay men with ARC than the desirability or usefulness of support. Because Zich and Temoshok do not show the correlation of the social support measures with the total POMS score it is difficult to compare the results with those of Wolcott, Namir et al. (1986) or Donlou et al. (1985). Although Wolcott, Namir et al. did find a significant correlation between satisfaction with social support and the POMS-TMD, it is not clear how satisfaction relates to the four parameters used by Zich and Temoshok.

The authors state that no significant differences were found between ARC and AIDS subjects in terms of emotional- and problem-solving support, and that the scores of the two groups were therefore combined for further analysis. Emotionally-sustaining support was found to rate higher across all four parameters than problem-solving support. This is consistent with Folkman and Lazarus' (1980) finding that emotion-focused coping was used more than problem-focused when dealing with illness concerns and with Wolcott,

Namir et al. (1986) who found that emotional support and illness-related emotional support were rated as very important by 68% and 58% of the respondents respectively. It is also somewhat suggested by Namir et al. (1987) who found an active-expressive coping strategy to correlate higher with their social support variables than did an active-reliance strategy.

Although these studies provide much information on social support needs and perceptions of gay men with AIDS and ARC there are a number of concerns which must be considered. First, as has been pointed out, the instruments used to assess social support are often examining quantitatively and qualitatively different concepts. This makes comparisons across studies difficult and may explain some of the inconsistent results obtained. Second, the differing results with respect to desirability and usefulness of different types of support do not provide a clear picture of this issue and suggest that further study is required. Third, only one study (Zich & Temoshok, 1987) is able to distinguish between persons with AIDS and persons with ARC. The study by Donlou et al. (1985) suffers from a low number of subjects to begin with and has only 4 subjects with ARC, making it difficult to draw firm conclusions about this group from the results. As such, the information obtained by these studies may or may not be relevant to HIV+ gay men. Although Zich and Temoshok did find some differences between men with AIDS and men with ARC,

suggesting that there may be differences between men with AIDS and men with HIV generally, this position cannot be stated with confidence. Furthermore, these findings do not suggest that gay men with AIDS as a group have smaller or less adequate social support than other gay men. What the studies do suggest, however, is that in gay men with AIDS social support is associated both with mood state and with self-esteem, and is therefore an important psychosocial variable to consider.

AIDS and internalized homophobia. Although much of the literature suggests that internalized homophobia is a factor that many gay men have to come to terms with, both as a result of having an HIV infection, and as a result of the AIDS crisis in general, there has been little systematic research to examine the effects of homophobia on the lives of HIV+ gay men. Wolcott, Namir et al. (1986) examined the relationship between internalized homophobia, social support, self-esteem and illness concerns in 50 gay men within three months of an AIDS diagnosis. Internalized homophobia was assessed using the NHA1, an instrument devised for use with gay men in which a higher score indicates a greater acceptance of homosexuality.

Wolcott, Namir et al. (1986) found that on the whole gay men with AIDS had a more negative attitude towards homosexuality than a group of healthy gay men ($\bar{M}=111.7$, $SD=13.5$; $\bar{M}=131.0$, $SD=19.3$ respectively), but they suggest that these differences are not significant. This conclusion

must be considered with caution, however, as the figures for healthy gay men were obtained from an earlier unrelated study (McDonald, 1984) and may not be appropriate for comparison. Wolcott, Namir et al. suggest that, as a group, an increase in internalized homophobia is not evident in newly diagnosed gay men with AIDS, although it may be an issue for certain individuals. Although the authors do not suggest the point, their findings are consistent with the idea that a homophobic reaction is more likely for some men than others, and that it may be associated with other variables, such as degree of having 'come out' or involvement in the gay community.

The authors found that a positive attitude towards homosexuality was not significantly correlated with social support satisfaction or with self-esteem. It is somewhat surprising that a positive attitude towards one's sexuality would not be more strongly correlated with self-esteem in general. As was mentioned earlier, social support and self-esteem did show a significant positive correlation ($r=.51$, $p<.01$). Internalized homophobia did correlate significantly with emotional distress ($r=-.40$, $p<.05$) as measured by the POMS-TMD score, and with higher levels of total illness concerns ($r=-.50$, $p<.01$).

Although this study suggests that internalized homophobia may be associated with the well-being of gay men with AIDS, it does not necessarily suggest the same would be true for HIV+ gay men. A second area of concern is that the

study was conducted at a time when AIDS was still a relatively new phenomenon, and its connection with the gay community was not as well understood. In subsequent years scientific understanding and public education have increased. Because of this it is not unreasonable to expect that there may be differences in the NHA1 and POMS-TMD scores of gay men of today as opposed to gay men of 1984-85. The constantly changing context of the AIDS crisis demands that all early studies be viewed from a somewhat historical perspective, recognizing that changing circumstances may be reflected in changing scores on indices of self-esteem, homophobia and mood.

AIDS and self-esteem. A number of studies have examined self-esteem in connection with other variables. Donlou et al. (1985) assessed self-esteem using the 9-item Simmons scale. As a group ($N=21$) the respondents reported intact self-esteem, although 7 of the 21 manifested low self-esteem by scoring 3 or less on the Simmons scale. Wolcott, Namir et al. (1986) also used the Simmons scale and found that as a group ($N=50$) subjects had intact self-esteem ($M=4.0$, $SD=2.9$), although, similar to the findings of Donlou, 37% of the respondents had a self-esteem score of 3 or less, indicating low self-esteem. As was mentioned earlier, self-esteem was found to be significantly associated with health concerns (Wolcott, Namir et al., 1986) and with aspects of social support (Donlou et al., 1985; Wolcott, Namir et al., 1986). Donlou et al. found self-esteem showed

a significant negative correlation with the POMS-TMD ($r = -.44$, $p < .01$). Unfortunately, Wolcott, Namir et al. do not provide information as to the correlation between self-esteem scores and mood disturbance (POMS) scores.

Similarly, Namir et al. (1987), reporting on different aspects of the same study reported on by Wolcott, Namir et al., also fail to provide correlations between self-esteem and mood state.

In short, the previous studies suggest that, as a group, gay men with AIDS do not suffer a loss of self-esteem after diagnosis, although a certain proportion of the population does manifest low self-esteem. Because these studies all take place after the respondents have been diagnosed, however, it is not possible to determine what the self-esteem level of respondents was before diagnosis. As a result, it is unclear what impact an AIDS diagnosis has on the self-esteem of gay men. Self-esteem does seem to be related to other psychosocial variables (social support, health concerns), however, and, as might be expected, has been shown by one study to have a negative association with poor mood state.

AIDS and coping strategies. There have been few studies which have attempted to examine the specific coping strategies used by HIV+ or AIDS diagnosed gay men. Namir, Wolcott, Fawzy, and Alumbaugh (1987) examined the relationship between coping styles and self-esteem, health and mood states. Because the results are based on the same

sample as was reported on by Wolcott, Namir et al. (1986), the criticisms which can be made of the Wolcott's results can also be made of Namir's results.

In order to assess coping styles and coping strategies the authors used the Dealing With Illness Inventory, which was developed by the authors for the study, and was based on the WOCS and included many of the same or similar items. Subjects responded to statements along a 5-point Likert scale ranging from 'never' to 'always'. Unlike the WOCS, though, in which clients are asked to respond to a stressor they have experienced in the past week, the Dealing With Illness Inventory had no time frame (other than the three months since the subject's diagnosis). This introduces the risk of time-lag bias and reviewers of the WOCS (Tennen & Herzberger, 1985) have strongly recommended that subjects be focused to a defined time frame. Subjects were also not asked to identify a specific stressor but responded to coping with their illness in general. Once again, it has been suggested that in conducting stress research it is more effective to have the subject identify a specific stressor (Folkman, 1982), as different stressors may be appraised differently and elicit different coping strategies. It is apparent from the preceding discussion that an HIV diagnosis can impact in a number of ways on an individual's life. Subjects may experience these different stressors in different ways and may invoke the use of different coping strategies to deal with them. By having respondents only

address coping with their illness in a general way, Namir et al.'s results do not clearly delineate between different stressors and potentially different approaches to coping.

Namir et al. (1987) identified eight coping strategies (positive involvement, express/information seeking, reliance on others, positive understanding/create meaning, passive/ruminative, distraction, passive resignation and solitary/passive) which were grouped into three broad coping methods (active-behavioral, active-cognitive, and avoidance). Cronbach alphas for the eight strategies ranged from .63 to .90. Active-cognitive was the most used coping method ($\bar{M}=3.40$, $SD=1.08$), followed by active-behavioural ($\bar{M}=2.97$, $SD=1.01$), and avoidance ($\bar{M}=2.48$, $SD=1.09$). Of the coping strategies, cognitive-positive/create meaning, which is similar to the Positive Reappraisal strategy of Lazarus, Folkman, Dunkel-Schetter et al. (1986), was used most frequently ($\bar{M}=3.97$, $SD=.99$). The next six strategies had means ranging from 3.07 to 3.53. Avoidance as a coping strategy was used the least ($\bar{M}=1.86$, $SD=1.57$).

Namir et al. (1987) found that the use of avoidance as a means of coping showed a significant positive correlation with depression ($r=.43$, $p<.01$) and anxiety ($r=.31$, $p<.05$) as measured by the POMS, and a significant negative correlation with self-esteem ($r=-.47$, $p<.01$) and the numbers of people in one's social support network ($r=-.32$ to $-.33$, $p<.05$). Although cognitive-behavioural was the most used method, an active-behavioural method of coping was associated with a

more positive affective state and higher self-esteem. Active-behavioural was negatively correlated with total mood disturbance ($r = -.45$, $p < .01$), and was positively correlated with self-esteem ($r = .36$, $p < .05$) and with the social support variables ($r = .35$ to $.51$, $p < .05$). An active-cognitive approach, showed a similar direction to the active-behavioural approach, but not reach statistical significance with any of the variables. When satisfaction with support, instrumental support, and coping methods were entered into a stepwise regression predicting the POMS-TMD score, avoidance ($F = 6.69$, $p < .01$) and active-behavioural ($F = 4.08$, $p < .05$) entered significantly and accounted for 7% and 8% of the variance respectively. Avoidance had a positive relationship with poor mood state ($B = .50$), while active-behavioural had a negative relationship ($B = -.45$).

In terms of specific coping strategies, active-positive and distraction both showed significant negative correlations with the POMS-TMD ($r = -.58$, $p < .001$; $r = -.38$, $p < .05$, respectively), while avoidance and cognitive-passive/ruminative showed significant positive correlations ($r = .42$, $p < .01$; $r = .40$, $p < .01$, respectively). Active-positive and cognitive-positive had significant positive correlations with self-esteem ($r = .58$, $p < .0001$; $r = .34$, $p < .05$, respectively), while avoidance and cognitive-passive/ruminative showed significant negative correlations ($r = -.40$, $p < .01$; $r = -.39$, $p < .01$, respectively). Similarly active-positive and distraction correlated negatively with

the POMS-TMD scores ($r = -.58$, $p < .001$; $r = -.38$, $p < .05$, respectively), while cognitive-passive/ruminative and avoidance correlated positively ($r = .40$, $p < .01$; $r = .42$, $p < .01$, respectively).

These results indicate that the use of the strategies, avoidance and cognitive-passive/rumination, is associated with emotional distress and lower self-esteem, while the use of active-positive and distancing strategies is associated with better mood state and self-esteem. These results imply that the use of a more active-behavioural coping approach by people with AIDS or ARC is more likely to be associated with better emotional adjustment, whereas the use of avoidance or rumination is likely to be associated with poorer emotional adjustment.

The way in which Namir et al. (1987) have grouped the eight coping strategies into three coping methods causes some difficulties in trying to interpret the results. Avoidance as a coping method consists of the items from the distraction and avoidance coping strategies. Yet avoidance as a coping strategy was associated with lower self-esteem while distraction was not. In terms of interpretation it would make more sense to consider the findings in terms of coping strategies as opposed to the broader coping methods, as this gives a clearer picture of specific groupings of related thoughts and behaviours. A second alternative is to reexamine the strategies which have been grouped together to form the coping methods. An examination of the Pearson

correlations between the strategies would indicate which strategies were more strongly associated, and hence more likely to be occurring together, and would therefore suggest more appropriate groupings of strategies from which to form coping methods.

AIDS and mood states. Donlou et al. (1985) compared POMS scores of AIDS patients with other chronic and/or seriously ill patients. Subjects with AIDS or ARC ($n=21$) had higher group means on four of five subscales and the TMD ($M=89.4$, $SD=36.2$) for the POMS when compared with similar groups of men waiting for bone marrow transplants ($n=5$) and those with chronic renal failure ($n=22$). These results suggest that a disturbance of mood may be associated with a diagnosis of AIDS or ARC, and that, on average, it will be of greater degree than that experienced by other groups of chronically ill people. These figures must be contrasted with those of Wolcott, Namir et al. (1986) who reported a somewhat lower POMS-TMD ($M=79.5$, $SD=38.6$).

Summary

The evidence accumulated to date suggests that self-esteem, social support, homophobia and coping strategies are associated with mood states in AIDS diagnosed gay men. Further, gay men with an AIDS or ARC diagnosis are likely to experience greater mood disturbance than healthy individuals and other groups of chronically ill people. These studies have weaknesses, however, which limit the usefulness or reliability of their findings when considering the situation

of HIV+ gay men. One drawback is that the majority of the studies have focused on men with full-blown AIDS, and thus the results may or may not be applicable to men who are HIV+. As well, the analyses used in the majority of studies have consisted of simple correlations, which only indicate significant relationships between any two variables independently, rather than taking into account the interactive effects of the other variables in the study.

To date no study has been conducted to determine whether these various factors have any association with specific coping strategies used by HIV+ gay men in dealing with their infection. Although the work of Namir et al. (1987) suggests that different coping strategies are associated with differing levels of self-esteem, social support, and emotional well-being in infected gay men, the study does not give any indication of which factors might predict the use of different coping strategies.

Given that various combinations of personal, environmental and contextual variables have been found to be associated with the use of different coping strategies in populations with health or illness concerns, the present study is designed to investigate the association of a number of factors relevant to HIV+ gay men with their use of certain coping strategies in dealing with infection related stress. Furthermore, given that the use of different coping strategies has been associated with varying degrees of emotional well-being and adjustment in other health related

areas, including AIDS, this study will also examine the relationship between the greater relative use of one strategy over another and the emotional well-being of HIV+ gay men. Based on previous research findings it is expected that different combinations of factors would be associated with the greater relative use of different coping strategies, and that the greater relative use of different strategies would in turn be associated with differing levels of emotional well-being.

Hypotheses

Hypothesis 1. Singly or in combination there is a significant linear relationship between time since diagnosis, stressor type, internalized homophobia, self-esteem, social support, the interactive effects of internalized homophobia with self-esteem and with social support, and the relative use of Avoidant coping. Avoidant coping consists of the items comprising the Distancing and Escape-Avoidance subscales from the WOCS (Folkman, Lazarus, Dunkel-Schetter et al., 1986).

Hypothesis 2. Singly or in combination there is a significant linear relationship between time since diagnosis, stressor type, internalized homophobia, self-esteem, social support, the interactive effects of internalized homophobia with self-esteem and with social support, and the relative use of Proactive coping. Proactive coping consists of the items comprising the Positive Reappraisal and Seeking Social Support subscales from the WOCS (Folkman, Lazarus, Dunkel-Schetter et al., 1986).

Hypothesis 3. There is a significant relationship between the relative use of Avoidant coping and mood disturbance or emotional distress. The relationship will be of moderate strength ($r < .40$).

Hypothesis 4. There is a significant relationship between the relative use of Proactive coping and mood disturbance or emotional distress. The relationship will be

of moderate strength ($r < .40$).

Method

Subjects

Eligible subjects ($N=89$) for the study consisted of gay men who had tested positive for HIV and who identified homosexual contact as the cause of their infection. Only individuals whose present diagnostic status was HIV+ or ARC were utilized. Although ARC has proven difficult to define as a diagnostic entity and the trend is to no longer use it as a descriptive term, it was felt that some subjects might use the term to characterize their status, given that it has been in common usage. In this study, however, HIV+ refers to both asymptomatic HIV positive status as well as to ARC, unless otherwise stated.

Respondents were primarily caucasian, middle-aged ($M=35.7$) and well educated. The majority were working full-time, with over half being in professional or managerial positions, earning over 10 thousand dollars Canadian per annum. Most men identified themselves as homosexual (89%) as opposed to bisexual (11%), but in either case had considered themselves so for an average of nearly 20 years. Roughly half were single while one third were living with a lover. A third of the respondents stated no religious affiliation while half were either Catholic or Protestant. Nearly three quarters of the respondents were HIV+, while the remaining were diagnosed with ARC. Similar to the findings of Donlou et al. (1985) and Wolcott, Namir et al. (1986), respondents indicated that they had approached more

friends and family members for help than doctors or other professionals. Overall, the demographic makeup of the respondents (see Table 1) is consistent with the samples of other AIDS-related studies involving gay men (Joseph, Montgomery et al., 1987; Moulton et al., 1987; Stulberg & Smith, 1988; Wolcott, Namir et al., 1986).

Procedure

An anonymous self-report questionnaire package was distributed with the assistance of agencies and individuals in Vancouver, Winnipeg and Toronto working with HIV+ persons. In Vancouver these included AIDS Vancouver, the Persons With AIDS Coalition (PWA), and the Infectious Diseases Clinic at St. Paul's Hospital. In Toronto distribution took place through the AIDS Committee of Toronto and the Hassle Free Clinic, while the Village Clinic helped distribute in Winnipeg. Various doctors and health professionals working privately with HIV+ individuals in each city also helped distribute questionnaires. The study was further publicized and volunteers recruited in Vancouver through local newspapers and radio stations.

Participation in the study was on a strictly voluntary basis and was not contingent on receiving help from any of the agencies or individuals. Subjects who agreed to participate filled out a questionnaire package consisting of inventories assessing their perceived social support, their attitudes towards homosexuality, their self-esteem, their present mood state, and the coping strategies they used in

Table 1

Demographic Characteristics of Sample (N=89)

Characteristic	%	<u>M</u>	<u>SD</u>	Range
Age (<u>n</u> =87)		35.7	7.3	23-62
Numbers and type of social support utilized				
Friends or family (<u>n</u> =73)		7.5	8.3	0-50
Professional support (<u>n</u> =81)		4.3	3.4	1-15
Orientation				
Homosexual	88.8			
Bisexual	11.2			
Diagnostic status				
HIV+	71.9			
ARC	28.1			
Education (<u>n</u> =88)				
Less than Grade 12	14.8			
High school graduate	19.3			
Some university	33.0			
Bachelors degree	22.7			
Masters degree	4.5			
Doctoral degree	5.7			
Employment				
Full-time	73.0			
Part-time	4.5			
Unemployed/Disability	21.3			

Occupation (n=88)

Professional	30.7
Managerial	21.6
Clerical	6.8
Technical	12.5
Sales	4.5
Service	11.4
Manual	5.7
Other	6.8

Income

Under \$10,000	7.9
\$10,000 to \$19,999	24.7
\$20,000 to \$29,999	22.5
\$30,000 to \$49,999	32.6
\$50,000 to \$100,000	11.2
Over \$100,000	1.1

Ethnic background

Black	1.1
Caucasian	97.8
Native Indian	1.1

Religion

Catholic	22.5
Jewish	1.1
Protestant	36.0
None	31.5
Other	9.0

Relationship status

Single	44.9
In committed relationship, but not living with lover	7.9
Living with lover	36.0
Separated/divorced/widowed	10.1
Married	1.1

Note. Different n's are the result of missing data.

response to stressors associated with having an HIV+ infection. Subjects were provided with a stamped, self-addressed envelope with which to return the package. Confidentiality was a priority of the study. To ensure this, the only identification appearing on the package was a questionnaire identification number. Subjects were expressly cautioned not to put their name on the package. (See Appendix A)

Distribution and collection of questionnaires took place between December 15, 1988 and April 30, 1989. A total of 369 questionnaires were given to the various agencies and individuals for distribution. Of this number 104 (28.2%) were completed and returned. Of the 104 which were returned 15 (14.4%) were ineligible for use. Three of these were incorrectly or incompletely filled out. Three of the subjects were uncertain how they had been infected while another three identified sharing of IV drug needles. Three of the respondents had AIDS while the final three were unable to identify an HIV related stressor. The remaining total of 89 questionnaires were acceptable and were used in the analyses. See Table 2 for a complete breakdown of numbers and locations of questionnaires distributed, return rates and ineligible questionnaires.

Instruments

Demographic information. A wide range of demographic information was gathered including age, occupation, education, religious preference, the number of years the

Table 2

Questionnaire Distribution and Return Figures

	<u>N</u>	<u>n</u>	%
Released for distribution			
Clinics and agencies			
Vancouver	150	51	33.3
Winnipeg	25	3	12.0
Toronto	75	14	18.7
Doctors and individuals			
Vancouver	<u>119</u>	<u>36</u>	30.3
Total	369	104	28.2

subject had identified himself as homosexual or bisexual, degree of involvement in the gay community, number of professional and non-professional people told about the diagnosis, and the respondent's expectation of developing AIDS. (see Appendix B)

Predictor Variables. Respondents were asked to indicate how long it had been in years and/or months since they received their HIV+ diagnosis. This figure was converted into months for use in analysis.

Respondents were asked to pick from a list of five stressors identified in the literature as being common issues for HIV+ gay men. These included: (a) feeling badly about being infected; (b) worrying about one's health or the future; (c) talking with or telling others about one's diagnosis; (d) dealing with changes in lifestyle; (e) a stressor not listed. If respondents identified more than one category as stressful this was coded as (f) multiple stressors for purpose of analysis. With regards to stressors, 49% of the respondents said that worrying about their health or the future was stressful, changes in lifestyle was identified by 15% of the participants, telling others about their diagnosis was a stressor for 11%, and 11% identified multiple stressors. These results were converted into a dichotomous variable, with worry about health or future forming one group set equal to 1, and the other stressors collapsed into a second category set equal to 0.

The Nungesser Homosexual Attitudes Inventory (NHA1;

Nungesser, 1979) is a 34-item instrument which provides a general measure of homophobic prejudice in homosexual men. It was developed for use with and tested with homosexual men. Subjects respond to questions on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questions are roughly equally divided between those in which a response indicating agreement with the statement indicates a positive attitude and those in which it indicates a negative attitude. The instrument is comprised of three subscales which respectively assess attitudes towards one's own homosexuality, towards homosexuality in general, and towards self-disclosure of one's homosexuality. The total NHAH score is summed from the three subscale scores with a higher score indicating a more positive attitude to homosexuality. In this study the total NHAH score was used. Reliability of the subscales has been previously assessed (Nungesser, 1979) with the following Cronbach's alphas obtained: subscale A (self); .88, subscale B (others); .67, subscale C (disclosure); .93; full scale; .95. In this study the standardized item alpha of the entire instrument was calculated at $\alpha=.94$. The instrument has been used in previous AIDS research (Wolcott, Namir et al., 1986), in research on self-esteem and depression in gay men (Alexander, 1987) and in identity congruence in gay men (McDonald, 1984). (see Appendix D)

The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) is a 10-item instrument which is used to measure self-

esteem. Subjects respond to questions on a 4-point Likert scale ranging from 1 (strongly agree) to 4 (strongly disagree). The validity of the instrument was evaluated and found to be acceptable in the original study involving adolescent boys (Rosenberg, 1965) by comparing scores generated with a number of observational and behavioural variables typically associated with self-esteem. The internal reliability of the instrument in a recent study (DeLongis et al., 1988) was .78, which is consistent with previous research. In this study the standardized alpha coefficient of the instrument was calculated at $\alpha = .90$. The instrument has been used in a variety of stress research (DeLongis et al., 1988; Felton et al., 1984; Fleishman, 1984; Folkman, Lazarus, Gruen, & DeLongis, 1986; Pearlin & Schooler, 1978). (see Appendix C)

The Revised Kaplan Scale (RKS; Turner et al., 1983) is a modified version of an original scale developed by Kaplan (1977). The scale is a 9-item instrument which assesses love, esteem, and social network support as defined by Cobb (1976). Subjects read three vignettes in which a particular person is described and then rate who they are most similar with along a 5-point Likert-like scale ranging from 'I'm like person A'(1) to 'I'm like person C'(5). Factor analysis of the scale by Turner et al. (1983) found that the love and esteem scales were highly correlated suggesting they represent a single dimension. The RKS is thus a two dimensional inventory. Summing the items scores yields the

total perceived social support score. Turner et al. assessed the reliability of the instrument across two studies and found Cronbach's alphas of .83 and .81 for the entire scale and alphas for the subscales of .79 and .87 for the love-esteem dimension, and .73 and .78 for the network support dimension. In a longitudinal study with physically disabled men and women internal reliability was found to be .83 and .82 at two separate testings (Turner & Noh, 1988), while the coefficient of test-retest stability was found to be 0.6 after controlling for other variables (Turner, personal communication). In this study the standardized item alpha of the entire instrument was calculated at $\underline{r}=.89$. The instrument, and a slightly shorter version (Turner, 1981), have been used to assess social support with the physically disabled, the mentally ill, mothers with newborns, and adults with acquired hearing loss. (see Appendix F)

The Profile of Mood States (POMS; McNair et al., 1971) is a 65-item adjective checklist in which moods experienced in the past week are scored on a 5-point Likert scale ranging from 0 (not at all) to 4 (extremely). The instrument is composed of 6 factor-analytically derived subscales (anger-hostility, confusion, depression-dejection, fatigue-inertia, tension-anxiety, vigor-activity). A total mood disturbance score (TMD) is obtained by summing the first 5 subscale scores and subtracting the vigor-activity score. The TMD score was used for the present study. The

instrument, originally normed with college students and psychiatric outpatients, has since seen wide use. Besides having high face validity, the predictive and construct validity has been demonstrated in a number of different research studies (Weckowicz, 1978). Similarly, two studies which sought to evaluate the internal reliability obtained alphas ranging from .84 to .95 (Eichman, 1978). The instrument has been used in previous research with AIDS and HIV+ subjects (Donlou et al., 1985; Moulton et al., 1987; Wolcott, Namir et al., 1986).

Criterion Variables. The Ways of Coping Scale (WOCS) used in this study is a modification of the Ways of Coping Scale (Lazarus & Folkman, 1984), based on the subsequent work of Folkman, Lazarus, Dunkel-Schetter et al. (1986). This 52-item version of the scale omits 15 items from the original WOCS which did not load significantly through factor analysis onto the eight subscales. The present version has also broken the statement relating to use of food, drinking or drugs into three questions; one dealing with food, one with smoking, drinking and drugs, and one with sex (i.e., 'I tried to make myself feel better by smoking, drinking or taking drugs', 'Tried to make myself feel better by eating', 'Tried to make myself feel better by having sex').

When completing the WOCS subjects are asked to consider a stressor they have experienced in a given time period, typically the past week. With this stressor as their frame

of reference they then answer questions concerning their coping behaviours on a 4-point Likert scale ranging from 0 (not used at all) to 3 (used a great deal). In this study subjects were asked to choose one stressor from the list of five stressors discussed above and consider their response to this stressor over the past month. (see Appendix E)

Tennen and Herzberger (1985) discuss an extensive list of studies using the WOCS which demonstrate the construct and concurrent validity of the instrument. The instrument has been used in a large number of studies assessing coping, including research into coping with illness. Test-retest analysis of the WOCS typically show low correlations. This is to be expected, however, as coping is considered an interactional process which changes according to the changing person-environment situation.

A review of the literature on the psychosocial reactions of gay men to an HIV+ diagnosis suggested two different coping strategies which might be used. One of these strategies would involve an attempt to deny, minimize or avoid the implications of the HIV+ diagnosis and the associated stresses. This strategy was called Avoidant coping and was conceived of in terms of the items comprising the Escape-Avoidance and Distancing subscales of the WOCS. The second strategy would involve the infected individual reappraising the situation as a challenge or seeing positive aspects to infection, as well as engaging in the active seeking of social support. This strategy was termed

Proactive coping and was conceived of in terms of the Positive Reappraisal and Seeking Social Support subscales of the WOCS.

Scoring of the WOCS followed that proposed by Vitaliano, Maiuro, Russo, and Becker (1987) in which relative scores were analysed rather than raw scores. In this approach the raw mean score for a given subscale is divided by the sum of the raw mean scores for all eight subscales. This method purportedly provides a clearer picture of the relative strength of a particular strategy as part of the entire coping strategy used by an individual and has been recommended as a means of delineating relationships between ways of coping and health-related behaviour (Vitaliano et al., 1987). For this study the raw means of the Escape-Avoidance and Distancing subscales were summed to yield an Avoidant Coping score, which was then divided by the total summed raw means of the eight sub-scales. Similarly, the raw means of the Positive Reappraisal and Seeking Social Support subscales were summed to yield the Proactive Coping score which was then divided by the total summed raw means. These figures were then used in the analyses.

Data Analysis

In order to test the first two hypothesis two multiple regression analyses were conducted to examine the nature and strength of the linear relationship between the predictor variables (time since diagnosis, stressor type,

self-esteem, social support, homophobia, and the interactive effects of homophobia with self-esteem, and homophobia with social support), and the criterion variables (Avoidant coping and Proactive coping) (see Table 3). A hierarchical model of regression analysis was used (Cohen & Cohen, 1983) in which predictor variables were entered into a stepwise analysis in the following order: (a) length of time since diagnosis, (b) type of stressor, (c) homophobia, (d) self-esteem and social support, and (e) interactive effects, the products of homophobia x self-esteem, and homophobia x social support. The advantage of the hierarchical regression is that it allowed for the effects of the main variables (homophobia, self-esteem, social support) to be examined after controlling for the effects of the other variables (time since diagnosis, stressor type), as well as for the interactive effects of variables in combination to be examined. Separate analyses were conducted using Avoidant coping and Proactive coping as the criterion variable.

In determining the order in which variables were entered a number of factors were considered. It has been suggested that problems experienced and coping strategies used by HIV+ gay men initially after diagnosis may be different than those used later in the adjustment process (Grant & Anns, 1988). Similarly, Cohen and Lazarus (1979) suggest that different coping strategies will be used at different points in time in dealing with illness related

stress. Folkman and Lazarus (1985) have also found that different coping strategies are used at different points in time in response to a non-illness related stressor. Length of time since diagnosis was, therefore, entered first into the equation because of its possible effects on the types of coping strategies used. Similarly, because the type of stressor was expected to be associated with the coping response it was entered into the regression on the second level. Following the suggested procedure for testing the significance of interaction effects (Cohen & Cohen, 1983), the product terms were entered last into the equation, after the main effects had been entered.

Based on the results of other studies, emotional well-being was expected to show a strong association with other variables in this study. A Pearson product-moment correlation matrix was computed in order to examine the strength of relationship between emotional well-being and the other predictor variables. It was also hypothesized that well-being would show a positive relationship with Proactive coping and a negative relationship with Avoidant coping. Based on the results of other studies the magnitudes of the correlations between coping strategies and mood state were expected to be moderate ($r < .40$).

Results

Descriptive Statistics

Table 3 shows the means, standard deviations and intercorrelations for the predictor and criterion variables ($N=89$). The mean time since diagnosis (TSD) of 23 months is considerably longer than the time reported in other studies (TSD<2 months, Moulton et al., 1987; TSD<3 months, Namir et al., 1987; TSD<3 months, Wolcott, Namir et al., 1986; TSD<8 months, Zich & Temoshok, 1987), and may be indicative of the fact that the virus has now been in the community for a greater length of time, and/or that gay men are being tested for HIV earlier, prior to the development of health problems. The responses on the homophobia measure (NHAI) ($\bar{M}=131.9$, $\bar{SD}=21.5$) are higher than those obtained by Wolcott, Namir et al. (1986) with a group of gay AIDS patients ($\bar{M}=111.7$, $\bar{SD}=13.5$), but are comparable to those obtained by McDonald (1984) with a group of healthy gay men ($\bar{M}=131.0$, $\bar{SD}=19.3$). Wolcott et al. suggested that the figures obtained in their study indicated that participants in general held a positive attitude towards homosexuality. The validity of this conjecture is further supported by the moderate correlations between the NHAI score and other informal measures of attitude towards homosexuality. These included the respondents comfort with their sexual orientation prior to diagnosis ($r=.64$), and their activity in the gay community ($r=.44$) (see Table 4). The self-esteem scores (RSES) ($\bar{M}=32.2$, $\bar{SD}=5.9$), as might be expected, are

Table 3

Means, Standard Deviations, and Intercorrelations for
Predictor and Criterion Variables (N=89)

	Measure												
Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Time since diagnosis (months)	23.1	15.5	-										
2. Stressor ^a	.5	.5	.08	-									
3. Homophobia	131.9	21.5	.26	.19	-								
4. Self-esteem	32.2	5.9	.12	.04	.52	-							
5. Social support	34.1	6.1	.20	.04	.45	.56	-						
6. Homophobia x self-esteem	4311.5	1208.0	.20	.12	.82	.90	.57	-					
7. Homophobia x social support	4554.1	1215.3	.28	.15	.83	.64	.85	.82	-				
8. Mood state	72.3	44.0	-.23	-.07	-.44	-.64	-.45	-.62	-.53	-			
9. Avoidant coping	.15	.08	.11	.00	-.17	-.15	-.20	-.19	-.23	.08	-		
10. Proactive coping	.23	.07	-.04	.18	.26	.10	.20	.20	.26	-.22	-.50	-	
11. EAR coping	.13	.07	-.12	-.15	-.42	-.54	-.35	-.57	-.45	.60	.48	-.44	-
12. SPS coping	.23	.11	-.10	.21	.24	.08	.13	.17	.22	-.04	-.58	.68	-.22

Note. EAR coping is Escape-Avoidance

and Accepting Responsibility, SPS coping is

Seeking Social Support and Planful Problem Solving

^aStressors were coded 0 and 1.

$r_{.05,80} = .22$

$r_{.01,80} = .28$

$r_{.001,80} = .36$

Table 4

Auxiliary Demographic Information (N=89)

Characteristic	%	<u>M</u>	<u>SD</u>
Years considered homosexual/bisexual (<u>n</u> =82)		19.3	8.9
Comfort with orientation ^a		4.2	1.1
Active in gay community ^a		2.8	1.1
Expected likelihood of developing AIDS ^a		3.3	1.3
Aware of support services			
Yes	98.0		
No	2.0		
Used support services (<u>n</u> =88)			
Yes	58.0		
No	42.0		

Note. Different n's are the result of missing data.

^a Range from 1 (Not at all) to 5 (Very).

slightly lower than those obtained by Delongis et al. (1988) in a study with healthy couples ($\underline{M}$ =35.2, $\underline{SD}$ =4.3). The results on the perceived social support scale (RKS) ($\underline{M}$ =34.1, $\underline{SD}$ =6.1) are slightly higher than those reported by Turner and Noh (1988) in a group of physically disabled men ($\underline{M}$ =32.9). The mood state scores (POMS-TMD) ($\underline{M}$ =72.3, $\underline{SD}$ =44.0) are slightly lower than those found by Donlou et al. (1985) and Wolcott, Namir et al. (1986) ($\underline{M}$ =89.4, $\underline{SD}$ =36.2; $\underline{M}$ =79.5, $\underline{SD}$ =38.6, respectively). Both of these studies, however, were with gay men with AIDS, perhaps suggesting that HIV+ gay men as a group are experiencing somewhat less emotional distress. A significant correlation was found between the POMS-TMD and how likely it was the respondents felt they would develop AIDS ($\underline{r}$ =.39). With respect to the relative use of Avoidant and Proactive coping as compared to the general use of all strategies, Proactive coping accounted for 23% of the coping used while Avoidant coping accounted for 15%. The greater use of an active-cognitive/behavioural coping strategy as compared to an avoidant strategy is consistent with the findings of Namir et al. (1987).

Correlations Between Variables

Correlations between the predictor variables were generally in the expected directions. Moderate positive correlations were found between self-esteem and perceived social support ($\underline{r}$ =.56), and self-esteem and a positive attitude towards homosexuality ($\underline{r}$ =.52). Perceived social

support showed a moderate positive correlation with a positive attitude towards homosexuality ($r=.45$). A poor mood state was moderately negatively correlated with self-esteem ($r=-.64$), perceived social support ($r=-.45$), and a positive attitude towards homosexuality ($r=-.44$). Time since diagnosis was negatively related to a poor mood state ($r=-.23$) and positively related to a positive attitude towards homosexuality ($r=.26$).

In general, the criterion variables did not show significant correlations with the predictor variables. Proactive coping had a positive correlation with a positive attitude towards homosexuality ($r=.26$). As expected, Proactive and Avoidant coping had a negative relationship with each other ($r=-.50$).

Three one-way multivariate analysis of variance (MANOVAs) were conducted to examine specific differences between those respondents who were single versus living with a lover, those with HIV versus ARC, and those who called themselves homosexual versus bisexual, in relation to the predictor and criterion variables. Because of the unequal numbers of respondents in each group, cell sizes were weighted for all three MANOVAs. There was no significant multivariate or univariate group effect for any of the variables for gay men who were single ($n=40$) and gay men who were living with a lover ($n=32$). Although the multivariate group effect between respondents with ARC ($n=25$) and those who were HIV+ ($n=64$) was non-significant, there was a

significant difference in terms of mood state ($F(1,87)=7.3$, $p<.01$), with gay men with ARC reporting higher levels of mood disturbance (ARC: $M=91.8$, $SD=46.8$; HIV+: $M=64.7$, $SD=40.8$). Although no significant multivariate group effect was observed between men who considered themselves homosexual ($n=79$) and men who considered themselves bisexual ($n=10$), the differences between means of the predictor and criterion variables suggest that this is a distinction which bears further investigation. Bisexual men reported lower self-esteem ($M=28.1$, $SD=6.2$), a more negative attitude towards homosexuality ($M=112.5$, $SD=26.4$), less perceived support ($M=29.7$, $SD=2.6$), and a worsened mood state ($M=103.8$, $SD=49.8$) than homosexual men (self-esteem: $M=32.7$, $SD=5.7$; homophobia: $M=134.4$, $SD=19.7$; social support: $M=34.6$, $SD=5.6$; mood state: $M=68.4$, $SD=41.9$). A Chi-square analysis was conducted between the dichotomized stressor types and the three groupings discussed above, with the difference that the relationship group had three categories: single, living with lover, or other (i.e., married, in committed relationship but not living with lover). No significant differences were found for any of the groupings. (relationship, ($\chi^2(2, N=89)=8.40$, ns); HIV/ARC, ($\chi^2(1, N=89)=12.36$, ns); homosexual/bisexual, ($\chi^2(1, N=89)=4.94$, ns).

Hypotheses

In order to test hypotheses 1 and 2, two hierarchical stepwise regressions were conducted in which time since diagnosis, stressor type, homophobia, self-esteem, social

support, and the interactive effects of self-esteem and social support with homophobia were used as predictor variables and Proactive and Avoidant coping were used as criterion variables. The equations consisted of five levels in which time since diagnosis was allowed to step in first, followed by stressor type, level of homophobia, self-esteem and social support, and lastly the interaction terms. An F -level of 3.0 was required for inclusion in the equation.

Table 5 shows the results of the regressions. Although the total equation predicting Avoidant coping did not reach significance ($F(1,87)=3.6$, $p<.10$), social support did enter the equation ($F=3.6$) and accounted for 3% of the total variance. None of the other variables reached significance. With respect to Proactive coping, stressor type entered ($F=3.07$) and accounted for 2% of the total variance. Level of homophobia then entered ($F=4.8$), accounting for an additional 4% of the variance. Together the regression equation accounted for 6% of the total variance ($F(2,86)=4.0$, $p<.05$). The standardized regression coefficients indicated that worrying about one's health and a positive attitude towards homosexuality were associated with the greater use of Proactive coping.

An examination of the zero-order correlations was made in order to test hypotheses 3 and 4. Avoidant coping was not significantly correlated with mood state while Proactive coping had a low negative correlation ($r=-.22$). Thus, there was weak support for hypothesis 4 while hypothesis 3 was not

Table 5

Hierarchical Stepwise Regression Equations
for Avoidant and Proactive Coping (N=89)

Variable	R^2	R^2	R^2	F to	B^a
		adjusted	increase	enter	
Avoidant coping					
Social support	.04	.03	.03	3.61	-.20

$F(1,87) = 3.61, p < .10$

Proactive coping					
Stressor	.03	.02	.02	3.07	.14
Homophobia	.09	.06	.04	4.83*	.23

$F(2,86) = 4.02, p < .05$

aB = standardized regression coefficient

* $p < .05$.

supported.

Post-hoc Analyses

Prior to analysis two general expectations were made of the results. First, that combinations of the selected personal, environmental and contextual variables would account for significant proportions of the explained variance in predicting the use of both coping strategies; and second, that coping strategies would show moderate and opposite associations with mood state. Although the results provide weak support for two of the four hypotheses, the results are of a lesser magnitude than was expected based on the results from earlier research (cf. Feifel et al., 1987; Long, 1989; Namir et al., 1987; Parker et al., 1988).

One explanation for these results was that the selected coping strategies did not function together as originally hypothesized. This was further suggested by an examination of the correlations between the relative scores of the original eight coping strategies (see Table 6). Escape-Avoidance and Distancing showed practically no association ($r=.08$) with each other and Seeking Social Support was significantly negatively associated with Positive Reappraisal ($r=-.28$).

A reconsideration of the literature suggested the likelihood of a different pattern of coping. First, higher levels of internalized homophobia and poor self-esteem would more likely be associated with guilt and self-blame regarding infection or stresses relevant to infection, than

Table 6

Intercorrelations for Coping Strategies (N=89)

Strategy	1	2	3	4	5	6	7
1. Distancing	-						
2. Escape-avoidance	.08	-					
3. Seeking social support	-.57	-.19	-				
4. Positive reappraisal	-.12	-.37	-.28	-			
5. Confrontive	-.33	-.12	.03	.13	-		
6. Self-controlling	.50	-.09	-.51	-.10	-.33	-	
7. Accepting responsibility	-.13	.32	-.20	-.30	-.20	.09	-
8. Planful problem solving	-.51	-.42	.27	.19	.17	-.43	-.35

$r_{.05, 80} = .22$

$r_{.01, 80} = .28$

$r_{.001, 80} = .36$

would lower levels of homophobia and high self-esteem be associated with a positive reappraisal of the situation. As such greater homophobia and lower self-esteem could be expected to be more strongly associated with the Accepting Responsibility strategy, which consists of active recognition of responsibility with respect to a stressor, rather than Distancing, which consists of a minimizing of the impact of the stressor. Second, Namir et al. (1987) distinguished between a cognitive and a behavioural coping style, and found that an Active-Behavioural coping approach, composed in part of items from the Planful Problem Solving strategy of the WOCS, was significantly associated with self-esteem and positive mood state.

These considerations suggested that Escape-Avoidance and Accepting Responsibility (EAR), and Seeking Social Support and Planful Problem Solving (SPS) might be groupings of coping strategies more likely to occur together. The correlations in Table 6 were also suggestive of this. Of all pair-wise correlations only three showed a significant positive association. These were Distancing and Self-Controlling ($r=.50$), Escape-Avoidance and Accepting Responsibility ($r=.32$), and Seeking Social Support and Planful Problem Solving ($r=.27$).

On average EAR coping accounted for 13% of coping in general while SPS accounted for 23%. Consistent with expectations, the two strategies had a negative correlation with each other ($r=-.22$) (see Table 3).

Using the same format as was used with Avoidant and Proactive coping, two separate hierarchical stepwise regressions were conducted with EAR and SPS coping used as criterion variables. The results are shown in Table 7.

With respect to EAR coping, neither time since diagnosis nor stressor type were significant. Homophobia entered ($F=18.3$) followed by self-esteem ($F=18.5$). Together they accounted for 30% of the explained variance ($F(2,86)=20.2$, $p<.01$) with homophobia contributing 16% and self-esteem 14% towards the total variance. The standardized regression coefficients suggest that greater internalized homophobia and poorer self-esteem are associated with the relatively greater use of EAR coping.

With respect to SPS coping, stressor type entered ($F=4.0$) followed by homophobia ($F=4.0$). Time since diagnosis, which had not been significant initially, then entered ($F=3.0$). Combined, the three variables accounted for 9% of the total variance ($F(3,85)=3.8$, $p<.05$) with each variable contributing 3%. The standardized regression coefficients suggest that greater time since diagnosis is associated with less SPS coping, while worry about one's health and a positive attitude towards homosexuality are associated with greater SPS coping.

Finally, the relationship between mood state and EAR and SPS coping was examined. Table 3 shows the zero-order correlations between mood state and coping strategies. EAR coping has a moderate positive relationship with a poor mood

Table 7

Hierarchical Stepwise Regression Equations
for EAR and SPS Coping (N=89)

Variable	R^2	R^2	R^2	F to	B^a
		adjusted	increase	enter	
EAR coping					
Homophobia	.17	.16	.16	18.25**	-.18
Self-esteem	.32	.30	.14	14.36**	-.45
$F(2,86) = 20.21, p < .01$					
SPS coping					
Stressor	.04	.03	.03	3.96*	.18
Homophobia	.09	.06	.03	4.01*	.26
Time since diagnosis	.12	.09	.03	3.03*	-.18
$F(3,85) = 3.78, p < .05$					

Note. EAR coping is Escape-Avoidance and Accepting
 Responsibility subscales, SPS coping is Seeking
 Social Support and Planful Problem Solving subscales

B^a = standardized regression coefficient

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

state ($r=.60$), while SPS coping has no relationship ($r=-.04$). To further examine what variables were significantly associated with mood state, a hierarchical stepwise regression analysis was conducted in which time since diagnosis entered, followed by stressor type, coping strategies, homophobia, self-esteem, social support and the interaction terms of homophobia times self-esteem and social support. Coping strategies were expected to account for a significant amount of the total variance and hence were entered before the homophobia and the other variables. The results are shown in Table 8. Time since diagnosis entered ($F=5.0$), followed by EAR coping ($F=45.7$), homophobia ($F=4.7$) and self-esteem ($F=17.7$). Together they explained 50% of the total variance ($F(4,84)=22.4$, $p<.01$), with EAR coping and self-esteem accounting for 33% and 10%, respectively, after the amount accounted for by time since diagnosis (4%) and homophobia (3%). The standardized regression coefficients indicate that greater time since diagnosis, higher self-esteem and a positive attitude towards homosexuality are all negatively associated with poor mood state, while the use of EAR coping is positively associated with a poor mood state.

Table 8

Hierarchical Stepwise Regression Equation
for Mood State (N=89)

Variable	R^2	R^2	R^2	F to	B^a
		adjusted	increase	enter	
Time since diagnosis	.05	.04	.04	4.97*	-.13
EAR coping	.38	.37	.33	45.67**	.33
Homophobia	.41	.40	.03	4.69*	-.05
Self-esteem	.52	.50	.10	17.68**	-.41

$F(4,84) = 22.41, p < .01$

Note. EAR coping is Escape-Avoidance and
 Accepting Responsibility subscales

a_B = standardized regression coefficient

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

Discussion

This study examined the relationship between a number of individual, environmental and contextual variables and the use of specific coping strategies in HIV+ gay men. In developing the study it was hypothesized that different variables would have different levels of importance in predicting the relative use of two essentially different approaches to coping. In particular, after accounting for the effects of contextual variables (time since diagnosis and stressor type), internalized homophobia was expected to be the most important individual variable, followed by self-esteem (individual) and social support (environmental). It was expected that HIV+ gay men who reported low levels on these measures would tend to engage in relatively more coping aimed at avoiding or minimizing the impact of illness related stressors (Avoidant coping). Conversely, gay men who scored higher on these measures were expected to use relatively more coping involving seeking out support and reevaluating the stressful situation in a positive light (Proactive coping). These coping strategies were conceived of in terms of subscales comprising the Ways of Coping Scale. Specifically, Avoidant coping was expected to consist of the items of the Escape-Avoidance and Distancing subscales, whereas Proactive coping would involve the Seeking Social Support and Positive Reappraisal subscales.

The initial results of the study, however, suggested that the pairs of coping subscales were not being used

conjointly as anticipated. This lack of association was suggested by the results of the hierarchical stepwise regression equations predicting the two strategies, which, although obtaining significance, were of a much lower magnitude than was anticipated. The correlation matrix for the individual coping strategies revealed a negative correlation between Seeking Social Support and Positive Reappraisal ($r = -.28$), and a nonsignificant correlation between Escape-Avoidance and s

Distancing ($r = .08$). The correlation matrix was interesting in that only three pairs of subscales showed a significant positive relationship, while 11 pairs of subscales showed a significant negative association. These figures suggest that the use of coping strategies tended to be quite specific and that, whereas only a few types of subscales were likely to be used together, there are very clear patterns of subscales that were not being used simultaneously.

The lack of correlation between Escape-Avoidance and Distancing suggests that the context in which HIV+ gay men use Distancing is different from that of Escape-Avoidance. This is further suggested by the positive correlation between Distancing and Self-Controlling ($r = .50$). Although a number of studies have found a positive correlation between Distancing and Self-Controlling (cf. Folkman & Lazarus, 1988a; Folkman, Lazarus, Dunkel-Schetter et al., 1986; Folkman, Lazarus, Gruen, & DeLongis, 1986), they have also

found positive correlations between these strategies and others (e.g., Escape-Avoidance and Confrontive). In this sample of HIV+ gay men, though, Distancing was associated with an internalized attempt, both cognitively and behaviourally, to continue on in the face of infection-related stressors. This suggests that an HIV+ gay man who deals with a stressor through a minimization of its impact and a repression of feelings, was unlikely to also cope by attempting to avoid the stressor through wishful thinking.

The greater use of Escape-Avoidance, however, showed a positive correlation with Accepting Responsibility ($r=.32$). Although a positive correlation between these two subscales has been previously observed (cf. Folkman & Lazarus, 1988a; Folkman, Lazarus, Dunkel-Schetter et al., 1986; Folkman, Lazarus, Gruen, & DeLongis, 1986), other studies have not noted the singular and exclusive relationship so clearly demonstrated in this study. This connection suggests that gay men who blame themselves for their illness-related stress are also more likely to cope by using avoidant behaviour and wishful thinking. Unlike other subscales, the use of Escape-Avoidance and Accepting Responsibility are significantly negatively associated with higher self-esteem ($r=-.50$, $r=-.34$, respectively), a positive attitude towards homosexuality ($r=-.34$, $r=-.40$, respectively), and greater social support ($r=-.34$, $r=-.21$, respectively). Taken together these figures suggest that Accepting Responsibility and Escape-Avoidance coping represent a distinct cluster of

coping strategies used by HIV+ gay men, and that they in turn are distinctly associated with other psychosocial variables.

Self-blame and acceptance of responsibility have been associated with the greater use of problem-focused forms of coping (Bulman & Wortman, 1977; Folkman, Lazarus, Dunkel-Schetter et al., 1986). Moulton et al. (1987) found that attribution of responsibility to oneself for improvement of one's health was positively associated with health behaviour change in a group of AIDS patients (although there was no association in a group of respondents with ARC). The findings of this study, however, suggest that the greater use of Accepting Responsibility is associated with a greater use of emotion-focused coping aimed at avoiding dealing with the stressor.

The negative correlation between Positive Reappraisal and Seeking Social Support may indicate that seeking social support is associated with a recognition of difficulty on the part of the infected gay man. It could be speculated that an individual using Positive Reappraisal would see the stressor as a challenge with an attending potential boost to their self-esteem. Someone using Seeking Social Support, on the other hand, may be experiencing the stressor in a more negative light, and their need to seek help may undermine their self-esteem. Donlou et al. (1985) found that seeking professional support was negatively associated with self-esteem in gay men with AIDS. This is somewhat suggested by

the correlations of the two strategies with self-esteem in which Positive Reappraisal shows a low positive correlation ($r=.16$) while Seeking Social Support shows no correlation ($r=-.02$).

As an active-behavioural coping approach Seeking Social Support is a problem-focused form of coping similar to Confrontive and Planful Problem Solving. In this sample Seeking Social Support and Planful Problem Solving were significantly positively associated ($r=.27$), with each being less strongly associated with Confrontive coping. This indicates that HIV+ gay men who are using problem-focused forms of coping are more likely to do so in a direct, nonconfrontive way than in a confrontive way.

Because the results suggested different associations between subscales than was originally hypothesized, and because these associations suggested distinct and exclusive patterns of coping, it was considered appropriate to reanalyse the regression equations using Escape-Avoidance and Accepting-Responsibility (EAR coping) and Seeking Social Support and Planful Problem Solving (SPS coping) as criterion variables. After time since diagnosis and stressor type were allowed to enter the equation, both of which were nonsignificant, homophobia entered, followed by self-esteem. After homophobia accounted for 16% of the total variance, self-esteem accounted for an additional 14% in explaining EAR coping. The negative direction of the associations indicates that higher levels of homophobia and

lower self-esteem are associated with the relatively greater use of EAR coping. This finding is consistent with other research which found that personality variables are predictors of emotion-focused coping (cf. Feifel et al., 1987; Long, 1989). It is also consistent with the work of Pearlin and Schooler (1978) who found that a negative self-evaluation was a more significant predictor of coping than was a positive self-evaluation.

With respect to the combination of Seeking Social Support and Planful Problem Solving (SPS) coping, stressor type was significant in entering the equation, followed by homophobia. After the effects of these variables had been accounted for, the effect of time since diagnosis became significant and entered the equation. Together the three variables accounted for a modest 9% of the explained variance, roughly divided between the three.

The positive association between stressor and SPS coping is somewhat confusing as it suggests that men who are worrying about their health or the future are more likely to use a problem-focused form of coping. This is contraindicated by previous research which suggests that, particularly in the case of illness concerns, the greater the uncertainty or the less an individual can do the more likely they are to use an emotion-focused form of coping (Felton & Revenson, 1984; Folkman & Lazarus, 1980). This finding is consistent with research, however, which has found that the seriousness of an illness is positively

associated with greater use of an active, problem-focused (confrontive) coping approach (Feifel et al., 1987).

Folkman, Lazarus, Dunkel-Schetter et al. (1986) also suggest that the more changeable a stressor is appraised to be the more likely an individual is to use a problem-focused form of coping.

This result suggests that HIV+ gay men who are worrying about their health or the future are more likely to seek out support, medical help or other information (possibly because such stress would be perceived as more serious), than would HIV+ gay men concerned with other types of stressors. It does not explain, however, why this would not also be the case with respect to stressors which can be dealt with directly, such as telling others about one's diagnosis. The fact that time since diagnosis is negatively associated with SPS coping is consistent with Feifel et al. (1987) who found that greater time since diagnosis was associated with greater use of acceptance and resignation coping. Initially gay men may feel their situation is controllable or manageable, and hence they use more problem-focused forms of coping, but as time goes on these findings suggest that the relative amount of problem-focused coping used will decrease, perhaps implying an acceptance of the uncertainty and ambiguity associated with HIV infection.

A second goal of the research was to investigate the relationship between coping strategies and mood state. The zero-order correlations suggested a strong correlation

between EAR coping and mood state. A hierarchical stepwise regression analysis was conducted including EAR and SPS coping and the other predictor variables and mood state as the criterion variable. Time since diagnosis entered significantly accounting for 4% of the total variance, indicating that the mood state of gay men generally improved the greater the time since diagnosis. EAR coping entered second and accounted for 32% of the total variance, after the effect of time since diagnosis was removed. This figure is substantially greater than that accounted for by coping strategies in other studies (cf. Felton et al., 1984; Folkman, Lazarus, Gruen, & DeLongis, 1986), and suggests that the use of EAR coping by HIV+ gay men is strongly associated with a poor mood state. Homophobia and self-esteem entered after coping, with homophobia accounting for an additional 3% and self-esteem accounting for an additional 10% of the total variance, after the effects of time since diagnosis and EAR coping were removed. The entire equation accounted for 50% of the explained variance.

Although this study found a significant positive association between the greater use of Accepting Responsibility and a worsened mood state, different findings have been reported by previous research. Bulman and Wortman (1977), for example, found that blaming oneself for one's injury was positively associated with successful coping in a group of patients paralyzed in serious accidents. Similarly, Moulton et al. (1987) found that blaming oneself

for infection was not associated with a worsened mood state in a group of respondents with ARC (although it was in a group of subjects with AIDS), and that attributing the cause of improvement to oneself was negatively associated with a worsened mood state in the same group of individuals with ARC.

Although SPS coping accounted for 23% of the total coping used by gay men it is important to note that it was not significant in predicting mood state. Similarly, EAR coping accounted for 15% of the total coping (i.e., less than the amount predicted by chance given six subscales summing to 100% total coping), yet it was strongly associated with a worsened mood state. Thus, even though it is not used as much relative to other strategies, EAR coping has a powerful negative association with mood state. These findings are somewhat different than those reported by Namir et al. (1987) in a study of gay men with AIDS. In a regression predicting mood state Namir et al. found that an active-behavioural method of coping, similar in items to SPS coping, was a significant predictor of and negatively associated with the POMS-TMD score. Similarly, avoidance coping was significantly positively associated with mood state. This study failed to find the association between an active-behavioural coping strategy and mood state, and whereas Namir et al. found that avoidance accounted for 8% of the total variance, this study reported over 30% of the total variance being explained by EAR coping. These

differences may suggest that the particular situation of HIV+ gay men (i.e., greater uncertainty and ambiguity) is less amenable to the effects of a problem-focused form of coping, while being highly sensitive to the form of emotion-focused coping characterized by EAR coping.

Overall these findings support the expectations of the post-hoc analyses. Levels of internalized homophobia in HIV+ gay men are significantly associated with the greater relative use of distinctly different approaches to coping with infection-related stress. The finding that a more positive attitude towards homosexuality is associated with greater use of a problem-focused form of coping (SPS coping), while a more negative attitude is associated with the greater use of an emotion-focused form of coping (EAR coping), demonstrates that these two coping strategies are polarized along the continuum of level of internalized homophobia. As such, homophobia could be used as a predictive measure of coping.

Similarly, the greater use of EAR coping was shown to be strongly associated with a worsened mood state. The lack of a positive association between mood state and SPS coping suggests that in dealing with HIV-related stressors, coping alone, and in particular, problem-focused coping, does not have a significant positive association with mood. The implication of these findings is that an improvement in mood may be more dependent on variables such as self-esteem or internalized homophobia, or merely on the passing of time,

than on any particular style of coping. It is somewhat surprising that a problem-focused form of coping did not have a positive association with mood. Further research in this area could help clarify what impact, if any, problem-focused coping has on the mood and adjustment of HIV+ gay men. These findings suggest, that certain styles of coping are likely to be associated with a more negative mood. Whether discouraging the use of these strategies would result in an improvement in mood is another question for further research.

Although it would be tempting to speculate on the causal implications of these findings the cross-sectional design of the study does not allow for statements of directionality to be made. If however, one assumes that a personality construct such as internalized homophobia is likely to preexist diagnosis, it would not be unreasonable to assume that it is the homophobia which in part leads to the greater use of EAR coping, rather than the EAR coping which leads to the homophobia. Whether or not the continued use of EAR coping leads to the creation of a situation in the gay man's life which further exacerbates his homophobia is difficult to speculate on. With respect to the relationship between mood state, coping and self-esteem, there is undoubtedly greater bidirectional interaction. If EAR coping is not helping the gay men successfully deal with his stress (which has not been shown by this study) he will undoubtedly suffer from a worsened mood. This in turn could

impact negatively on self-esteem. Time since diagnosis appears to act unidirectionally and in such a way as to result in an improvement of mood.

The inability for social support to significantly enter any of the regression equations is surprising given that social support has been shown to be associated with the use of specific strategies in other studies (Long, 1989; Parkes, 1986) and with poorer mood state in gay men with AIDS (Wolcott, Namir et al., 1986; Zich & Temoshok, 1987). It may be that the Revised Kaplan Scale is not a valid measure of social support or that the aspect of support that it does measure is substantially different from or unrelated to that assessed in other studies. There is some support for this conjecture given the surprising lack of correlation between the social support scores and the number of friends and family ($r=.10$), and the number of professionals ($r=-.01$) that respondents had approached for support. It is also possible that there is a high degree of collinearity between social support and homophobia and/or self-esteem, although the correlations are of a moderate strength ($r=.45$ and $.56$, respectively) and a correlation of similar strength between homophobia and self-esteem ($r=.52$) did not suggest a high degree of overlap between the two variables.

Also of interest is the lack of significance of the interaction terms. Previous research has reported mixed results with some findings suggesting that interaction terms are significant (Parkes, 1986) while other finding no

significance (Long, 1989). The results of this study suggest that the combined effects of homophobia with self-esteem and social support do not significantly contribute to the total variance predicting coping strategies. This in turn suggests that the variables operate relatively independently of each other. These findings suggest that internalized homophobia, as a psychological reaction or as part of a psychological process, is a specifically defined variable which does not interact with other more stable personality constructs, such as self-esteem, nor affect an individual's interactions with others. Further research in this area would help clarify the relationship between homophobia, self-esteem and the way an individual perceives and interacts with his environment.

This study hypothesized that levels of internalized homophobia, self-esteem and social support would be associated with the use of different coping strategies in HIV+ gay men, and that the use of different strategies is associated with mood state. Although the pattern of coping strategies originally anticipated was not found to be present, the results based on the new coping strategies did support the hypotheses. These findings have implications for agencies and individuals working with HIV+ gay men.

Although it may not be more prevalent in infected gay men than noninfected gay men, internalized homophobia is clearly a significant factor in the coping and adjustment of HIV+ gay men. General self-esteem is also an important

variable. Counsellors should be aware of the levels of self-esteem and homophobia in their clients. Given that there is some indication that bisexual men may experience greater distress than homosexual men, counsellors working with HIV+ gay men should make themselves aware of the orientation of their clients so as to be able to be sensitive to bisexual men who may be experiencing difficulty. In dealing with these problems individual or group work focusing on improving self-esteem and examining attitudes towards homosexuality may prove useful. This type of work may be particularly important for bisexual men.

Attention should also be paid to the types of coping infected gay clients use. Clients who exhibit a great deal of self-blame regarding their infection, lifestyle or current problems in their life should be noted. A psychoeducational approach examining the nature of HIV infection and lifestyle issues may be an important way to help these men deal with their feelings of guilt and blame. It is also important to note if clients tend to cope through escape into fantasy or avoidance. Efforts might focus on more concrete, problem-focused coping strategies which would help the individual deal with the issue directly.

There are a number of limitations in this study which potentially weaken the reliability of the findings. First, as with any self-report questionnaire survey, there is the possibility of response bias in completing part or all of the package. The fact, however, that the means and standard

deviations obtained for the predictor and criterion measures are comparable to those found in other studies with gay men with AIDS, as well as studies on other populations, suggests that the results of this study are reliable.

Second, as the method of data gathering is through the voluntary completion of the questionnaire package it cannot be hoped to have a representative sample of the HIV infected gay population, let alone the gay population as a whole. Batchelor (1984) and Joseph, Emmons et al. (1984) address this issue by acknowledging that it is never possible to gain a truly representative sample of the gay community because of its diverse nature and because of a reluctance for members to take part in heterosexually promoted research. This is likely to be particularly true in the case of HIV+ individuals, as general health concerns, as well as concerns about confidentiality, would inhibit people from participating.

Nonetheless, the demographic description of this sample is comparable to those of other AIDS-related studies involving gay men (Joseph, Montgomery et al., 1987; Moulton et al., 1987; Stulberg & Smith, 1988, Wolcott, Namir et al., 1986). As such, the population represented in these studies is primarily caucasian, middle-aged, educated and middle-class. It is clear, therefore, that the sample in this study and in the others is not truly representative, as certain members of the homosexual community are not being accessed. Gay men from other ethnic groups such as the

Asian or Native Indian community are not being accurately represented, nor are gay men from lower socio-economic or education backgrounds. Similarly, this sample is largely an urban sample. As such, gay men from a suburban or rural setting are not represented. Although it is unclear what impact the responses of men from these different groups might have on the final results, it is evident that the results obtained in this study must be viewed with some reservation. People working with HIV+ gay men should therefore be sensitive to the particular situations of clients who do not fall into the demographic population described by this and other studies.

Third, HIV+ gay men who are using more avoidance and withdrawal in coming to terms with their diagnosis might be reluctant to come forward to participate in a study. Since the primary means of reaching potential subjects was through agencies or individuals who were offering health, educational or supportive services to infected individuals, the population was already skewed in favour of those people who had sought help in dealing with their diagnosis. Thus, the sample might underestimate the number of gay men who are, or the degree to which they are, experiencing internalized homophobia and/or using avoidant forms of coping.

Finally, time since diagnosis was an important variable being considered and proved significant in a number of the regression equations. It is important to note, however,

that the majority of respondents had been living with their infection for nearly two years. The initial stages of dealing with a traumatic event are often quite profound (cf. Kubler-Ross, 1969; Worden, 1982). Typically, reactions can include disbelief, shock and denial. As such, there is reason to suspect that the time immediately following diagnosis could be significant for HIV+ gay men.

Unfortunately, this group was largely unrepresented in the present study. Although it is not expected that the addition of a greater number of newly diagnosed respondents would diminish the observed effects, it should be kept in mind that the experiences and results for newly diagnosed gay men may be different than for men who have been living with infection for a greater length of time.

The results of this study suggest a number of areas for further research, some of which have already been mentioned. This study has revealed some of the variables associated with the use of certain coping strategies, but it is clear that in the case of problem-focused types of coping such as SPS coping, other variables are also at work which were not evaluated. Possible factors which have been examined in previous coping research include hardiness, optimism and one's sense of personal efficacy. Further research should be conducted to provide greater clarification of the psychosocial factors associated with, not only the coping strategies examined in this study, but those subscales which were not examined. As well, research of a longitudinal

nature would provide information on the process of coping with infection, and the role of various psychosocial over the course of time.

This study and other studies suggest that the experiences of gay men with HIV+ may be different from those of gay men with AIDS. Further, this study has shown that there are differences between men with HIV and men with ARC. First, gay men with ARC experience more mood disturbance than men who are HIV+. The most likely explanation for this is that the presence of early AIDS-related symptoms makes the health threat more real and hence causes greater distress. This distinction between men with ARC and men with HIV is important as writers (Moynihan et al., 1988) had suggested that men who were HIV+ experienced more distress (in the form of hopelessness and anxiety) than men with AIDS. Future research should be done to clarify not only the differences between those with HIV and AIDS, but also the similarities. As well, given the general lack of information, further research still needs to be conducted to examine the association between the psychosocial factors identified in this study and the use of coping strategies and mood state in gay men with AIDS.

Although the MANOVA revealed no overall significant group effect between gay men who considered themselves homosexual and those who called themselves bisexual, the differences in the means on the predictor and criterion measures suggest that this may be an important point of

distinction which needs further reseaching. Earlier studies of gay men with AIDS have not distinguished between homosexuals and bisexuals, but this distinction may well be significant. Although the disparate cell sizes weaken the strength of the differences, bisexual men reported greater homophobia, lower self-esteem and social support and greater mood disturbance. There are a number of possible explanations for these differences. Bisexual men may be men who have been leading double lives. They may be operating as though they were heterosexual while maintaining some degree of a secret homosexual lifestyle. This being the case they are a group which may not have come fully to terms with their sexual orientation and as such, they are likely to have higher levels of internalized homophobia. As bisexuals they may find themselves caught between two cultures, and not fully a part of either. Thus, they may be unable or unwilling to seek social support for fear of revealing a side of themselves which they themselves have trouble accepting and which they have attempted to hide. Whatever the reason, there is evidence to suggest that bisexual men may be at greater risk than homosexual men. Further research needs to be conducted to clarify this issue.

One of the underlying positions of this study was that the pervading social homophobia could potentially impact on gay men and their adjustment to the AIDS crisis. The significant role of internalized homophobia in this study's

findings provides some evidence of this. AIDS, however, is not exclusively a disease of gay men. IV drug users and haemophiliacs are also at risk for contracting the virus and incidence of infection is increasing in minority ethnic groups in North America (i.e., native peoples, blacks and hispanics). These groups are also subject to social bias which will undoubtedly impact on their ability to adjust to an HIV infection. Research, therefore, needs to focus on the impact of social bias on other identified minorities, such as the negative stigma associated with IV drug users or prostitutes, or the racial bias directed towards other ethnic groups. At the same time, research must also focus on ways to better educate society so as to counteract or eliminate these biases.

AIDS is a disease which will not quickly go away. Rather, the future will likely see an increasing number of people becoming HIV+ and, ultimately, an increasing number of people with AIDS. Although medical research may eventually find a cure or improved methods of treatment for the disease, coping will continue to play an important role in the day to day adjustment of HIV+ peoples.

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Appendix A: Introductory Letter

The University of British Columbia
Faculty of Education
Department of Counselling Psychology
5780 Toronto Road
Vancouver, B.C.
V6T 1L2

COPING WITH HIV

Dear Participant:

Thank you for being willing to participate in this study. The aim of this project is to examine the different ways gay men come to terms with an HIV+ diagnosis, and some of the factors that might affect the types of coping they use. It is hoped that the information gained through this research will enable people to be more sensitive to the needs and concerns of homosexual men who test positive for HIV and that it will help in designing counselling programs that will best meet those needs.

Your participation in this study is completely voluntary and will in no way affect the care or treatment you are presently receiving nor your eligibility to participate in any other U.B.C. studies. All information is strictly confidential. In order to secure anonymity, I ask that you do not sign your name anywhere on this questionnaire package. Your package is identified solely by the number at the top of the first page.

The questionnaire will take approximately one hour to complete. There are no right or wrong answers, only personal choices. Some of the questions that you will be asked may seem irrelevant or perhaps offensive. It is important to remember that this research is trying to gain information on health and coping and that it makes no moral or political judgements. Your answers will help provide an overall picture of how gay men are responding to being HIV+. You are free, of course, to not answer specific questions. Because of the quality of the research depends on the questionnaire being fully completed, though, I urge you to answer all questions. If you do complete the questionnaire and return it in the stamped, self-addressed envelope which is supplied, this will indicate that you have consented to your participation in the study.

Appendix B: Demographic Information

Please read all instructions carefully. There are no right or wrong answers to these questions, only personal choices. Answer all the questions.

Circle the number which best describes your situation.

1. Age: _____
2. Highest education completed:

Less than Grade 12	1
High school graduate	2
Some university.	3
Bachelors degree	4
Masters degree	5
Doctoral degree.	6
3. Current employment status:

Full-time.	1
Part-time.	2
Unemployed/Disability.	3
Retired.	4
4. Occupation (if unemployed, your last occupation):

Professional	1
Managerial	2
Clerical	3
Technical.	4
Sales.	5
Service.	6
Manual	7
Student.	8
Other.	9

Please specify: _____
5. Approximate yearly income, before taxes:

Under \$10,000.	1
\$10,000 to \$19,999	2
\$20,000 to \$29,999	3
\$30,000 to \$49,999	4
\$50,000 to \$100,000.	5
Over \$100,000.	6
6. Ethnic background:

Black.	1
Caucasian.	2
East Indian.	3
Native Indian.	4
Oriental	5
Other.	6

Please specify: _____

7. Religion:

Catholic 1
 Jewish 2
 Protestant 3
 None 4
 Other. 5
 Please specify: _____

8. Relationship status:

Single 1
 In committed relationship,
 but not living with lover. . . . 2
 Living with lover. 3
 Separated/divorced/widowed . . . 4
 Married. 5

9. How long have you considered yourself homosexual _____
 or bisexual _____? (Check one)
 Years _____ Months _____

10. Prior to your diagnosis, how comfortable were you with
 your sexual orientation?

1-----2-----3-----4-----5
 Not at all Moderately Very

11. How active are you as a member of the gay community?

1-----2-----3-----4-----5
 Not at all Moderately Very

12. How long ago did you receive your HIV+ diagnosis?

Years _____ Months _____

13. To the best of your knowledge how did you become
 infected?

Homosexual contact with infected partner. . . 1
 Heterosexual contact with infected partner. . 2
 Sharing IV drug needles 3
 Blood transfusion 4
 Don't know/ Other 5
 Please specify: _____

14. What is your present diagnostic status?

HIV+: _____ ARC (AIDS-related complex): _____
 AIDS: _____

15. How likely do you feel it is that you will develop AIDS?

1-----2-----3-----4-----5
 Not at all Moderately Very

16. How many friends or family members have you told about or gone to for help with regards your diagnosis? _____
17. How many doctors, health professionals, counsellors, support groups or other helpers have you told about or gone to for help with regards your diagnosis? _____
18. Are you aware of programs or groups designed to provide ongoing support and education to HIV+ gay men?
Yes ____ No ____ Have you attended any? Yes ____ No ____

Appendix C: Rosenberg Self-Esteem Scale (RSES)

Answer the following questions by circling the number which best represents how you feel.

Strongly disagree. . . 1
 Disagree 2
 Agree. 3
 Strongly agree 4

1. On the whole, I am satisfied with myself . . 1 2 3 4
2. At times I think I am no good at all. . . . 1 2 3 4
3. I feel that I have a number of good
 qualities. 1 2 3 4
4. I am able to do things as well as
 most people. 1 2 3 4
5. I feel I do not have much to be proud of . . 1 2 3 4
6. I certainly feel useless at times. 1 2 3 4
7. I feel that I am a person of worth,
 at least on an equal plane with others . . . 1 2 3 4
8. I wish I could have more respect for
 myself 1 2 3 4
9. All in all, I am inclined to feel
 that I am a failure. 1 2 3 4
10. I take a positive attitude toward myself . . 1 2 3 4

Appendix D: Nungesser Homosexual Attitudes Inventory (NHA1)

Please read the following statements and circle the number which best represents your attitude. If the statement depicts a situation you have not experienced, imagine how you might react to the situation.

Strongly disagree. . . . 1
 Disagree 2
 Neutral. 3
 Agree. 4
 Strongly agree 5

1. When I tell my friends about my homosexuality, I do not worry that they will try to remember things about me that would make me appear to fit the stereotype of a homosexual 1 2 3 4 5
2. I am glad to be gay. 1 2 3 4 5
3. Male homosexuality is a natural expression of sexuality in human males. 1 2 3 4 5
4. When I am sexually attracted to a close male friend, I feel uncomfortable. 1 2 3 4 5
5. When I am in a conversation with a homosexual man and he touches me it does not make me uncomfortable 1 2 3 4 5
6. I would not mind if my boss found out that I was gay 1 2 3 4 5
7. Whenever I think a lot about being a homosexual, I feel depressed 1 2 3 4 5
8. Homosexuality is not as good as heterosexuality. 1 2 3 4 5
9. I am proud to be a part of the gay community 1 2 3 4 5
10. Male homosexuals do not dislike women any more than heterosexual males dislike women. 1 2 3 4 5
11. Marriage between two homosexuals should be legalized. 1 2 3 4 5
12. My homosexuality does not make me unhappy. 1 2 3 4 5
13. Male homosexuals are overly promiscuous. . 1 2 3 4 5

14. When I am sexually attracted to another
gay man, I do not mind if someone
else knows how I feel. 1 2 3 4 5
15. Most problems that homosexuals have come
from their status as an oppressed minority,
not from their homosexuality per se. . . . 1 2 3 4 5
16. When women know of my homosexuality,
I am afraid they will not relate
to me as a man 1 2 3 4 5
17. Homosexual lifestyles are not as
fulfilling as heterosexual lifestyles. . . 1 2 3 4 5
18. I would not mind if my neighbors
knew that I am gay 1 2 3 4 5
19. It is important for me to conceal the fact
that I am gay from most people 1 2 3 4 5
20. Whenever I think a lot about being a
homosexual, I feel critical about myself . 1 2 3 4 5
21. Choosing a gay lifestyle should
be an option for children. 1 2 3 4 5
22. If my straight friends knew of my
homosexuality, I would be uncomfortable. . 1 2 3 4 5
23. If men knew of my homosexuality, I am
afraid they would begin to avoid me. . . . 1 2 3 4 5
24. Homosexuality is a sexual perversion . . . 1 2 3 4 5
25. If it were made public that I am a
homosexual, I would be extremely unhappy . 1 2 3 4 5
26. If my peers knew of my homosexuality,
I am afraid that many would not want
to be my friends 1 2 3 4 5
27. Adult homosexual males who have sex
with boys under 18 years of age should
be punished by law 1 2 3 4 5
28. If others knew of my homosexuality,
I would not be afraid that they would
see me as effeminate 1 2 3 4 5
29. I wish I were a heterosexual 1 2 3 4 5

30. When I think about coming out to a peer,
I am afraid they will pay more attention
to my body movements and voice
inflections. 1 2 3 4 5
31. I do not think I will be able to have
a long-term love relationship with
another man. 1 2 3 4 5
32. I am confident that my homosexuality
does not make me inferior. 1 2 3 4 5
33. I am afraid that people will harass me
if I come out more publicly. 1 2 3 4 5
34. When I think about coming out to a
heterosexual male friend, I do not
worry that he might watch me to see
if I do things that are
stereotypically homosexual 1 2 3 4 5

Appendix E: Revised Ways of Coping Scale (WOCS)

For the next set of questions please consider the past month. Below are some problems that many HIV+ gay men find they must deal with. Circle the category that you have found to be the most stressful to deal with this past month in terms of coping with your diagnosis?

- Feeling badly about being infected. 1
 - Worrying about my health and/or the future. . 2
 - Talking with other people or telling
other people about my diagnosis 3
 - Dealing with the changes in my lifestyle
that my diagnosis has caused. 4
 - Other 5
- Please describe _____
- _____
- _____

Describe in more detail what you have found to be stressful.

Now read each item below and indicate, by circling the appropriate number, to what extent you used it in dealing with the situation you have just described.

- Not used at all. . . . 0
- Used somewhat. . . . 1
- Used quite a bit . . . 2
- Used a great deal. . . 3

1. Concentrated on what I had to do next
-the next step 0 1 2 3
2. Tried to make myself feel better by eating . 0 1 2 3
3. Did something which I didn't think would
work, but at least I was doing something . . 0 1 2 3
4. Talked to someone to find out more
about the situation. 0 1 2 3
5. Criticized or lectured myself. 0 1 2 3
6. Tried not to close off my options, but
leave things open somewhat 0 1 2 3
7. Hoped a miracle would happen 0 1 2 3

8. Went along with fate; sometimes I just have bad luck	0	1	2	3
9. Went on as if nothing had happened	0	1	2	3
10. Tried to keep my feelings to myself.	0	1	2	3
11. Looked for the silver lining, so to speak; tried to look on the bright side of things .	0	1	2	3
12. Slept more than usual.	0	1	2	3
13. Accepted sympathy and understanding from someone	0	1	2	3
14. Was inspired to do something creative.	0	1	2	3
15. Tried to forget the whole thing.	0	1	2	3
16. Tried to get professional help	0	1	2	3
17. Changed or grew as a person in a good way. .	0	1	2	3
18. Tried to make myself feel better by smoking, drinking or taking drugs.	0	1	2	3
19. Made a plan of action and followed it.	0	1	2	3
20. I let my feelings out somehow.	0	1	2	3
21. Came out of the experience better than when I went in.	0	1	2	3
22. Talked to someone who could do something concrete about the problem	0	1	2	3
23. Tried to make myself feel better by having sex	0	1	2	3
24. Took a big chance or did something risky . .	0	1	2	3
25. Tried not to act too hastily or follow my first hunch.	0	1	2	3
26. Found new faith.	0	1	2	3
27. Rediscovered what is important in life . . .	0	1	2	3
28. Changed something so things would turn out all right.	0	1	2	3
29. Avoided being with people in general	0	1	2	3

30. Didn't let it get to me; refused to think
about it too much. 0 1 2 3
31. Asked a relative or friend I respect for
advice 0 1 2 3
32. Kept others from knowing how
bad things were. 0 1 2 3
33. Made light of the situation; refused to get
too serious about it 0 1 2 3
34. Talked to someone about how I was feeling. . 0 1 2 3
35. I expressed anger to the person(s) who
caused the problem 0 1 2 3
36. Stood my ground and fought for what
I wanted 0 1 2 3
37. Knew what had to be done, so redoubled my
efforts to make things work. 0 1 2 3
38. Refused to believe it had happened 0 1 2 3
39. Came up with a couple of different solutions
to the problem 0 1 2 3
40. Tried to keep my feelings from interfering
with other things too much 0 1 2 3
41. Tried to get the person responsible to
change his or her mind 0 1 2 3
42. Wished that the situation would go away or
somehow be over with 0 1 2 3
43. Had fantasies or wished about how things
might turn out 0 1 2 3
44. Prayed 0 1 2 3
45. Realized I brought the problem on myself . . 0 1 2 3
46. Went over in my mind what I would say or do. 0 1 2 3
47. Thought of how a person I admire would handle
this situation and used that as a model. . . 0 1 2 3
48. I apologized or did something to make up . . 0 1 2 3
49. Made a promise to myself that things would
be different next time 0 1 2 3

50. Took it out on other people. 0 1 2 3
51. Drew on my past experiences; I was in a
similar position before. 0 1 2 3
52. I changed something about myself 0 1 2 3
53. I tried something entirely different
from any of the above. 0 1 2 3
- Please describe: _____
- _____
- _____

Appendix F: Revised Kaplan Scale (RKS)

For the following questions read each set of vignettes and check the box which best describes how you feel.

1. RONNIE

People are devoted to Ronnie and love him. They always support him, listen to him, and sympathize with him. They care about him a lot.

Check one box.

☐

I'm like
Ronnie

☐

I'm halfway
between
Ronnie and
Stuart

STUART

People are usually fond of Stuart. They can be sympathetic, but do not always listen to him nor support him.

☐

I'm like
Stuart

☐

I'm halfway
between Stuart
and Peter

PETER

People are not devoted to Peter. They do not support him, listen to him, or sympathize with him. They do not care about him or love him.

☐

I'm like
Peter

2. JOHN

People rarely let John know that he is wanted. He does not really make a difference to them and they are rarely concerned about him. He does not matter to them.

Check one box.

☐

I'm like
John

☐

I'm halfway
between John
and David

DAVID

People sometimes let David know that he matters. Sometimes they think that he makes a difference to them.

☐

I'm like
David

☐

I'm halfway
between David
and Andy

ANDY

People constantly let Andy know that he is wanted. He really makes a difference to them. They are concerned about him and he matters.

☐

I'm like
Andy

3. JONATHAN

People always think that Jonathan is a friend. They like talking with him and spending a lot of time with him. He always has lots of people around. He is seldom alone.

Check one box.

☐

I'm like
Jonathan

☐

I'm halfway
between
Jonathan and
Bill

☐

I'm like
Bill

☐

I'm halfway
between Bill
and Allen

☐

I'm like
Allen

BILL

Bill has friends and is a good person to be with, but he isn't always surrounded by people.

ALLEN

Allen is mostly alone. He rarely sees people or spends time with them. He is most often by himself.

STEVE

4. Steve rarely has a close friend that he can count on. He does not know that they will always be there for him to lean on, and he does not support them.

GREGORY

Gregory sometimes has a close friend who is there for him and who he can count on.

CHARLES

Charles always has a close friend that he can count on. He does not have to worry about whether they will be there for him to lean on. He gives them the same support.

Check one box.

☐

I'm like Steve.

☐

I'm halfway between Steve and Gregory.

☐

I'm like Gregory.

☐

I'm halfway between Gregory and Charles.

☐

I'm like Charles.

DENNIS

5. People believe that Dennis will make the right decisions and do the right things. They have confidence and faith in him.
Check one box.

BRIAN

Some people have confidence and faith in Brian. Sometimes they think that he will make the right decisions and do the right things.

EDWARD

People rarely believe that Edward will make the right decisions or do the right things. They hardly ever have confidence in him.

☐

I'm like Dennis

☐

I'm halfway between Dennis and Brian

☐

I'm like Brian

☐

I'm halfway between Brian and Edward

☐

I'm like Edward

RONNIE

6. Ronnie rarely spends time with other people. When he wants to do things, he hardly ever has anyone to do things with him.

RICHARD

Richard sometimes spends time with other people. When he wants to do things, sometimes there are other people around to do things with him.

JEFFERY

Jeffrey is almost always with other people. Whenever he wants to do things, he knows that one or another of his friends will be there to do things with him.

Check one box.

☐

I'm like Ronnie

☐

I'm halfway between Ronnie and Richard

☐

I'm like Richard

☐

I'm halfway between Richard and Jeffery

☐

I'm like Jeffery

HANK

7. Hank knows that people care a lot about him. He has their attention and support.

MICHAEL

Michael sometimes has people's attention and support. He sometimes feels that they care about him.

ANTHONY

Anthony is uncertain that people care about him. He gets little attention or support.

Check one box.

☐

I'm like
Hank

☐

I'm halfway
between Hank
and Michael

☐

I'm like
Michael

☐

I'm halfway
between
Michael and
Anthony

☐

I'm like
Anthony

PATRICK

8. Patrick is rarely admired and praised. There are very few people who think Patrick is important and worthy.

GORDON

Gordon is sometimes admired and praised by some people. He is not always being reminded of his worth.

JOEL

Joel is constantly being admired by people. They always praise him and think that he is important and worthy.

Check one box.

☐

I'm like
Patrick

☐

I'm halfway
between
Patrick and
Gordon

☐

I'm like
Gordon

☐

I'm halfway
between
Gordon and
Joel

☐

I'm like
Joel

RICKY

9. Ricky does not have a lot of different people to lean on. He does not belong to a group of people who know each other and who would help one another when needed.

HAROLD

Harold sometimes has people he can lean on. He belongs to a group of people who sometimes help one another when needed.

JASON

Jason knows that there are a lot of different people he can lean on. He belongs to a group of many people who know each other and who always help one another out when needed.

Check one box.

☐

I'm like
Ricky

☐

I'm halfway
between Ricky
and Harold

☐

I'm like
Harold

☐

I'm halfway
between
Harold and
Jason

☐

I'm like
Jason