Dispositional Coping, Psychological Health and Aging:

Comparisons Across Age and Coping Profiles

Connie Dalton

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ABSTRACT

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Connie Dalton
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The present study focused on examining the use and efficacy of coping

dispositions across age groups, as well as determining how coping processes might

operate in conjunction to influence psychological health in older adults. A total of 274

younger adults and 289 older adults completed self-report questionnaires assessing

dispositional coping, control beliefs, desire for control, and measures of psychological

health and distress. In Part 1 of this study, the relation between four coping dispositions

(problem-focused, emotion-focused, social support seeking and avoidance) and

psychological health was examined in older and younger adults, using developmental

theory as a guiding framework. Results from confirmatory factor analysis confirmed the

invariance of a 4-factor model of coping across age groups (Carver et al., 1989).

Compared to younger adults, older adults reported using higher levels of problem- and

emotion-focused coping, lower levels of social support seeking and similar levels of

avoidance. Under low stress conditions, older adults reported higher levels of

psychological health than younger adults when using problem-focused coping or social

support seeking. Under high stress conditions, older adults reported higher levels of

psychological health than younger adults when using emotion-focused coping. In Part 2

of this study, cluster analyses on contingency beliefs and dispositional coping were

performed in order to identify different profiles of older adult copers. Results confirmed

the existence of four previously identified coping groups in general adult samples and

substantiated the differential function of specific coping dispositions across the different

coping profiles. More specifically, older adults with strategic coping profiles reported among the highest levels of psychological health, as did older adults with persistent coping profiles. Older adults with more restricted or indiscriminate coping profiles reported the lowest levels of psychological health. These results suggest that the influence of multiple coping strategies must be taken into account when examining the relations between coping and psychological health across different developmental contexts. These findings should facilitate the development of more effective interventions aimed at helping older adults remain healthy and active.

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INTRODUCTION

Although age is associated with declines in a number of key areas of functioning (e.g., processing speed, short-term memory, physical health, mobility), psychological health remains stable over time (Diener & Suh, 1997). Coping, or the ability to effectively manage stress, may be one of the main mechanisms by which older adults maintain their psychological health and adapt to the developmental challenges associated with aging (Baltes & Baltes, 1990; Brandtstädter & Renner, 1990; Brandstädter, Wentura, & Greve, 1993, Heckhausen & Schulz, 1995). Despite the recent importance placed on examining adjustment from a developmental perspective, and increasing research in the area of developmental regulation and goal achievement (Brandtstädter et al., 1993; Schmitz, Saile, & Nilges, 1996; Wrosch & Heckhausen, 2002; Wrosch, Heckhausen, & Lachman, 2000; Wrosch, Scheier, Miller, Schulz, & Carver, 2003), the association between dispositional coping and psychological health as a function of age has been largely neglected.

Over the past two decades, a large body of research has accumulated on the indicators, predictors and outcomes of coping (e.g., Folkman & Moscowitz, 2000; Lazarus, 1993; Penley, Tomaka, & Wiebe, 2002; Skinner, Edge, Altman, & Sherwood, 2003; Somerfield & McCrae, 2000; Zeidner & Saklofske, 1996). Coping has been examined using different methods of assessment across various contexts and diverse populations (Oakland & Ostell, 1996; Parker & Endler, 1992; Penley et al., 2002). Moreover, several conceptual frameworks of coping have been proposed, highlighting the multidimensional, as well as the situational and dispositional nature of coping (Billings & Moos, 1981, 1984; Carver, Scheier, & Weintraub, 1989; Endler & Parker, 1990; Folkman & Lazarus, 1980).

One of the most comprehensive classification schemes of coping was developed by Carver et al. (1989), who emphasized the importance of examining coping from a multi-level perspective. Carver and his colleagues (1989) developed an inventory (the COPE) that assessed coping at both a dispositional and situational level, with the goal of predicting adjustment to specific stressful transactions as well as general life stress. Using this scale, they identified four higher order factors of coping: problem-focused coping, emotion-focused coping, social support seeking and avoidance. Studies examining the association between these coping factors and psychological health, however, have generally yielded inconsistent findings (Aldwin, 1994; Carver & Scheier, 1999; Carver et al., 1989; Collins, Baum, & Singer, 1983; Coyne & Gottlieb, 1996; Oakland & Ostell, 1996; Stanton, Kirk, Cameron, & Danoff-Burg, 2000; Suls, David, & Harvey, 1996; Zautra, Sheets, & Sandler, 1996; Zuckerman & Gagné, 2003). For instance, in some studies, problem-focused coping and emotion-focused coping have been associated with higher levels of psychological health (e.g., Aspinwall & Taylor, 1992; Carver & Scheier, 1994; Marx & Schulze, 1991), while in other studies these strategies have been associated with lower levels of psychological health (e.g., Chan & Hui, 1995; Holmes & Stevenson, 1990). Because the perceived controllability of the environment plays a central role in the choice and efficacy of specific coping strategies and dispositions, it is likely that these inconsistencies may be partly explained by taking into account perceived opportunities for control, both within specific situations and, most importantly, across different developmental contexts (Aldwin, 1991; Folkman & Lazarus, 1980; Heckhausen & Schulz, 1995; Terry, 1994).

A central premise of developmental theories is that individuals adapt their goals to fit the needs and opportunities available within their developmental context (e.g., Baltes

& Baltes, 1990; Brandtstädter & Renner, 1990; Heckhausen & Schulz, 1995). Older

adults are exposed to greater levels of uncontrollable stress and experience fewer

opportunities to change the stressors they face (Ben-Zur, 2002; Kozma, Stones, &

McNeil, 1991). It has been suggested that older adults may adapt to this situation by

being more selective in the allocation of resources, and by supplementing their problem-

solving efforts with efforts aimed at gaining external support or regulating the internal

consequences of stress (e.g., Brandtstädter & Renner, 1990; Heckhausen & Schulz,

1995). However, this hypothesis has not been directly examined within a dispositional

coping paradigm. Most studies examining the association between dispositional coping

and psychological health have combined participants from different age groups in the

same analyses and, as a result, have failed to consider the role of age in this association

(Carver & Scheier, 1994; Carver et al., 1989; Zautra et al., 1996).

Developmental theorists also suggest that adaptive coping does not refer to the use

of any single coping strategy, but instead to the use of coping strategies that supplement

or complement one another (Brandtstädter & Renner, 1990; Heckhausen & Schulz,

1995). More specifically, effective coping is defined as the ability to recognize the

combination of coping strategies that will be most effective given one's developmental

context, and the ability to know when to use, or cease using, a specific coping strategy

(Brandtstädter & Renner, 1990; Somerfield & McCrae, 2000; Zeidner & Saklofske,

1996). In the context of diminished opportunities for control, internally-focused coping

strategies, such as acceptance and cognitive reinterpretation, may be needed to maintain

feelings of hope and motivational resources required for further problem-solving efforts

(Carver et al., 1989; Heckhausen & Schulz, 1995). Although internally-focused coping

strategies are important across all age groups, developmental theory suggests that the use,

and benefit, of these strategies may increase with age as individuals face situations that are less controllable and modifiable. Older adults may remain happy and satisfied with their lives by balancing the use of strategies that allow them to manage the external world as well as strategies that allow them to manage their cognitive and emotional reactions to the external world (Brandtstädter & Renner, 1990; Heckhausen, 1997; Heckhausen & Schulz, 1995). Despite the importance of this issue, past studies have focused primarily on the role of single coping strategies on adjustment and have paid little attention to the role of patterns of coping responses used within specific developmental contexts.

The aforementioned limitations of past studies suggest that examining the association between dispositional coping and psychological health could provide a better understanding of coping in older adults. The dispositional approach, which focuses on global coping tendencies, offers the opportunity to examine the association between coping and psychological health across different developmental contexts in older and younger adults. The main purpose of the present dissertation was to examine the association between dispositional coping and psychological health among older adults using theories of successful development as a conceptual framework. To this end, it was essential to first confirm Carver et al.'s (1989) four-factor model of dispositional coping in older adults and to examine the factorial invariance of this model across older and younger adults using confirmatory factor analyses. The association between dispositional coping strategies and psychological health was then examined in samples of older and younger adults. Finally, an investigation of patterns of coping using cluster analysis was undertaken to determine if older adults who adopted more variable coping profiles, and who supplemented their problem-solving efforts with emotion-focused coping and social

support seeking, would report higher levels of psychological health than older adults with a more restricted range of coping dispositions.

THEORETICAL BACKGROUND

In the following section, the relation between age and psychological health will be discussed, followed by a review of important developments and issues related to coping, with a particular emphasis on the importance of examining coping from a dispositional perspective. The role of coping in old age will then be reviewed. It will be argued that a better understanding of coping in old age can emerge only if coping is considered in relation to profiles or patterns of coping responses, rather than by examining the role of each coping disposition individually. Finally, the goals of this dissertation will be described.

Age and Psychological Health

Although aging is a process characterized by much interindividual variability (Baltes & Baltes, 1990) and by some gains (e.g., increases in pragmatic knowledge and in the quality of social interactions; Baltes, 1993; Carstensen, Gross, & Fung, 1997), it is also a process marked by significant losses, including decreases in some cognitive and physical capacities (Baltes, 1987; 1997; Baltes & Baltes, 1990; Brandtstädter et al., 1993; Rowe & Kahn, 1987). Biological changes related to aging lead to a gradual deterioration in health and cognitive functioning, which may be manifested as an increased risk for multiple chronic and acute health problems, problems with short-term memory, and slower processing ability (Brock, Guralnick, & Brody, 1990; National Center for Health Statistics, 1999). Overall levels of personal resources also tend to decline with age as social constraints increase. For instance, compulsory retirement may lead to a loss of social and occupational roles, financial difficulties, as well as the loss of social networks

(Baltes, Cornelius, & Nesselroade, 1979; Brandtstädter & Renner, 1990; Heckhausen & Schulz, 1995; Neugarten, 1969). Moreover, older adults are often exposed to events or stressful situations over which they have little control, such as problems with health and loss of loved ones (Costa, Zonderman, & McCrae, 1991; Dew, 1998; Folkman et al., 1987; Lenze et al., 2001; Schulz, Heckhausen, & Locher, 1991).

Despite these changes, however, psychological health remains stable across the lifespan (Charles, Reynolds, & Gatz, 2001; Diener & Suh, 1997). In fact, there is little evidence for age-related decreases in satisfaction with life, psychological health or perceptions of control with age (see Abeles, 1991; Brandtstädter et al., 1993; Rodin, 1987). Compared to younger adults, older adults have lower lifetime risks for many stress-related mental disorders (Brandtstädter, Rothermund & Schmitz, 1997; Foster, 1997; Straut, 1994). In some cases, older adults have been shown to be more resilient to stress, including stress related to catastrophic events, caregiving, or admission to long term-care facilities (Foster, Cataldo, & Boksay, 1991; Kark, Goldman, & Epstein, 1995; Norris & Murrell, 1987; Russo, Vitaliano, Brewer, Katon, & Becker, 1995; Schulz, Visintainer, & Williamson, 1990). The fact that older adults are able to maintain their psychological health despite being exposed to high rates of uncontrollable stress has been dubbed the "Paradox of Aging" (Staudinger, Marsiske, & Baltes, 1995).

Several mechanisms have been linked to the maintenance of psychological health in older adults, including high levels of physical activity and access to high quality social support (Kozma et al., 1991; Lampinen, Heikkinen, & Ruoppila, 2000; Leventhal, Rabin, Leventhal, & Burns, 2001; McAuley et al., 2000; McAuley & Katula, 1998; Rowe & Kahn, 1997). Coping, which is considered to be a central process involved in the management of stress, is also thought to be one of the main mechanisms by which older

adults adapt to the developmental challenges associated with aging (Brandtstädter & Renner, 1990; Heckhausen & Schulz, 1995). A variety of coping strategies have been linked to psychological health, and the effective use of coping strategies has been shown to decrease the intensity, and cushion the impact, of negative life events (DeNeve & Cooper, 1998; Pearlin, 1999). Despite important theoretical and empirical developments on age and psychological health, including research in the area of developmental regulation and goal achievement (Brandtstädter et al, 1993; Schmitz et al., 1996; Wrosch & Heckhausen, 2002; Wrosch et al., 2000; Wrosch et al., 2003), the role of dispositional coping in the maintenance of older adults' well-being has remained largely unexplored. In the next section, theory and research related to psychological health and coping will be reviewed with specific attention to Carver et al.'s (1989) conceptualization of situational and dispositional coping.

Coping

Coping refers to individuals' cognitive and behavioral efforts to restore their physiological and emotional equilibrium during stressful events (Folkman & Lazarus, 1980). The examination of the indicators, predictors, and outcomes of coping is one of the most widely studied areas in psychology (Folkman & Moscowitz, 2000; Hobfoll, Schwarzer, & Chon, 1998; Lazarus, 1993; Penley et al., 2002; Skinner et al., 2003; Somerfield & McCrae, 2000; Zeidner & Saklofske, 1996; Zuckerman & Gagné, 2003). Coping has been examined in field and laboratory studies using different methodologies (e.g., self-report questionnaires, behavioral measurement, diary studies), and across various contexts (e.g., school, nursing homes, workplace). The predictors and outcomes of coping have also been extensively examined across different populations, including different age and racial groups, as well as individuals facing different types of life stress

(Lyne & Roger, 2000; Oakland & Ostell, 1996; Parker & Endler, 1992; Penley et al., 2002).

Several advances in the understanding and conceptualization of coping have been made over the past two decades. For instance, coping is now viewed as a multi-dimensional process consisting of numerous strategies that serve various underlying functions, including the coordination of actions and contingencies in the environment, the coordination of social resources, and emotion regulation (Skinner et al., 2003; Somerfield & McCrae, 2000). The definition of coping efficacy has also evolved considerably over the past two decades. While coping effectiveness was long equated with the resolution of stressful events or problems, this definition failed to take into account other indicators of coping success. Consequently, the successful management of the emotional consequences associated with stress is now considered an important indicator of coping efficacy (Lazarus, 1996; Zeidner & Saklofske, 1996).

It has also been increasingly recognized that coping can be assessed from a multi-level perspective, both as a situational and dispositional construct. Situational coping is conceptualized as a dynamic transactional process that varies across different situations, and for this reason, it is generally examined as a situation-specific response (Folkman & Lazarus, 1980; Zeidner & Hammer, 1992). Situational coping has usually been assessed with self-report checklists that ask participants to indicate retrospectively how they coped during a specific stressful transaction (Oakland & Ostell, 1996). More recently, it has been assessed using self-report diary procedures that allow participants to record coping on a daily basis (Paty, Porter & Cruise, 1998; Smith et al, 1999; Tennen, Affleck, Armeli, & Carney, 2000; Todd, Tennen, Carney, Armeli & Affleck, 2004). Dispositional coping refers to cognitive and behavioral responses to stress that are characteristic of a person.

As such, it is conceptualized as a profile of coping responses that is stable over time and across different coping situations (Carver et al., 1989). Dispositional coping is typically assessed using self-report questionnaires that ask participants to indicate how they *generally* cope with stress. While situational coping responses are expected to predict outcomes in specific stressful transactions, coping dispositions are expected to predict individual differences in adjustment to general life stress.

It is important to note that there has been a great deal of controversy regarding the ability of self-report questionnaires to retrospectively assess coping behaviors (Smith, Leffingwell & Ptacek, 1999; Somerfield & McCrae, 2000; Suls et al., 1996). Research has shown, in fact, that there is low to moderate correspondence between daily reports of coping behavior and retrospective accounts of situational and dispositional coping (Paty et al., 1998; Ptacek, Smith, Espe, & Raffety, 1994; Schwartz, Neale, Marco, Shiffman, & Stone, 1999; Smith et al, 1999; Todd et al, 2004). A number of factors have been shown to reduce the correspondence between daily and retrospective methods of assessment, including the severity of stress, the length of interval between the event and self-report behavior, and related memory and self-enhancement biases (Smith et al., 1999; Todd et al., 2004). Although research indicates that retrospective measures of situational coping are not equivalent to measures of daily coping, the level of observed accuracy in these measures may be sufficient to capture important or powerful relationships between coping and outcome variables (Smith et al., 1999). Moreover, dispositional measures of coping are not intended to measure coping behavior in a specific context or time period, but instead are intended to measure a general approach to coping across a variety of coping situations. While it is likely that dispositional coping may partially reflect general personality traits and self-schemas of coping (Bouchard, Guillemette, & Landry, 2004;

Watson, David & Suls, 1999), typical responses to stress have been shown to predict

individual differences in adjustment, in particular across specific developmental contexts

(Brandtstädter et al, 1993; Schmitz et al., 1996; Wrosch et al., 2000). In addition, there is

preliminary evidence to suggest that coping dispositions predict adjustment above and

beyond personality, and that dispositional coping may influence adjustment by

influencing the choice of situation-specific behaviors (Bouchard et al., 2004; Carver et

al., 1989; Carver & Scheier, 1994; Watson et al., 1999). In sum, despite their potential

limitations, it can be argued that measures of dispositional coping provide important

information about adjustment to general life stress that may surpass knowledge gleaned

from situation-specific outcome assessment. As such, it is necessary to use both a

situational and dispositional framework to conceptualize and measure coping.

Coping Frameworks

One of the most widely recognized frameworks of coping is that of Folkman and

Lazarus (1980), who conceptualized coping from a transactional perspective and used a

situational approach to the assessment of coping. According to the transactional

perspective, coping is defined as a complex and dynamic process that changes across

different stages of a stressful encounter and is highly dependent upon an individual's

appraisal of the severity of the coping situation as well as the appraisal of available

coping options. Folkman and Lazarus (1980) initially suggested the existence of two

types of coping options: problem-focused coping, referring to efforts aimed at directly

altering or modifying the source of stress, and emotion-focused coping, referring to

efforts aimed at managing the distress or internal consequences associated with stress.

Although this conceptualization contributed significantly to the understanding of coping,

the classification scheme suggested by Folkman and Lazarus (1980) failed to address the

multi-dimensional nature of coping and, consequently, to discriminate between different forms of coping responses (Skinner et al., 2003). For example, results from confirmatory factor analyses showed that many of the items within the emotion-focused coping factor assessed distinct underlying dimensions of coping that served various functions besides regulating emotion, such as coordinating actions and contingencies in the environment and coordinating social resources (Aldwin & Revenson, 1987; Folkman & Lazarus, 1985, 1986; Parkes, 1984; Skinner et al., 2003). Folkman and Lazarus (1980) also failed to take the dispositional nature of coping into account in their transactional model. More recent research has shown that there is both change and stability in the coping process (Carver & Scheier, 1994; Holahan & Moos, 1987; McCrae, 1989; Terry, 1994; Zautra et al., 1996). Consequently, other frameworks of coping have been proposed, each highlighting various dimensions of coping (Billings & Moos, 1981, 1984; Endler, Corace, Summerfeldt, Johnson, & Rothbart, 2003; Endler & Parker, 1990).

The classification scheme that addressed these issues most comprehensively was proposed by Carver et al. (1989), who emphasized both the multidimensional nature of coping and the situational and dispositional aspects of coping. On the basis of theoretical and empirical grounds, they developed the COPE, an instrument measuring 14 primary types of coping strategies that could be assessed on a situational and dispositional level. Thirteen of the fourteen subscales were subsequently condensed into four higher-order factors of coping: problem-focused coping, emotion-focused coping, social support seeking and avoidance. Similar to past conceptualizations, Carver et al. (1989) defined problem-focused coping as efforts aimed at directly altering or modifying the source of stress. This coping factor consisted of three sub-scales, including active coping, planning and suppression of competing activities. Emotion-focused coping referred specifically to

cognitive and emotional efforts aimed at managing the internal consequences of stress, and it was represented by positive reinterpretation, acceptance, humor and religion. Social support seeking consisted of attempts to mobilize social support. This coping factor consisted of seeking instrumental support, seeking emotional support and venting of emotions. Finally, avoidance referred to cognitive and behavioral attempts to avoid dealing with a stressor and included the use of denial, behavioral disengagement, and mental disengagement.

Empirical evidence has generally provided support for the multidimensionality of the COPE. A number of studies confirmed the COPE's four-factor model of coping at the level of individual items and subscales (e.g., Clark, Bormann, Crapanzano, & James, 1995; Cook & Heppner, 1997; Zautra et al., 1996). Studies that have failed to confirm this factor structure have generally included additional items or scales in their analysis (e.g., Hasking & Oei, 2002, Lyne & Roger, 2000; Ingledew, Hardy, Cooper, & Jemal, 1996). Empirical evidence has also shown small to moderate correlations between situational and dispositional assessments of coping, suggesting that although related, these constructs are distinct from one another, providing support for the independence of these two self-report methods of assessment (Carver et al., 1989; Carver & Scheier, 1994; Cantanzaro, Wasch, Kirsch, & Mearns, 2000).

Coping and Psychological Health

Researchers have conducted numerous empirical studies examining the association between coping and psychological health, most of which have focused on the role of situational coping strategies. These studies have generally yielded inconsistent findings (Coyne & Gottlieb, 1996; Oakland & Ostell, 1996; Parker & Endler, 1992; Somerfield & McCrae, 2000; Stone, Greenberg, Kennedy-Moore, & Newman, 1991).

For instance, while a number of studies have shown that problem-focused coping is related positively to psychological health (Aspinwall & Taylor, 1992; Glyshaw, Cohen, & Towbes, 1989; Kim, Won, Liu, Liu, & Kitanishi, 1997; Marx & Schulze, 1991; Vitaliano, Russo, Carr, Maiuro, & Becker, 1985), other studies have failed to find any association, or found a negative association between problem-focused coping and perceptions of well-being (Bolger, 1990; Cheng, Hui, & Lam, 1999, 2000; Carver & Scheier, 1994; Collins et al., 1983; Endler, Parker, & Summerfeldt, 1993; Mattlin, Wethington, & Kessler, 1990; McCrae & Costa, 1986). Laboratory studies have also yielded inconsistent findings. In some instances task persistence has been associated with higher levels of perceived coping efficacy and task performance, while in other instances it has been associated with lower levels of perceived coping efficacy and task performance (Aldwin & Revenson, 1987; Aspinwall & Taylor, 1992; Glyshaw et al., 1989; Klinger, 1975; Spinhoven, Ter Kuile, Linssen, & Gazendam, 1989).

Similarly, positive reframing, acceptance and social support seeking have been associated with either increased (e.g., Aldwin & Revenson, 1987; Carver et al., 1993; Carver & Scheier, 1994; F. Cohen, 1984; S. Cohen, 1988; Folkman & Lazarus, 1986; Gottlieb, 1997; Goplerud, 1980; Holahan & Moos, 1987; Menaghan & Merves, 1984; Schwarzer & Leppin, 1991; Thoits, 1995) or decreased (e.g., Chan & Hui, 1995; Coyne, Aldwin & Lazarus, 1981; Folkman & Lazarus, 1985; Holmes & Stevenson, 1990) psychological health. Social support has more often been examined as a resource than a coping strategy, showing that it can be either helpful or detrimental depending on its quality (Chou & Chi, 2001; Husaini et al., 1991; Pierce, Sarason, & Sarason, 1991; Reis & Franks, 1994; Russell & Cutrona, 1991). The use of avoidant coping strategies has generally been associated negatively with adjustment and higher levels of psychological

distress (Aldwin & Revenson, 1987; Billings & Moos, 1984; Carver & Scheier, 1994; Carver et al, 1993; Carver et al., 1989; Folkman & Lazarus, 1985, 1986; Litt, Tennen, Affleck, & Klock, 1992; Rohde, Lewinsohn, Tilson, & Seeley, 1990; Stanton & Snider, 1993; Thoits, 1995, Vitaliano, Katon, Russo & Maiuro, 1987), although there are instances where it has been shown to be highly adaptive (Klinger, 1975).

With respect to the association between dispositional coping and psychological health, results have also generally been inconsistent (Ben-Zur, 2002; Carver et al., 1989; Terry, 1994). For instance, dispositional problem-focused coping has been associated with higher levels of psychological health and lower levels of psychological distress (Aldwin & Revenson, 1987; Aspinwall & Taylor, 1992; Ben-Zur, 2002; Carver & Scheier, 1994; Carver et al., 1989; Glyshaw et al., 1989; Zautra et al., 1996). However, these effects appear to be minimal and do not appear to account for changes in distress over time (Ben-Zur, 2002; Carver & Scheier, 1994; Zautra et al., 1996). Studies examining the association between dispositional emotion-focused coping, social support seeking and psychological health have also yielded insignificant findings or have shown that these dispositions are only minimally related to psychological health (Catanzaro et al., 2000; Carver & Scheier, 1994; Zautra at al., 1996). Finally, the use of dispositional avoidance has consistently been associated with increased levels of depression and anxiety (Aldwin, & Lazarus, 1981; Ben-Zur, 2002; Billings & Moos, 1984; Catanzaro et al., 2000; Coyne et al., 1984; Vitaliano et al., 1987; Zautra et al., 1996). However, it is unclear if the general use of avoidance is a symptom or a cause of psychological distress (Zautra et al., 1996).

In summary, there is some support for the association between situational and dispositional coping and psychological health, but results are often negligible or

inconsistent across studies (Lazarus & Folkman, 1984; Penley et al, 2002). Many of the apparent inconsistencies may be explained by taking into account problems with the measurement of coping (Paty et al., 1998; Ptacek, Smith, Espe, & Raffety, 1994; Schwartz, Neale, Marco, Shiffman, & Stone, 1999; Smith et al, 1999; Todd et al, 2004), as well as situational, contextual, or personal determinants of coping efficacy (Penley et al., 2002; Terry, 1994). For instance, men tend to report using less emotional expression, religion, avoidance and seeking of social support than women (Billings & Moos, 1984; McCrae, 1982; Menaghan, 1982; Ross & Mirowsky, 1989), suggesting that sample composition may also contribute to the confusion in the literature. A variety of situational factors have also been linked to the choice and efficacy of coping strategies, suggesting that coping responses are often compared across situations that vary in important ways (for review, see Aldwin, 1994; Carver & Scheier, 1994; Folkman & Lazarus, 1985; Mattlin et al., 1990; Parkes, 1986; Patterson et al., 1990; Terry, 1994). More specifically, individuals have been shown to vary their coping strategies according to the type of event or stressful encounter they face (Billings & Moos, 1981, Parkes, 1986; Terry, 1994), the severity of the event (Anderson, 1977; Terry, 1991), whether the event is appraised as a harm, loss or threat (Folkman & Lazarus, 1980; McCrae, 1984; Parkes, 1986; Stone & Neale, 1984) and the stage of the stressful encounter (Carver & Scheier, 1994; Folkman, 1984; Folkman & Lazarus, 1985; Penley et al., 2002). Furthermore, perceived opportunities for control, both within specific situations and, in particular, across different developmental contexts, may play a central role in the choice and efficacy of coping strategies and dispositions (Compas, Malcarne, & Fondacaro, 1988; Folkman, 1984; Skinner, 1996; Terry, 1994; Vitaliano, 1990).

Perceived Control and Coping

Control has been conceptualized within a number of theoretical frameworks, including locus of control (Lefcourt, 1981), learned helplessness (Seligman, 1975), and self-efficacy (Bandura, 1977). Furthermore, control has been defined in relation to domain-specific or generalized belief systems, and using both a subjective and objective approach (Skinner, 1995, 1996; Skinner & Connell, 1986). Perceived control refers to the extent to which a person believes he or she has control over the outcome of a stressful situation (Lachman & Weaver, 1998; Skinner, 1996). It is thought to be integral to the understanding of the effects of coping on adjustment, as it relates specifically to confidence in one's ability to effectively implement coping strategies and confidence that these strategies will produce desired outcomes (Catanzaro & Greenwood, 1994; Kirsch, Mearns & Catanzaro, 1990; Scheier & Carver, 1992; Taylor, 1983). Recent advances suggest that perceived control consists of both contingency beliefs, referring to perceptions of environmental controllability, and competency beliefs, referring to perceptions of one's personal capacities for control (Lachman & Weaver, 1998; Skinner, 1995, 1996).

Perceived control has been shown to be positively associated with physical and psychological health across the lifespan (Baltes & Baltes, 1986; Evans, Shapiro, & Lewis, 1993; Heckhausen, 1991; Kobasa, 1979; Rodin, 1986; Schulz, Heckhausen, & O'Brien, 1994; Skinner, 1996). Moreover, the loss of control has consistently been linked to negative affect and depression, as well as negative perceptions of competence in both older and younger adults (Abela, Brozina, Seligman, 2004; Abela & Seligman, 2000; Abramson, Seligman, & Teasdale, 1978; Alloy & Abramson, 1979; Alloy et al., 2000; Seligman, 1975; Skinner, 1995, 1996). Environments that have been shown to constrain

the ability to exercise control across personal, financial, work or health domains are highly undesirable, and are often associated negatively with adjustment (Heckhausen, 1997; Heckhausen & Schulz, 1995; Wrosch, Heckhausen, & Lachman, 2000). The association between control and psychological health is complex, however, as high levels of environmental controllability have been shown to increase levels of distress in some instances, in particular, when individuals do not believe they possess the skills needed to manage the situation effectively or do not desire control over their environment (Evans et al., 1993; Mills & Krantz, 1979; Schulz et al., 1991; Wallace & Bergman, 1997). For example, interventions aimed at enhancing perceived control have been shown to be especially beneficial when opportunities for control match individuals' perception of their coping abilities (Evans et al., 1993; Wallace & Bergman, 1997). Moreover, there is also evidence to suggest that perceived contingency and competency play a more direct role in the choice, and efficacy, of coping strategies (Compas et al., 1988; Folkman, 1984; Skinner, 1996; Terry, 1994; Vitaliano, 1990).

The use and efficacy of situational coping responses is highly dependent upon situation-specific perceptions of contingency (Aldwin, 1991; Carver et al., 1989; Endler, Macrodimitris, & Kocovski, 2000; Folkman & Lazarus, 1980; Skinner, Chapman, & Baltes, 1988) and competency (Ashford, 1988; Terry, 1991; Aldwin, 1991; Bandura, 1997; Flammer, 1995; Skinner, 1995). Problem-focused coping, for example, appears to be used more often and to be more beneficial in situations that are appraised as controllable (Carver et al, 1989; Folkman & Lazarus, 1980; Forsythe & Compas, 1987; Patterson et al., 1990). In contrast, strategies related to regulating affect, including positive re-appraisal, acceptance, and emotional expression, tend to be used more often and to be associated with more successful outcomes, under less controllable conditions

(Aldwin, 1991, 1994; Folkman & Lazarus, 1980; Forsythe & Compas, 1987; Patterson et al., 1990; Vitaliano, DeWolfe, Mairuro, Russo & Katon, 1990). In fact, under more controllable conditions, the use of these strategies has been shown to hinder future problem-solving efforts (Carver et al., 1989). Endler et al. (2000) conducted a series of experimental studies examining the association between situational control beliefs and coping, and found that participants with high control beliefs performed better on an anagram task, were less anxious, and engaged in less situation-specific emotion-oriented coping, than individuals with low levels of control beliefs.

Although the use of avoidance has generally been negatively associated with psychological health in situations that are controllable, it is effective when used for short periods of time under less controllable conditions such as the acute stages of a stressful event (Folkman, Lazarus, Gruen, & DeLongis, 1986; McCrae, 1984; Penley et al., 2002). Individuals who persist in trying to resolve unsolvable laboratory tasks report higher levels of distress and dysfunction, lower levels of coping efficacy, and perform poorer than those who disengage from these stressors and re-engage their efforts in more manageable domains (e.g., Bandura, 1997; Brandtstädter & Renner, 1990; Collins et al., 1983). Indeed, disengagement from a goal is thought to be adaptive when one experiences loss or when goals are permanently blocked (Freund, Li, & Baltes, 1999).

General perceptions of control are also important predictors of coping and adaptation (Ben-Zur, 2002; Catanzaro & Greenwodd, 1994; Kirsch et al., 1990). Individuals who believe that the environment is controllable, or who believe that they have the necessary skills to resolve stress, use more problem- and less emotion-focused coping than people with low contingency or competency beliefs (Anderson, 1977; Aspinwall & Taylor, 1992; Fleishman, 1984; Endler et al., 2000; Marshall, 1991; Terry,

1994). Although competency beliefs appear to be negatively related to the use of avoidance (Aspinwall & Taylor, 1992; Ben-Zur, 2002; Marshall, 1991; Terry, 1994; Thompson & Spacapan, 1991), in some instances competency beliefs have been associated with the adaptive disengagement from uncontrollable stress (Janoff-Bulman & Brickman, 1982; Sieber et al., 1992; Terry, 1994). For instance, Aspinwall and Richter (1999) showed that, compared to individuals with low competency beliefs, individuals high in competency were able to disengage more quickly from unsolvable tasks and re-engage their coping efforts in more solvable domains.

The association between blunting and monitoring and adjustment provides further support for these findings (Holmes & Stevenson, 1990; Katz, Ritvo, Irvine, & Jackson, 1996; Keefe & Williams, 1990). Individuals who use more monitoring strategies to cope with chronic and manageable pain, such as attending to their symptoms, tend to be less depressed and anxious, to experience less severe pain, and to be more socially active than those who use blunting strategies, such as avoiding their symptoms using distraction (Holmes & Stevenson, 1990; Katz et al., 1996; Keefe & Williams, 1990). In contrast, the use of dispositional blunting has been shown to be beneficial when pain is acute and of short duration, while the use of monitoring has been found to be less beneficial under similar conditions (e.g., Endler et al., 1993). This suggests that the use of avoidance is beneficial in the short-term when pain is unmanageable and intense, but maladaptive in the long-term when pain is chronic, is somewhat controllable, and needs to be directly managed (Holmes & Stevenson, 1990; Katz et al., 1996).

In summary, perceived control appears to be an important determinant of both situational and dispositional coping (Blankstein, 1984; Endler et al., 2000; Mineka & Henderson, 1985). Coping strategies are not inherently effective or ineffective, as the

same coping strategy may be helpful in one situation but counterproductive in another. This suggests that the efficacy of coping strategies should be judged on the basis of individual resources, as well as the demands and opportunities for control available across different developmental contexts (Folkman, 1991; Lazarus, 1996; Somerfield & McCrae, 2000; Zeidner & Saklofske, 1996). Because opportunities for control vary across different developmental contexts, the efficacy of coping dispositions should differ across older and younger adults. Older adults face increasingly high levels of uncontrollable stress. As a result, they have fewer opportunities than younger adults to directly change the stressors they face (Costa et al., 1991; Dew, 1998; Lenze et al., 2001). Studies on dispositional coping have failed to consider the role of age differences on the coping process, however, and have combined participants from different age groups in the same analyses. In order to understand the association between dispositional coping and psychological health, the role of developmental factors must be taken into consideration. The next section reviews major developmental theories of adaptive regulation to provide a guiding theoretical framework for further discussion.

Developmental Theories of Regulation

The selective optimization with compensation theory of development (SOC; Baltes & Baltes, 1990) is probably the most comprehensive and influential psychosocial theory of aging. A central premise of this theory is that individuals actively regulate their development throughout their lifespan, and that they do so by effectively managing the gains and losses that they experience within their own developmental context and in relation to their needs, competencies, and the environmental constraints and opportunities for control (Baltes & Baltes, 1990; Freund & Baltes, 2000; Staudinger et al., 1995). According to this perspective, losses tend to outweigh gains as older adults experience

declines in a number of personal, social, and physical resources (Baltes, 1987;

Brandtstädter et al., 1997; Brandtstädter et al., 1993). Correspondingly, it has been

suggested that the selective and compensatory use of coping strategies is one of the ways

older adults may optimize their development when control is diminished (Heckhausen &

Schulz, 1995, 1998; Schulz & Heckhausen, 1997; Schulz et al., 1991).

Two key developmental formulations of coping-related behavior provide a

guiding framework by which to evaluate the influence of dispositional coping on

adjustment in older adults. These include the distinction between primary and secondary

control proposed by Heckhausen and Schulz (1995), as well as the distinction between

assimilative and accommodative coping proposed by Brandstädter and his colleagues

(e.g., Brandstädter & Renner, 1990). An underlying assumption of both of these theories

is that humans desire to exert control over their environment and produce behavior-event

contingencies. Control striving, or the need to produce behavior-event contingencies, is

thought to be key to successful development, as it motivates individuals to shape their

environment to fit their particular needs and developmental potential. This may be

achieved by actively pursuing one's life goals, plans, or developmental ideals, by

recruiting external support, or by adopting external or developmentally appropriate aids to

supplement efforts to reach goals (Brandstädter, 1989; Brandstädter & Renner, 1990;

Heckhausen & Schulz, 1995).

As individuals age, however, losses accumulate, opportunities to exert control or

directly resolve stressful events decrease, and the achievement of goals may be impeded

by stressful events. Loss of control over the environment may be associated with

increases in psychological distress, as well as negative perceptions about one's

competencies (Brandstädter & Renner, 1990; Heckhausen & Schulz, 1995; Schulz, et al.,

1994). These consequences, in turn, may jeopardize important motivational resources, as the perception of one's competencies is an important determinant of future coping efforts. Consequently, the prevention or reduction of losses in later life, be it losses in the attainment of sought after goals or personal and social losses, is thought to be a key developmental goal of coping-related behavior, as is protecting one's psychological health by minimizing the consequences of loss of control. Increased exposure to uncontrollable life stress therefore leads to increased pressure to find alternate ways to respond to stress, as directly attempting to resolve or externally manage stress may be ineffective given environmental limitations.

Older adults, therefore, are thought to adapt to increased exposure to uncontrollable life stress by modifying the use of their coping strategies to fit the developmental challenges encountered (e.g., Brandtstädter & Renner, 1990; Brandtstädter, Wentura, & Rothermund, 1999; Heckhausen & Schulz, 1995, 1998). Although the use of compensatory coping strategies are used throughout development, the need for these strategies is thought to increase in old age, as older adults face increasing rates of failure and decreased opportunities to obtain control. For instance, aging individuals may find that the indiscriminate use of goal-directed coping efforts is of limited value, as persistent attempts to resolve unmanageable situations or attain inaccessible goals may result in the loss of limited resources and increased frustration and failure. Aging, or the loss of personal resources that accompany aging, may reduce coping options as older adults also become aware that they are less effective or efficient at expending resources. Consequently, the maintenance of psychological health may increasingly depend on a process of selectivity, whereby older adults become actively selective in the goals pursued, and commit only to goals that will maintain existing levels

of control (Heckhausen & Schulz, 1995). Older adults may also attempt to minimize the negative effects of failure on their self-esteem through positive reinterpretation of the situation, strategic social comparisons, adjustment of aspirations to situational constraints, and goal disengagement (Brandtstädter, 1989; Brandtstädter & Renner, 1990; Heckhausen & Schulz, 1995). When these efforts are insufficient to protect the individual from losses in control, the individual may experience increases in psychological distress.

Several studies provide empirical support for these theories (Brandtstädter et al., 1993; Heckhausen & Schulz, 1995, 1998; Schmitz, Saile, & Nilges, 1996). Consistent with the hypothesis that older adults adopt more internally-focused coping strategies as they age, older adults have been shown to increasingly rely on strategies aimed at increasing their commitment to, and the value of, developmentally appropriate goals (Heckhausen, 1994; Heckhausen & Schulz, 1998; Wrosch & Heckhausen, 1999; Wrosch et al., 2000), as well as strategies aimed at disengaging from unattainable goals, and using social comparison to regulate negative affect after failure experiences (Brandtstädter, 1992; Heckhausen, 1994; Heckhausen & Krueger, 1993; Heckhausen & Schulz, 1998; Wrosch, Scheier, Miller, Schulz, & Carver, 2003). Results related to the use of externally-focused coping strategies have been less consistent (Brandtstädter, 1992; Brandtstädter & Renner, 1990; Heckhausen & Schulz, 1995, 1998). While some studies have shown that there are decreases in the use of strategies aimed at actively obtaining goals or solving problems, other studies have shown stability or increases in the use of these strategies with age (Brandtstädter, 1992; Brandtstädter & Renner, 1990; Heckhausen & Schulz, 1995, 1998). Although the increased use of goal-oriented strategies appears inconsistent with developmental theory, it has been suggested that older

adults may compensate for decreased effectiveness of persistent or goal-oriented strategies by intensifying their overall efforts at resolving stress or obtaining goals (Heckhausen & Schulz, 1998; Wrosch et al., 2000).

Furthermore, adjusting one's goals to match the constraints of the environment has been shown to moderate the negative influence of health problems on psychological health in older adults, serving as a protective resource that prevents losses in overall psychological functioning (Brandtstädter et al, 1993; Schmitz et al., 1996). Although few studies have directly examined the association between these constructs and well-being as a function of age, there is some evidence that these strategies relate differentially to psychological health across younger and older samples (Wrosch & Heckhausen, 2002; Wrosch et al., 2000; Wrosch et al., 2003). The use of strategies aimed at directly resolving stressful situations has been shown to be more beneficial for younger adults (Wrosch et al., 2000), while the use of strategies such as positive reappraisal and goal-disengagement has been shown to be particularly important predictors of self-esteem, life satisfaction and lower levels of depression in middle-age (Wrosch & Heckhausen, 1999) and old age (Wrosch, Schulz, & Heckhausen, 2002; Wrosch et al., 2000; Wrosch et al., 2003). For instance, Wrosch et al. (2000) found that the use of positive reappraisal was more strongly associated with subjective well-being than persistence in mid- and old adulthood, while persistence was more strongly associated with subjective well-being in young adulthood. Moreover, goal-disengagement has been shown to relate to high levels of subjective well-being in individuals experiencing low levels of control, including older adults experiencing functional decline (Moscowitz, Folkman, Collette, & Vittinghoff, 1996; Wrosch et al., 2003). These differences appear to be most pronounced under

conditions of high stress, suggesting the importance of these strategies when resources are taxed, and perhaps when control is more greatly diminished (Wrosch et al., 2000).

In summary, developmental theories of regulation provide important information on the role of coping dispositions on adjustment in older adults. It is suggested that older adults are able to maintain their psychological health by modifying the use of their coping strategies to reflect the reduced opportunities for control available within their developmental context. This is thought to require being more selective in the allocation of resources, using external aids to support goal striving, and compensating for losses by increasing the use of strategies aimed at managing one's own internal reactions to failure experiences. The goal of these supplementary strategies, therefore, is to maintain important motivational and emotional resources that will facilitate future problem-solving efforts in older adults. Consequently, the effectiveness of one's coping efforts are never dependent only on the use of one coping strategy, but instead on the pattern of coping strategies used to deal with stress encountered in one's developmental context (Folkman, 1991; Folkman & Lazarus, 1980; Lazarus, 1996). The importance of coping dispositions across age has rarely been examined within coping paradigms (e.g., Carver et al.'s, 1989, model of dispositional coping). Therefore, relatively little is known about the predictive value of specific coping dispositions on well-being, or the efficacy of patterns of coping on the maintenance of psychological health in older adults.

Empirical Studies on Aging and Coping

Several studies have examined the association between the use of situational coping responses and psychological health in older adults (Folkman, 1991; Folkman & Lazarus, 1980; Lazarus, 1996). Findings from these studies generally suggest that the use of problem-focused coping is positively associated with psychological health (Meeks,

Carstensen, Tamsky, Wright, & Pellegrini, 1989; Shaw, 1992), as are coping strategies involved in regulating emotion, including positive reinterpretation, acceptance and removing oneself from a stressor (Lazarus, 1993). Moreover, social support seeking has been shown to buffer the deleterious effects of stressful life events on depression (Husaini et al., 1991; Russell & Cutrona, 1991), and to be positively associated with coping effectiveness in nursing home residents (Shaw, 1992). Finally, the use of avoidance appears to be associated with higher levels of psychological distress and lower levels of positive affect, regardless of whether assessed from a situational or dispositional perspective (Ben-Zur, 2002).

Empirical studies that have directly examined age differences in the use and efficacy of coping strategies have often led to inconsistent findings (Coyne & Gottlieb, 1996; Folkman et al., 1987; Meeks et al., 1989; Stone et al., 1991). For example, while many studies have found overall decreases in the use of coping strategies with age (Meeks et al., 1989; Patterson et al., 1990), others have failed to find any association between age and the choice of coping strategies (Costa & McCrae, 1993; Diehl, Coyle & Labouvie-Vief, 1996). The association between age and the use of specific coping strategies is also inconsistent, with studies suggesting increases, decreases or stability in the use of problem- and emotion-focused coping, social support seeking and avoidance (Blanchard-Fields, Jahnke, & Camp, 1995; Felton & Revenson, 1987; Folkman, 1991; Folkman et al., 1987; Meeks et al., 1989; Patterson et al., 1990). Common trends do emerge, however, once differences across coping situations encountered by younger and older adults are taken into account. In examining coping across a wide range of situations, Folkman et al. (1987) found that compared to older adults, younger adults often use more problem-focused and interactive coping strategies, and less emotion-

focused coping strategies such as positive appraisal and reflection. In addition,

Blanchard-Fields and colleagues (1995) found that older adults are also more likely than

younger adults to report using acceptance to deal with stressful situations.

A few studies have also directly examined dispositional coping across age (Diehl

et al., 1996; Segal, Hook & Coolidge, 2001). Ben-Zur (2002) examined the endorsement

and influence of dispositional coping strategies on psychological health across young and

old adults using the COPE (Carver et al., 1989). His results showed that older adults

reported using higher levels of avoidance than younger adults, as well as similar levels of

problem-focused coping and social support seeking. Moreover, there was no significant

difference in the efficacy of coping dispositions across age. For both younger and older

adults, problem-focused coping was associated with higher levels of positive affect, and

avoidance was associated with lower levels of positive affect. These results are

inconsistent with past studies showing that younger adults use higher levels of situational

problem-focused coping than older adults (Folkman et al., 1987). This inconsistency may

be due to the fact that Ben-Zur (2002) combined the emotion- and problem-focused scales

of the COPE into one factor, which he labeled problem-focused coping. This may have

obscured the differential use and influence of these strategies on psychological health.

Past research, in fact, has shown that problem-focused coping and emotion-focused

coping reflect different underlying, although related, dimensions of coping (Carver et al.,

1989). These strategies have also been shown to have different patterns of endorsement

across age, with older adults generally reporting using higher levels of situational

emotion-focused coping than younger adults (Blanchard-Fields et al., 1995; Felton &

Revenson, 1987; Folkman, 1991; Folkman et al., 1987; Meeks et al., 1989; Patterson et

al., 1990).

Segal et al. (2001) examined age differences in the use of specific subscales of the dispositional COPE (Carver et al., 1989). They found that older and younger adults differed on a number of coping subscales. Specifically, compared to younger adults, older adults were more likely to report using restraint and religion, and were less likely to report using humor, mental disengagement and venting of emotion. The two age groups did not differ on their use of any other coping subscales. Segal et al. (2001) concluded that older adults used lower levels of dysfunctional coping dispositions than younger adults. Their conclusion regarding the efficacy of these coping dispositions, however, may have been speculative given their failure to examine the influence of these dispositions on measures of psychological health, as well as the fact that coping efficacy is determined partly by the context in which the strategies are being used.

Taken together, studies on aging and coping reveal a number of inconsistent findings. While studies on situational coping suggest that problem-focused coping decrease, and emotion-focused coping and avoidance increase with age, the few studies that have examined dispositional coping across age groups have generally not supported these results. However, there are very few direct comparisons of age differences in dispositional coping at the level of individual scales or coping factors. Furthermore, problems with consistency in the measurement of coping decrease the validity of past studies examining coping and psychological health.

Empirical Studies on Coping Profiles

Another limitation of coping studies in older adults is that they have generally examined the influence of single coping strategies on indices of psychological health. Research with general adult samples, however, suggests that individuals often use multiple strategies to deal with different stressful situations or different phases of the

same transaction (Cheng et al., 1999; Lester, Smart, & Baum, 1994; Schwartz, Peng, Lester, Daltroy, & Goldberger, 1998; Wrosch et al., 2002). For example, problem-focused coping and emotion-focused coping are often used conjointly to deal with stressful situations (Auerbach, 1989; Billings & Moos, 1981; Folkman et al., 1986; Lazarus, 1996: Lazarus & Folkman, 1984). Relying exclusively on high levels of emotion-oriented or social support strategies has been associated with increased levels of distress, as these strategies may serve to distract the person from resolving the stressful situation (Carver et al., 1989; Zeidner, 1994). In addition, the use of disengagement has been shown to be effective in managing uncontrollable stress when it is followed by problem-solving (Suls & Fletcher, 1985).

Self-report and experimental studies have been conducted with the aim of identifying different types of copers in general adult samples (Cheng, 2001; Folkman & Lazarus, 1980; Krohne, 1989; Miller, 1987; Shapiro, Rodriguez, Boggs & Robinson, 1994). The results from these studies have been highly consistent, providing support for the importance of examining coping profiles (Kaluza, 2000; Krohne, 1996). More specifically, these studies suggest the existence of approximately four characteristic patterns of dealing with stress (e.g., Kaluza, 2000; Krohne, 1996). One common pattern is characterized by the use of primarily problem-focused coping strategies and is associated with higher levels of psychological health, as well as higher levels of coping efficacy in controllable situations (Bolger & Zuckerman, 1995; Cheng, 2001; Krohne, 1996; Mattlin et al., 1990). A second pattern is characterized by the use of low levels of emotion-oriented or avoidant coping strategies. This pattern of coping is associated with lower levels of psychological health, but relatively higher levels of coping efficacy in

uncontrollable situations (Aldwin, Sutton, & Lachman, 1996; Cheng, 2001; Krohne,

1996, Mattlin et al., 1990; Sherbourne, Hays, & Wells, 1995).

The two other patterns of coping are characterized by the use of a large number

and variety of coping strategies, including problem- and emotion-focused coping and

avoidance (Carver et al., 1993; Kaluza, 2000; Krohne, 1996; Mattlin et al., 1990).

Studies suggest that a sub-sample of these individuals report low levels of distress, and

high levels of coping efficacy and flexibility in the use of coping strategies across

stressful situations (Krohne, 1996; Mattlin et al., 1990; Pearlin & Schooler, 1978). In

contrast, the second sub-sample reports high levels of distress, low levels of coping

efficacy and the indiscriminate use of coping strategies (Carver et al., 1993; Krohne,

1989; Mattlin et al., 1990; Rosenbaum & Piamenta, 1998; Slangen, Kleemann, &

Krohne, 1993).

Kronhne (1986) identified the same four coping groups and provided additional

information about their underlying personality characteristics. Specifically, individuals

who reported using primarily problem-focused coping strategies (e.g., attaining

information) had low levels of intolerance of uncertainty, while individuals who used

mainly avoidance (e.g., avoiding stress-related information) had high levels of intolerance

of emotional arousal. Individuals who reported using a variety of coping strategies in a

flexible manner, on the contrary, had low levels of both intolerance of uncertainty and

intolerance of emotional arousal. Finally, the group characterized by the use of high levels

of coping strategies and poor adjustment had high levels of both intolerance of

uncertainty and intolerance of emotional arousal (Borkovec & Lyonfields, 1993; Krohne,

1996; Mathews, 1993; Mattlin et al., 1990; Pearlin & Schooler, 1978). Individuals who

are anxious and report using high levels of all coping strategies seem to be characterized

by a combination of vigilance toward threatening stimuli and a tendency to avoid these stimuli, suggesting the emergence of an indiscriminate or anxious coping style (Borkovec & Lyonfields, 1993).

Through a series of three studies, Cheng (2001) recently provided a more comprehensive conceptualization and understanding of these different coping profiles. Using cluster analysis, she examined patterns of self-report situational problem- and emotion-focused coping in younger adults across "real-life" and experimental situations that varied in controllability. Coping flexibility was defined as the match between one's behavior and one's perception of controllability of the situation. Although some inconsistencies in profiles were noted across studies, the four coping styles outlined earlier were confirmed, as were many of the differences across the coping groups. Results suggested that individuals who reported using high levels of problem-focused coping perceived events as controllable, whereas individuals who reported using high levels of emotion-oriented coping strategies perceived events to be uncontrollable. Furthermore, the two groups of individuals who reported using high levels of both problem- and emotion-focused coping differed in very important ways. One of these groups generally perceived events to be controllable, and also reported low levels of anxiety and depression and high levels of coping flexibility across controllable and uncontrollable situations. The other group perceived events to be uncontrollable, and reported high levels of anxiety and depression, as well as the indiscriminate use of coping strategies across different stressful situations. These results suggest that it may be most adaptive to possess a coping style that is characterized by a wide repertoire of coping responses, especially if it is accompanied by high levels of control beliefs and sensitivity to situational constraints.

In summary, evidence reviewed in the previous two sections suggests that the efficacy of specific coping dispositions is likely to be dependent on opportunities for control available within different developmental contexts. Research also suggests that different styles of coping are associated with different psychological outcomes in general adult samples. Given the fact that the importance of compensatory coping strategies increases with age, it may be especially important to examine the role of coping profiles in older adults. In fact, the use of single coping strategies in old age, such as problem-focused coping, may be ineffective given the reductions in opportunities for control and increased failure experiences associated with aging. It may be essential for compensatory strategies to be used in conjunction with problem-focused coping to facilitate the resolution of stress and maintain overall coping efforts. Very few studies have examined the differential use and efficacy of coping dispositions across age, however, and researchers have failed to examine patterns of coping in older adults.

PROPOSED STUDY

Coping may be one of the main mechanisms by which older adults maintain their psychological health and adapt to the developmental challenges associated with aging (Brandtstädter & Renner, 1990; Heckhausen & Schulz, 1995). As individuals age, the adoption of developmentally appropriate coping strategies may serve to protect them from the negative psychological effects of uncontrollable stress (Brandtstädter et al., 1993; Schmitz et al., 1996; Wrosch et al., 2000; Wrosch et al., 2003; Wrosch et al., 2002). Preliminary evidence suggests that older adults who are more selective in the allocation of their coping resources, and who compensate for losses in control by using increased levels of emotion regulation strategies, are likely to report high levels of psychological health (Heckhausen & Schulz, 1995, 1998; Schulz & Heckhausen, 1997; Schulz et al.,

1991). The purpose of the present study is to gain a better understanding of the coping process in older adults. The use of a dispositional approach to the assessment of coping should reduce some of the problems associated with comparing coping responses across events that vary on a number of contextual and situational factors in younger and older adults (Billings & Moos, 1981, Folkman & Lazarus, 1980; Parkes, 1986; Stone & Neale, 1984; Terry, 1991, 1994). In the first part of the present study (Part 1), the use and efficacy of coping dispositions was examined across groups of younger and older adults. In the second part of the present study (Part 2), a theoretically-based classification of coping styles involving contingency beliefs, problem-focused coping, emotion-focused coping, social-support seeking and avoidance was tested. The goal of Part 2 was to determine if older adults with more variable coping profiles report higher levels of psychological health than older adults with more restricted coping profiles.

PART 1

The general purpose of Part 1 was to examine the associations among four types of dispositional coping strategies (i.e., problem-focused coping, emotion-focused coping, social support seeking and avoidance) and levels of positive affect, depression, and worry in younger and older adults. In order to evaluate the age-differential predictive value of coping dispositions on psychological health, it is essential to ensure that the measurement properties and meaning of coping dimensions do not change with age. Consequently, the first goal of Part 1 of this study was to conduct a confirmatory test of the four-factor structural model of coping proposed by Carver et al. (1989), and to compare the factorial invariance of the model across younger and older adults using multiple-group structural modeling.

The second goal of Part 1 was to examine age differences in the endorsement of dispositional coping strategies. Based on results from past studies (e.g., Brandtstädter et al., 1993; Folkman et al., 1987; Heckhausen & Schulz, 1998; Schmitz et al., 1996), age differences in the self-report use of the four dispositional coping strategies were expected. Given that opportunities for control diminish with age, it was expected that older adults would report using lower levels of problem-focused coping and higher levels of emotion-focused coping than younger adults. Moreover, there is a great deal of evidence suggesting that older adults emphasize the quality of their social relationships and as a result decrease the size of their social network as they age (Carstensen, 1992; Carstensen et al., 1997; Costa et al., 1991; Dew, 1998; Lenze et al., 2001; Turner & Marino, 1994). Consequently, it was expected that older adults would report using lower levels of social support seeking than younger adults. The use of avoidance was expected to decrease with age.

The third and final goal of Part 1 was to evaluate the association between coping dispositions and psychological health as a function of age. Because different coping responses may be related to different affective outcomes (see Folkman, 1991; Park, Cohen & Murch, 1996; Zeidner & Saklofske, 1996), this study examined the association among dispositional coping strategies and various indices of adjustment, including positive affect, depression and worry. It was expected that problem-focused coping would be associated with higher levels of positive affect and lower levels of depression and worry in younger adults, who tend to have higher levels of personal resources and face stressful situations that are more controllable. Problem-focused coping was expected to be helpful for older adults as well, but only under conditions of low stress when their resources are less taxed and the situation may be more amenable to change.

With regards to supplementary coping strategies, three strategies that serve distinct coping functions were examined, including emotion-focused coping, social support seeking and avoidance. The function of emotion-focused coping is to protect individuals' motivational and emotional resources after experiences of failure, and to facilitate re-engagement in alternate tasks (Carver et al, 1989; Heckhausen & Schulz, 1995). Consequently, it was expected that emotion-focused coping would be increasingly beneficial with age, as resources and opportunities for resolving stress are expected to decline. The function of social support seeking is to obtain emotional support, help and advice in attaining one's goals. Despite the fact that its' use may be limited by the availability of adequate or quality social support resources, it is expected that more instrumental social support seeking should become increasingly important with age, as personal problem-solving resources diminish. Both emotion-focused coping and social support seeking, therefore, should be associated with higher levels of positive affect and

lower levels of depression and worry in old age, as the importance of supplementing one's problem-solving efforts increase. The use of avoidance can be beneficial when used for a short period of time or specifically when used to disengage from unsolvable tasks. However, it was expected that the general use of avoidance would be associated negatively with psychological health, regardless of age.

Past research has also suggested that the influence of coping dispositions on psychological health is more pronounced under conditions of high stress (Heckhausen & Schulz, 1999). Consequently, the association between stress and coping in younger and older adults was also examined to determine if coping dispositions would be more highly related to psychological health under conditions of high stress, when resources are most taxed and the use of coping strategies may be most beneficial.

Method

Participants and Procedure

The sample of this study included a total of 292 younger adults (M Age = 22.88 years, SD = 3.71 years, range = 18 to 35 years) and 333 older adults (M Age = 73.91 years, SD = 6.96 years, range = 60 to 94 years). With respect to sex, 31% of the younger adults and 29% of the older adults were male. Younger participants consisted of university students who were recruited from undergraduate classes or from booths set up in university centers. Older participants were recruited either from seniors clubs and associations in the greater Montreal region or from data pools of previous, but unrelated, studies. Older adults in this sample were generally well educated, having completed an average of 14.1 years of education (SD = 3.36 years, range = 4 to 21 years).

Of the recruited participants, 357 (Young: n = 188; Old: n = 169) were given a questionnaire package to complete at home, which consisted of measures of dispositional

coping, control beliefs and motivation, and positive affect and depression. A total of 268

participants (Young: $n = 104$; Old: $n = 164$) were interviewed in the laboratory and

completed measures of dispositional coping, control beliefs and motivation, and

pathological worry. Only participants who returned the questionnaires and provided

complete ratings for dispositional coping and control beliefs were included in the present

study (Young: $n = 274$; Old: $n = 289$). Participants whose data were used in the analyses

were comparable to participants from the entire sample in regards to age (Young: $M =$

22.81, $SD = 3.69$; Old: $M = 73.62$, $SD = 6.66$), gender (Young: 28.4% men; Old: 33.4%

men), and education (old: $M = 14.10$, $SD = 3.35$). Moreover, participants who were

interviewed in person did not differ from participants who responded to mailed-out

questionnaires on most demographic variables, although gender composition did vary

across these samples. The percentage of males among participants who were interviewed

in person (Young: 39 % men; Old: 44 % men) was almost double the percentage of males

who completed mailed-out questionnaires (Young: 23 % men; Old: 23 % men).

Measures

Dispositional coping (COPE). Participants completed a modified version of the

dispositional coping inventory developed by Carver et al. (1989). On this inventory,

participants were asked to rate the degree to which they generally used each of the

described coping strategies to deal with stressful events, using a 4-point Likert scale

ranging from "I usually do not do this a lot" (1) to "I usually do this a lot" (4). The 14

subscales on the original battery were included. Four items assessing humor and two

items assessing self-blame (Carver, 1997) were also added to the original questionnaire.

In addition, Carver (1997) suggested that the Focusing and Venting of Emotions subscale

should more exclusively measure venting, as focusing on emotion is too closely tied to

the experiencing of emotion and corresponds too closely with psychological distress. Consequently, two items assessing focusing on emotion were replaced with items that exclusively measure venting as a form of coping (Carver, 1997). One of the items from the Self-Distraction scale (i.e., assessing sleep as a form of distraction) was replaced with an item assessing a more generalized or expanded form of self-distraction as identified by Carver (1997). This resulted in a total of 16 subscales: Active, Planning, Suppression of Competing Activities, Positive Reinterpretation, Acceptance, Restraint, Instrumental-Support Seeking, Emotional-Support Seeking, Venting of Emotions, Self-Distraction, Behavioral Disengagement, Denial, Turning to Religion, Humor, Alcohol and Drug Use and Blame.

Items from the Alcohol and Drug Use subscale were rarely endorsed by our sample as a means of coping and were excluded from further analyses. Consistent with past results (Carver, 1997; Carver et al., 1989), Self-Blame and Restraint were only minimally correlated with the other subscales of the COPE and consequently were also excluded. The remaining 13 subscales, each consisting of four items, were included for further analyses. Each of these subscales had acceptable internal levels of reliability, with Cronbach alphas ranging from .68 to .95 for younger adults, and from .66 to .95 for older adults (see Table 1).

Control beliefs. Personal control beliefs were measured using a 12-item scale (Lachman & Weaver, 1998). Previous research suggested that personal control, as assessed by this scale, consisted of two different dimensions of control beliefs: competency and contingency (Lachman & Weaver, 1998; Skinner, 1996). Competency beliefs refer to the sense of efficacy in carrying out goals, whereas contingency beliefs refer to the sense that factors beyond one's control do not impede the achievement of

Table 1

Descriptive Statistics, Cronbach Alpha and Comparative Fit Index (CFI) for the Coping Subscales in younger and older adults

Scale	Younger Adults (n = 274)				Older Adults (n = 289)			
	M	SD	α	CFI	M	SD	α	CFI
Active Coping	3.05	0.59	.76	.99	3.22	0.63	.78	1.00
Planning	3.14	0.66	.83	1.00	3.33	0.66	.83	1.00
Suppression	2.58	0.68	.68	1.00	2.74	0.72	.67	1.00
*Positive Reinterpretation	3.03	0.69	.80	.87	2.89	0.70	.76	.92
Acceptance	2.72	0.67	.71	1.00	2.94	0.73	.73	.98
Humor	2.27	0.95	.95	1.00	1.75	0.78	.89	1.00
Religious Coping	1.88	1.01	.94	1.00	2.12	1.11	.95	1.00
Instrumental Support	3.01	0.70	.85	1.00	2.68	0.81	.88	.99
Emotional Support	2.89	0.83	.93	1.00	2.40	0.83	.91	1.00
Venting of Emotions	2.54	0.80	.81	1.00	2.03	0.74	.79	1.00
Self-Distraction	2.45	0.71	.74	1.00	2.10	0.66	.66	.98
Behavioral Disengagement	1.51	0.53	.75	.99	1.51	0.55	.71	1.00
Denial	1.39	0.48	.74	.97	1.39	0.50	.71	.99

Note. The CFI values estimate the fit of a unidimensional model to the four items composing each scale. *The low fit index for this scale was due to the fact that the items in this scale have dual focuses and assess both reframing and growth. When two factors were specified (i.e., when items reflecting growth were specified as one factor and items reflecting reframing were specified as a separate factor), the CFI increased to 1.00 for both younger and older adults. The reframing scale was used for subsequent analyses.

one's goal. Competency was assessed with 4 items (e.g., "I can do just about anything I really set my mind to") and contingency was assessed with 8 items (e.g., "There are many things that interfere with what I want to do"). Participants were asked to indicate how much they agreed with each control statement on a 7-point Likert scale ranging from "Disagree Strongly" (1) to "Agree Strongly" (7). Items on the contingency scale were reverse scored and an exploratory factor analysis of the 12 items using varimax rotation revealed the presence of the two previously identified factors of competency (Young: $\alpha =$ .74, $M = .29$, $SD = .88$; Old: $\alpha = .79$, $M = -.26$, $SD = .99$) and contingency (Young: $\alpha =$ .76, $M = -.09$, $SD = .98$; Old: $\alpha = .75$, $M = .08$, $SD = .99$), in both younger and older adults. The items were regressed into two separate control factors using factor analysis with maximum-likelihood estimation. Higher scores reflect greater competency and contingency beliefs.

Control motivation. Control motivation was assessed with 20 items from the Desirability of Control Scale developed by Burger and Cooper (1979). This scale measures motivation to control the events in one's life with items that describe control in both general terms (e.g., "I enjoy having control over my own destiny") and in more specific situations (e.g., "I would rather someone else take over the leadership role when I'm involved in a group project"). For each item, participants indicated the extent to which they believed the statement applied to them (7-point Likert scale, 1 = *Does Not Apply*, 7 = *Applies*; Young: $M = 100.78$, $SD = 13.01$; Old: $M = 97.06$, $SD = 15.80$). Responses were summed to provide a Desire for Control score, with higher scores indicating higher levels of motivation for control. Internal reliability coefficients for desire for control were .76 and .85 for younger and older adults, respectively.

Health and financial stress. Self-assessment of physical health status was measured using a composite score of two items: participants' overall health at the present time (5-point Likert scale, 1 = *very poor*, 5 = *very good*), and participants' overall health compared to other people their own age (5-point Likert scale, 1 = *much worse*, 5 = *much better*). Both younger and older participants reported that their overall health, on average, was good (Young: $M = 4.11$, $SD = 0.75$; Old: $M = 4.11$, $SD = 0.78$) and that they were generally doing okay compared to others (Young: $M = 3.46$, $SD = 0.85$; Old: $M = 4.15$, $SD = 0.78$). Financial status was assessed using one item that asked participants to indicate how well they were doing financially (7-point Likert scale, 1 = *very difficult*, 7 = *very comfortable*). On average, participants reported that they were doing okay or were fairly comfortable financially (Young: $M = 4.39$, $SD = 1.39$; Old: $M = 5.28$, $SD = 1.07$).

An index of financial and health stress was created. Level of stress was coded for overall health, comparative health and financial situation as low (0), minimal (1) or high (2). Low levels of stress were assigned to participants who reported that their overall health was good or very good (score of 4 or 5), comparative health was a little better or much better than that of others' (score of 4 or 5), and whose financial situation was fairly comfortable, comfortable or very comfortable (score of 5, 6 or 7). Similarly, minimal levels of stress were assigned to participants who indicated that their overall health was fair (score of 3), comparative health was the same as that of others' (score of 3), and who could manage financially (score of 4). Finally, high levels of stress were assigned to participants who indicated that their overall health was very poor or poor (score of 1 or 2), comparative health was much worse or a little worse than others' (score of 1 or 2), and whose financial situation was very difficult, difficult or fairly difficult (score of 1, 2 or 3). The three stress variables were then summed to form an index of stress with higher scores

indicating higher overall levels of stress (Young: $M = 1.61$, $SD = 1.32$; Old: $M = 0.67$, $SD = 0.94$).

Positive affect. Positive affect was assessed using the frequency subscale of the Carstensen Emotional Questionnaire (CEQ; Carstensen, 2000; Kennedy, Mather, & Carstensen, 2004). This subscale consists of five items that assess the frequency of either negative or positive affect. Participants were asked to indicate how often they experienced sadness, fear, anger, disgust and happiness on a 4-point Likert scale ranging from "Never"(1) to "Often" (4). Sadness, fear, anger and disgust items were summed to form a scale assessing negative affect. Negative affect was then subtracted from happiness to form an index of positive affect, with higher scores indicating greater frequency of positive affect (Young: $M = 1.30$, $SD = 0.74$; Old: $M = 1.57$, $SD = 0.69$).

Depression. Depression was assessed using the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977). The CES-D consists of 20 items that assess four symptom clusters of depression: depressed mood, psychomotor retardation, well-being, and interpersonal difficulties. Depressed mood (e.g., "I felt depressed") and psychomotor retardation (e.g., "I did not feel like eating; my appetite was poor") were each assessed with seven items. Well-being was assessed with four items (e.g., "I felt that I was just as good as other people") and interpersonal difficulties was assessed with two items (e.g., "I felt that people dislike me"). Participants were asked to indicate the degree to which they experienced sad feelings or depressive symptoms during the past week on a 4-point Likert scale ranging from "Rarely or none of the time; less than 1 day" (0) to "Most or all of the time; 5-7 days" (3). The items measuring well-being were reverse scored. The four scales were summed to form a depression score for each individual (Young: $\alpha = .70$, $M = 14.62$, $SD = 8.42$; Old: $\alpha = .73$, $M = 7.49$, $SD = 7.27$).

Pathological worry. Pathological worry was assessed using the Penn State Worry

Questionnaire (PSWQ; Meyer, Miller, Metzger, & Borkovec, 1990). The PSWQ is a 16-

item scale that assesses a general, trait-like tendency to worry by asking participants how

typical each worry item is of them (5-point Likert scale, 1 = *Not at all typical*, 5 = *Very*

typical, Young: M = 48.19, SD = 13.87; Old: M = 39.41, SD = 12.44). Internal reliability

coefficients for worry were .94 and .91 for younger and older adults, respectively.

Results

Data were first screened for univariate and multivariate outliers. Univariate

outliers were reduced to three standard deviations above or below the mean. Data for

three participants were excluded from the analyses due to obvious gaps between their

coping and control responses and those of other participants. These three cases were not

included in the above description of the sample participants. Prior to conducting

confirmatory factor analyses, individual coping items that were non-normal were

transformed using square root or logarithmic transformations. In addition, the

distribution of each of the outcome variables was non-normal, and was transformed using

either square root (worry) or logarithmic (positive affect and depression) transformations.

The scores of all other variables were normally distributed.

The results are presented in three separate sections. The results of confirmatory

factor analyses, used to examine the factor structure of dispositional coping in younger

and older adults, are presented in the first section. The EQS program (Bentler, 1989)

with Maximum Likelihood Estimation was used for this purpose. Model fit was assessed

using the nonnormed fit index (NNFI; Bentler & Bonett, 1980), the comparative fit index

(CFI; Bentler, 1990) and the root mean squared error of approximation (RMSEA; Browne

& Cudeck, 1993). Because large sample sizes can lead to the rejection of models for

trivial reasons, fit indices were used as a guide to determine the adequacy of the proposed models (Bentler, 1990; Kline, 1998).

Age differences in the endorsement of dispositional coping strategies, which were compared using multivariate analysis of variance (MANOVA) procedures, are presented in the second section. In the third section, the main hypothesis of age-differential effects of coping dispositions on psychological health is addressed. Bivariate correlations were computed to examine the basic relations among the variables. A series of hierarchical regression analyses were then conducted to examine the relations among the four coping dispositions and indicators of psychological health, including positive affect, depression and worry, as a function of age and stress. The interactions were represented as product terms, with a significant increase in the variance accounted for by the product term indicating a significant interaction (Aiken & West, 1991; Cohen & Cohen, 1983). The SIMPLE programs (O'Connor, 1998), which perform the computations recommended by Cohen and Cohen (1983), were used to illustrate the interactions. Separate regression analyses were conducted for participants who completed measures of positive affect and depression (Young: $n = 182$; Old: $n = 138$), and participants who completed measures of worry (Young: $n = 92$; Old: $n = 151$).

Confirmatory Factor Analyses

Separate confirmatory factor analyses were first conducted on the 13 subscales from the modified Carver et al. (1989) coping inventory to ensure that each subscale assessed a distinct construct. Table 1 presents descriptive statistics, internal consistency values and the results of confirmatory factor analyses for each of the coping subscales. As seen in Table 1, all of the subscales, with the exception of positive reinterpretation, had acceptable fit indices among younger and older adults. The low fit index for the

positive reinterpretation scale was due to the fact that the items in this scale assess both positive reframing and growth. When two factors were specified (i.e., when items reflecting growth were specified as one factor and items reflecting reframing were specified as a separate factor), the CFI increased to 1.00 for both younger and older adults. As cognitive reframing is the coping strategy of most interest in the present study, the growth items were dropped and the reframing items were used in all subsequent analyses (Carver et al., 1997).

The adequacy of using a four-factor model of coping similar to the one proposed by Carver et al. (1989) was next evaluated separately in younger and older adults using confirmatory factor analyses. This involved examining whether the measured coping strategies could be reduced to four higher-order classes of coping: problem-focused coping, emotion-focused coping, social support seeking and avoidance. The first latent coping factor, problem-focused coping, was expected to underlie efforts to deal directly with changing or modifying the stressor itself, and consisted of active coping, planning and suppression of competing activities. Cognitive or emotional attempts to deal with the stressor refers to efforts aimed at reducing or managing the distress or internal consequences associated with stress, and was thought to be represented by the positive reframing, acceptance, humor, and religion subscales of the coping inventory. Instrumental support, emotional support, and venting of emotions were expected to make up a single social support factor. The fourth latent coping factor, avoidant coping, was expected to consist of denial, behavioral disengagement, and self-distraction. Based on previous analyses of the factor structure of the COPE (Carver et al, 1989), it was also expected that instrumental support would cross-load on the problem-focused dimension,

and venting of emotion would cross-load on the avoidance dimension, to a moderate

degree.

Results showed that the four-factor model provided adequate fit to the data among

older adults, χ^2 (57, $n = 292$) = 138.27, $p < .001$, NNFI = .91, CFI = .93, RMSEA = .07.

Although results among younger adults revealed that the model fit was also acceptable, χ^2

(57, $n = 274$) = 112.98, $p < .001$, NNFI = .92, CFI = .94, RMSEA = .06, the variance

estimate of the reframing indicator was close to 0 and consequently was constrained at its

lower bound. In both younger and older adults, modification indices suggested that the

reframing indicator loaded equally on both the problem-focused and emotion-focused

coping constructs. The reframing indicator was consequently removed from further

analyses as it was not a unique indicator of either method of coping. The four-factor

model was consequently rerun with positive reframing excluded. The revised four-factor

model proved to have adequate fit to the data among younger adults, χ^2 (46, $n = 274$) =

74.14, $p < .01$, NNFI = .95, CFI = .97, RMSEA = .05, and older adults, χ^2 (46, $n = 292$) =

103.62, $p < .001$, NNFI = .92, CFI = .94, RMSEA = .07 (see Table 2). All of the

subscales loaded significantly and in the expected direction on the four proposed coping

dimensions for both age groups (see Figures 1 and 2 for younger and older participants,

respectively).

To test for measurement invariance, the four-factor model was re-estimated and

the factor loadings were constrained to equivalence across the two age groups (see Table

2). With respect to the overall fit indices, this model proved to have adequate fit to the

participants' data, χ^2 (102, $n = 566$) = 272.52, $p < .001$, NNFI = .88, CFI = .91, RMSEA

= .05. However, a model that removed equivalence restrictions provided a better fit to the

Table 2

Goodness-of-Fit Information for Independent and Simultaneous Group models of Coping for Younger and Older Adults

Model Specification	χ^2	df	Ratio χ^2/df	Contrast with baseline model		NNFI	CFI	RMSEA
				χ^2 difference	df difference			
Single Sample Analyses								
Younger Adults ($N = 274$)	74.14	46	1.61	---	---	.95	.97	.05
Older Adults ($N = 289$)	103.62	46	2.25	---	---	.92	.94	.07
Multiple Group Analyses								
Baseline (no constraints)	177.76	76	2.34	---	---	.93	.94	.06
Factor Loadings Invariant	272.52	102	2.67	94.76	26	.88	.91	.05
Release of 3 constraints	187.89	99	1.90	10.13	23	.94	.95	.04

Note. NNFI = nonnormed fit index; CFI = comparative fit index; RMSEA = root mean squared error of approximation.
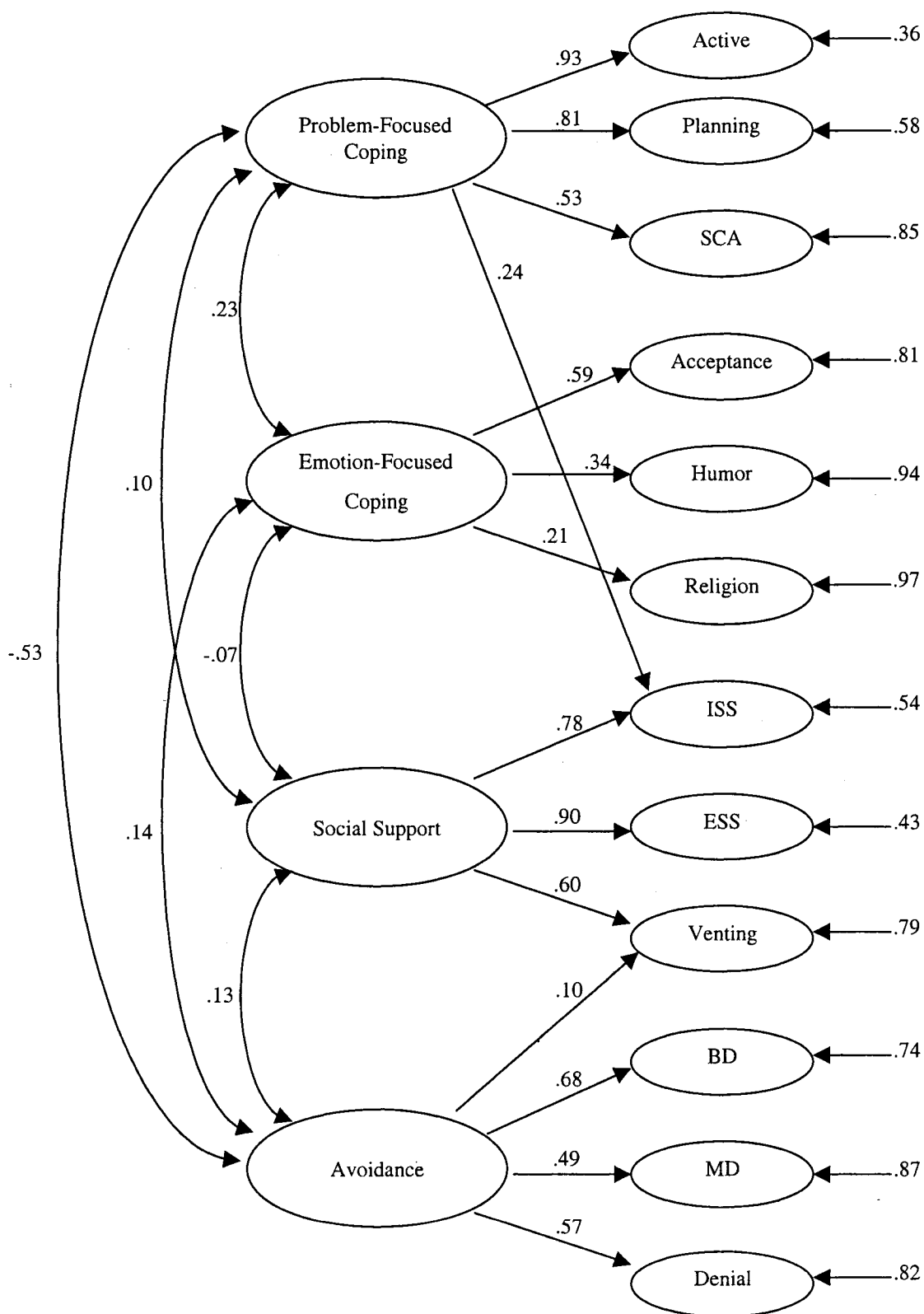
Figure 1. Confirmatory factor analysis for the four-factor model of coping in younger adults.

SCA = Suppression of Competing Activities; ISS = Instrumental Support Seeking; ESS = Emotional Support Seeking; BD = Behavioral Disengagement; MD = Mental Disengagement.

$\chi^2 = 74.14$, $df = 46$, $p = .001$; $N = 274$; CFI = .97; NNFI = .95; RMSEA = .05
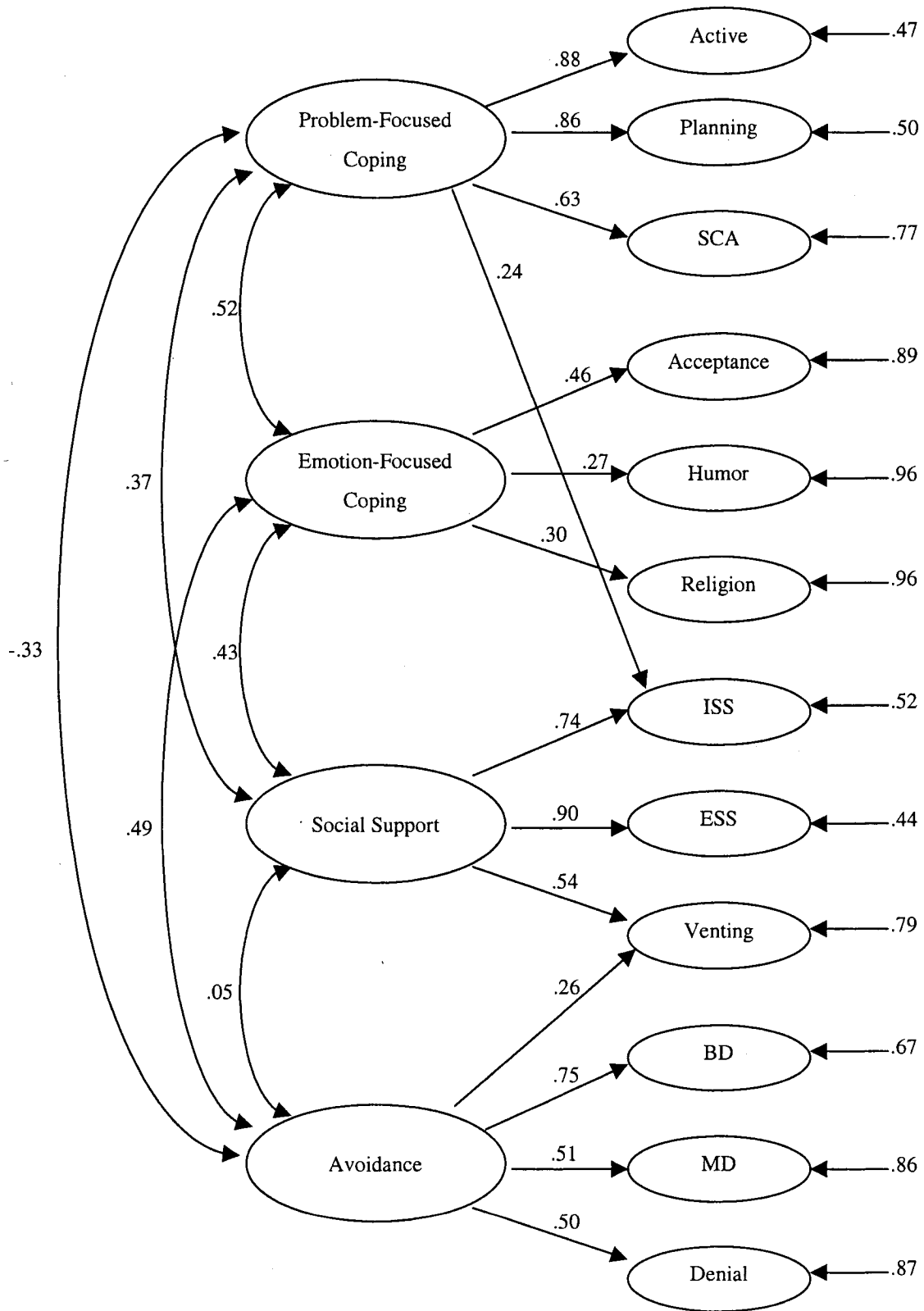
Figure 2. Confirmatory factor analysis for the four-factor model of coping in older adults.

SCA = Suppression of Competing Activities; ISS = Instrumental Support Seeking; ESS = Emotional Support Seeking; BD = Behavioral Disengagement; MD = Mental Disengagement.

$\chi^2 = 103.62$, $df = 46$, $p = .001$; $N = 289$; CFI = .94; NNFI = .92; RMSEA = .07

data, $_\Delta\chi^2$ (26, n = 566) = 94.76, p < .001, NNFI = .88, CFI = .91, RMSEA = .05.

Modification indices indicated that three of the specified equality constraints did not hold across the two age groups. Specifically, the weights of suppression on problem-focused coping, and the weights of humor on emotion-focused coping differed across younger and older adults. The weights of venting on avoidance also differed across the two age groups. Younger adult loadings were higher than older adult loadings for humor (λ = .07) and lower than older adults for suppression (λ = .10) and venting (λ = .16). All other younger adult loadings were very close to older adult estimates. Re-specified, the model with these three constraints released produced a better model fit, χ^2 (99, n = 566) = ·187.89, p <.001, NNFI = .94, CFI = .95, RMSEA = .04. Overall, the present results suggested the latent structure of coping is relatively invariant across the two age groups.

Supplementary analyses. Supplementary confirmatory factor analyses were performed in order to rule out alternative two-factor and three-factor models of coping (Billings & Moos, 1981; Endler & Parker, 1990; Folkman & Lazarus, 1980). In order to test the viability of alternative models, designation of indicators into factors were made on the basis of relevant theoretical models. On the basis of Folkman and Lazarus (1980), the adequacy of a two-factor model of coping that classifies strategies as either problem-focused coping or emotion-focused coping was first tested. A single problem-focused coping factor, referring to efforts to change a situation, was identified (Active Coping, Planning and Suppression of Competing Activities). The remaining nine subscales were expected to reflect a second latent dimension of coping assessing efforts aimed at managing internal distress, called emotion-focused coping. The two-factor model showed a very poor fit to the data for younger adults, χ^2 (53, n = 274) = 432.47, p <.001,

NNFI = .44, CFI = .55, RMSEA = .16, and for older adults, χ^2 (53, n = 292) = 462.73, p <.001, NNFI = .50, CFI = .60, RMSEA = .16.

A second alternative model was examined. On the basis of Billings and Moos (1981, 1984), the adequacy of a three-factor model of coping (active coping, passive coping and social support seeking) was tested. Three subscales (Active, Planning and Suppression) were expected to reflect active attempts to deal with the stressor, while five subscales (Acceptance, Humor, Behavioral and Self-distraction and Denial) were expected to reflect passive efforts to deal with the stressor. A single social support factor was identified as before. The indices of fit indicated that the three-factor model was an inadequate representation of the underlying data structure in both age groups: younger adults, χ^2 (51, n = 274) = 136.21, p <.001, NNFI = .87, CFI = .90, RMSEA = .08, and older adults, χ^2 (51, n = 292) = 188.86, p <.001, NNFI = .82, CFI = .86, RMSEA = .10.

Endorsement of Coping Strategies

Factor scores were computed for each of the four coping dimensions identified in the confirmatory model for younger and older adults using maximum-likelihood estimation. Mean differences in the endorsement for each of the four dispositional coping factors was then examined as a function of age using MANOVA. Results revealed significant age differences on the various coping strategies, $F(4, 558) = 24.98$, $p < .001$. Overall, older adults ($M = .17$, $SD = 1.02$) reported higher levels of problem-focused coping than younger adults ($M = -0.16$, $SD = 0.94$), $F(1, 562) = 15.75$, $p < .01$. Older adults also reported lower levels of social support seeking ($M = -0.30$, $SD = 0.96$), compared to younger adults ($M = 0.33$, $SD = 0.94$), $F(1, 562) = 60.99$, $p < .001$. Finally,

older adults reported lower levels of avoidance (M = -0.11, SD = 0.98), compared to younger adults (M = 0.11, SD = 1.00), $F(1, 562) = 6.67$, $p < .01$.

The use of emotion-focused coping did not vary across age groups. Because the different subscales of the emotion-focused coping factor were not entirely invariant across the age groups, additional ANOVAs were conducted for the different indicators of this factor. Significant age-group effects were obtained for all three indicators of emotion-focused coping, including acceptance, $F(1, 561) = 8.04$, $p < .01$, religion, $F(1, 561) = 5.71$, $p < .05$ and humor, $F(1,561) = 47,87$, $p < .001$. Compared to younger adults, older adults reported using more acceptance (Older: M = 0.83, SD = .25; Younger: M = 0.75, SD = .23) and religion (Older: M = 0.27, SD = .23; Younger: M = 0.22, SD = .22), as well as less humor (Older: M = 0.20, SD = .18; Younger: M = 0.32, SD = .19).

Because past studies have shown that coping strategies vary across sex and level of perceived stress, analyses were re-run taking these variables into account. Sex showed a significant main effect on social support seeking, $F(1,561) = 32.53$, $p < .001$, and avoidance, $F(1,561) = 9.23$, $p < .01$. More specifically, women reported using more social support seeking (women: M = 0.16, SD = 1.00; men: M = -0.35, SD = 0.92) and more avoidance (women: M = 0.08, SD = 0.98; men: M = -0.19, SD = 1.00) than men. However, controlling for sex did not affect the relation between age and the endorsement of coping dispositions. Similarly, with the exception of avoidance, all effects between age and coping dispositions remained significant after controlling for participants' level of stress.

A oneway Manova was also conducted with the goal of examining differences in perceived contingency, perceived competency and desire for control across younger and older adults. Results for the oneway MANOVA were statistically significant, $F(3, 559)$ =

$18.51, p < .001$. Univariate analyses showed that compared to younger adults, older adults reported higher levels of contingency beliefs (Older: $M = .08$, $SD = 1.00$; Younger: $M = -.09$, $SD = 0.98$), as well as lower levels of competency beliefs (Older: $M = -0.26$, $SD = 1.00$; Younger: $M = 0.29$, $SD = -0.26$) and desire for control (Older: $M = 97.86$, $SD = 15.80$; Younger: $M = 100.78$, $SD = 13.01$).

The Relations Between Coping and Psychological Health as a Function of Age

Bivariate correlations between constructs used in this study are reported in Table 3. Age was significantly related to higher levels of problem-focused coping ($r = .16$, $p < .001$), and lower levels of social support seeking ($r = -.33$, $p < .001$), avoidance ($r = -.12$, $p < .01$) and perceived stress ($r = -.38$, $p < .001$). Positive affect significantly increased with age ($r = .20$, $p < .001$), and decreased with perceived level of stress ($r = -.31$, $p < .001$), while depression and worry significantly decreased with age (depression: $r = -.46$, $p < .001$; worry: $r = -.32$, $p < .001$) and increased with levels of perceived stress (depression: $r = .35$, $p < .001$; worry: $r = .36$, $p < .001$).

In addition, problem-focused coping was significantly associated with lower levels of depression ($r = -.24$, $p < .001$) and worry ($r = -.21$, $p < .001$). Both social support seeking and avoidance were significantly and negatively related to positive affect (social support: $r = -.15$, $p < .01$; avoidance: $r = -.29$, $p < .001$), and positively related to depression (social support: $r = .12$, $p < .05$; avoidance: $r = .40$, $p < .001$), and worry (social support: $r = .28$, $p < .001$; avoidance: $r = .30$, $p < .001$). Emotion-focused coping was not significantly related to any of the indices of psychological health. Some of these associations differed across age groups. Problem-focused coping was negatively and significantly related to worry ($r = -.24$, $p < .05$) and positively related to positive affect (r

Table 3

Pearson Correlations for Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	--											
2. Stress	-.38***	--										
3. Contingency Beliefs	.08	-.07	--									
4. Problem-Focused Coping	.16***	-.18***	-.05	--								
5. Emotion-Focused Coping	.02	-.07	-.03	.19***	--							
6. Social Support Seeking	-.33***	.14***	-.02	.20***	.11**	--						
7. Avoidance	-.12**	.19***	-.09*	-.27***	.18***	.13**	--					
8. Competency Beliefs	-.28***	.04	.01	.07	.03	.14***	.02	--				
9. Desire for Control	-.13**	-.05	.03	.38***	-.02	.03	-.30***	.09*	--			
10. Positive Affect	.20***	-.31***	.07	.03	-.02	-.15**	-.29***	-.01	-.00	--		
11. Depression	-.46***	.35***	-.11*	-.24***	-.05	.12*	.40***	.11*	-.09	-.51***	--	
12. Worry	-.32***	.36***	-.13*	-.21***	-.08	.28***	.30***	.10	-.28***	N/A	N/A	--

Note. $N = 563$ (except for positive affect and depression: $N = 320$, and worry: $N = 243$).

N/A: Pearson correlations between worry and positive affect and between worry and depression could not be calculated because worry came from a different sub-sample than positive affect and depression.

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

= .18, $p < .01$) for younger adults, but was not significantly related to worry ($r = -.12$, *n.s.*) or positive affect ($r = .09$, *n.s.*) in older adults.

Perceived stress was significantly associated with decreased levels of problem-focused coping ($r = -.18$, $p < .001$), and increased levels of social support seeking ($r = .14$, $p < .001$) and avoidance ($r = .19$, $p < .001$). Stress was unrelated to the use of emotion-focused coping, as well as perceptions of competency, contingency and desire for control. Correlations were very similar for both age groups, however the relation between competency and stress varied by age. Perceived stress was significantly and younger adults ($r = .01$, *n.s.*).

In order to examine more directly whether coping dispositions would be differentially related to indices of psychological health as a function of age and stress, three hierarchical multiple regression analyses were conducted for each coping disposition using participants' positive affect, depression and worry scores as the dependent variables. Each regression consisted of three steps. In the first step, participants' age, level of stress and use of one of the four dispositional coping strategies were tested for significance. In the second step, three interaction terms were entered into the equation: age by stress, age by coping disposition, and stress by coping disposition. In the final step, the three-way interaction term between the three variables was entered and tested for significance.

Results of the regression analyses across each of the four coping dispositions are presented for positive affect (see Table 4), depression (see Table 5) and worry (see Table 6). The main effects of age group, stress and coping dispositions accounted for a significant amount of variance in psychological health across each of the separate regression equations. Results also revealed two significant two-way interactions, with

Table 4

Summary of Hierarchical Regression Analysis for Variables Predicting Positive Affect (N = 320)

| Predictor | Problem-Focused Coping | | | | | | | Emotion-Focused Coping | | | | | | |
| | Step 1 | | Step 2 | | Step 3 | | | Step 1 | | Step 2 | | Step 3 | | |
	B	SE B	B	SE B	B	SE B	β	B	SE B	B	SE B	B	SE B	β
Age	.01	.01	.01	.01	.01	.01	.09	.01	.01	.01	.01	.01	.01	.09
Stress	-.03	.01	-.03	.01	-.03	.01	-.29***	-.03	.01	-.04	.01	-.04	.01	-.32***
Coping Disposition	-.00	.01	-.00	.01	-.00	.01	-.03	-.01	.01	-.01	.01	-.00	.01	-.01
Age X Stress			-.00	.01	-.00	.01	-.03			-.00	.01	-.01	.01	-.04
Age X Coping Disposition			.00	.01	.00	.01	.03			.01	.01	.01	.01	.09
Stress X Coping Disposition			.01	.01	.01	.01	.04			.02	.01	.02	.01	.19**
Age X Stress X Coping Disposition					-.00	.01	-.01					.02	.01	.14*
R^2	.11		.11		.11			.11		.13		.14		
ΔR^2	.11		.00		.00			.11		.02		.02		
F for ΔR^2	12.55		0.27		0.02			12.69		2.12		5.30		
Df	3,316		3,313		1,312			3,316		3,313		1,312		
p <	.001		n.s.		n.s.			.001		n.s.		.05		

Note. The final column for each coping disposition represents standardized betas for the full model.

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

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Table 4 *(continued)*
Summary of Hierarchical Regression Analysis for Variables Predicting Positive Affect (N = 320) (Study 1)

Predictor	Social Support Seeking							Avoidance						
	Step 1		Step 2		Step 3			Step 1		Step 2		Step 3		
	B	$SE\,B$	B	$SE\,B$	B	$SE\,B$	β	B	$SE\,B$	B	$SE\,B$	B	$SE\,B$	β
Age	.01	.01	.01	.01	.01	.01	.06	.01	.01	.01	.01	.01	.01	.06
Stress	-.03	.01	-.03	.01	-.03	.01	-.29***	-.03	.01	-.03	.01	-.03	.01	-.26***
Coping Disposition	-.01	.01	-.01	.01	-.01	.01	-.12*	-.03	.01	-.03	.01	-.03	.01	-.21***
Age X Stress			-.00	.01	-.00	.01	-.01			-.00	.01	-.00	.01	-.03
Age X Coping Disposition			-.01	.01	-.01	.01	-.08			.00	.01	.00	.01	.03
Stress X Coping Disposition			.01	.01	.00	.01	.03			.01	.01	.01	.01	.06
Age X Stress X Coping Disposition					-.01	.01	-.04					.01	.01	.06
R^2	.11		.12		.13			.16		.16		.16		
ΔR^2	.11		.01		.00			.16		.00		.00		
F for ΔR^2	13.51		1.19		0.39			19.82		0.24		0.83		
Df	3,316		3,313		1,312			3,316		3,313		1,312		
$p <$	.001		*n.s.*		*n.s.*			.001		*n.s.*		*n.s.*		

Note. The final column for each coping disposition represents standardized betas for the full model.
*$p < .05$. **$p < .01$. ***$p < .001$.

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Table 5

Summary of Hierarchical Regression Analysis for Variables Predicting Depression (N = 320)

| | Problem-Focused Coping | | | | | | | Emotion-Focused Coping | | | | | | |
| | Step 1 | | Step 2 | | Step 3 | | | Step 1 | | Step 2 | | Step 3 | | |
Predictor	B	$SE\ B$	B	$SE\ B$	B	$SE\ B$	β	B	$SE\ B$	B	$SE\ B$	B	$SE\ B$	β
Age	-.14	.02	-.13	.02	-.13	.02	-.37***	-.15	.02	-.14	.02	-.14	.02	-.39***
Stress	.06	.02	.09	.02	.09	.02	.26***	.07	.02	.10	.02	.11	.02	.30***
Coping Disposition	-.05	.02	-.06	.02	-.06	.02	-.15**	-.01	.02	.00	.02	-.02	.02	-.05
Age X Stress			.06	.02	.06	.02	.17**			.06	.02	.07	.02	.19***
Age X Coping Disposition			-.03	.02	-.03	.02	-.08			-.01	.02	-.02	.02	-.05
Stress X Coping Disposition			-.03	.02	.01	.02	.01			-.05	.02	-.07	.02	-.20***
Age X Stress X Coping Disposition					.00	.02	.05					-.05	.02	-.14**
R^2	.29		.32		.32			.26		.30		.32		
ΔR^2	.29		.03		.00			.26		.04		.01		
F for ΔR^2	42.61		4.84		0.75			37.42		6.02		6.49		
Df	3,316		3,313		1,312			3,316		3,313		1,312		
$p <$	.001		.01		n.s.			.001		.001		.01		

Note. The final column for each coping disposition represents standardized betas for the full model.

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

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Table 5 (continued)
Summary of Hierarchical Regression Analysis for Variables Predicting Depression (N = 320) (Study 1)

| | Social Support Seeking | | | | | | | Avoidance | | | | | | |
| | Step 1 | | Step 2 | | Step 3 | | | Step 1 | | Step 2 | | Step 3 | | |
Predictor	B	SE B	B	SE B	B	SE B	β	B	SE B	B	SE B	B	SE B	β
Age	-.15	.02	-.14	.02	-.14	.02	-.39***	-.14	.02	-.13	.02	-.13	.02	-.35***
Stress	.07	.02	.10	.02	.10	.02	.28***	.05	.02	.08	.02	.08	.02	.23***
Coping Disposition	-.02	.02	-.02	.02	-.02	.02	-.06	.11	.02	.12	.02	.11	.02	.31***
Age X Stress			.06	.02	.06	.02	.16**			.06	.02	.06	.02	.16**
Age X Coping Disposition			-.01	.02	-.01	.02	-.03			.03	.02	.03	.02	.08
Stress X Coping Disposition			-.01	.02	-.01	.02	-.03			.00	.02	-.01	.02	-.02
Age X Stress X Coping Disposition					-.01	.02	-.00					-.02	.02	-.05
R²	.26		.29		.29			.35		.38		.39		
ΔR²	.26		.02		.00			.35		.03		.00		
F for ΔR²	37.78		3.49		0.00			57.53		5.09		0.79		
Df	3,316		3,313		1,312			3,316		3,313		1,312		
p <	.001		.05		n.s.			.001		.01		n.s.		

Note. The final column for each coping disposition represents standardized betas for the full model.
*p < .05. **p < .01. ***p < .001.

Table 6

Summary of Hierarchical Regression Analysis for Variables Predicting Worry (N = 243)

| | Problem-Focused Coping | | | | | | | Emotion-Focused Coping | | | | | | |
| | Step 1 | | Step 2 | | Step 3 | | | Step 1 | | Step 2 | | Step 3 | | |
Predictor	B	SE B	B	SE B	B	SE B	β	B	SE B	B	SE B	B	SE B	β
Age	-.21	.07	-.23	.07	-.21	.07	-.20**	-.22	.07	-.22	.07	-.22	.07	-.20**
Stress	.23	.07	.19	.07	.19	.07	.18**	.29	.07	.28	.07	.28	.07	.27***
Coping Disposition	-.17	.06	-.19	.07	-.13	.07	-.12	-.00	.06	-.01	.06	-.01	.07	-.05
Age X Stress			.07	.07	.05	.07	.04			-.00	.07	.00	.07	.00
Age X Coping Disposition			.06	.07	.04	.07	.04			-.00	.07	-.00	.07	-.01
Stress X Coping Disposition			.04	.07	-.03	.07	-.03			-.01	.08	-.01	.08	-.05
Age X Stress X Coping Disposition					.17	.07	.16*					.01	.08	.04
R²	.17		.17		.19			.17		.17		.17		
ΔR²	.17		.01		.02			.17		.00		.00		
F for ΔR²	15.70		0.61		5.33			15.83		0.26		0.42		
Df	3,239		3,236		1,235			3,239		3,236		1,235		
p <	.001		n.s.		.05			.001		n.s.		n.s.		

Note. The final column for each coping disposition represents standardized betas for the full model.

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

Table 6 (continued)
Summary of Hierarchical Regression Analysis for Variables Predicting Worry (N = 243) (Study 1)

| | Social Support Seeking | | | | | | | Avoidance | | | | | | |
| | Step 1 | | Step 2 | | Step 3 | | | Step 1 | | Step 2 | | Step 3 | | |
Predictor	B	SE B	B	SE B	B	SE B	β	B	SE B	B	SE B	B	SE B	β
Age	-.16	.07	-.15	.07	-.14	.07	-.13*	-.23	.07	-.24	.07	-.25	.07	-.23***
Stress	.29	.07	.29	.07	.32	.07	.30***	.25	.07	.25	.07	.25	.07	.23***
Coping Disposition	.21	.07	.23	.07	.29	.07	.27***	.27	.06	.28	.06	.30	.07	.29***
Age X Stress			-.01	.07	-.00	.07	-.01			.02	.07	.02	.07	.02
Age X Coping Disposition			-.12	.07	-.09	.07	-.09			-.05	.07	-.06	.07	-.06
Stress X Coping Disposition			-.00	.06	.03	.07	.04			-.07	.06	-.07	.06	-.07
Age X Stress X Coping Disposition					.14	.07	.14*					.04	.06	.04
R^2	.20		.21		.22			.23		.23		.24		
ΔR^2	.20		.01		.01			.23		.01		.00		
F for ΔR^2	19.69		1.02		4.27			23.48		0.56		0.44		
Df	3,239		3,236		1,235			3,239		3,236		1,235		
p <	.001		n.s.		.05			.001		n.s.		n.s.		

Note. The final column for each coping disposition represents standardized betas for the full model.
*p < .05. **p < .01. ***p < .001.

depression as the dependent variable. The first two-way interaction between age and stress significantly predicted overall levels of depression, as did the two-way interaction between stress and emotion-focused coping. However, these interactions were further explained by a three way-interaction between age, stress and emotion-focused coping, and consequently will not be discussed further. Examination of the plots for the three-way interaction (see Figure 3) revealed that under low stress conditions, older adults reported lower levels of depression than younger adults for both low and high levels of emotion-focused coping. In contrast, under high stress conditions, the association between age and depression varied depending on the levels of emotion-focused coping. For high levels of emotion-focused coping, older adults reported lower levels of depression than younger adults. However, for low levels of emotion-focused coping, older and younger adults reported similar levels of depression.

The inclusion of the three-way interaction term between age, stress and emotion-focused coping also explained additional proportions of variance with respect to participants' levels of positive affect. A plot of this interaction (see Figure 4) revealed that, under low stress conditions, older and younger adults reported similar levels of positive affect for the use of both low and high levels of emotion-focused coping. In contrast, under high stress conditions, the use of low levels of emotion-focused coping was associated with similar levels of positive affect across the two age groups, while the use of high levels of emotion-focused coping was associated with higher levels of positive affect in older versus younger adults.

There was also a significant three-way interaction between age, stress and problem-focused coping in the prediction of worry. The interaction for low and high stress is plotted in Figure 5. Under low stress conditions, older and younger adults
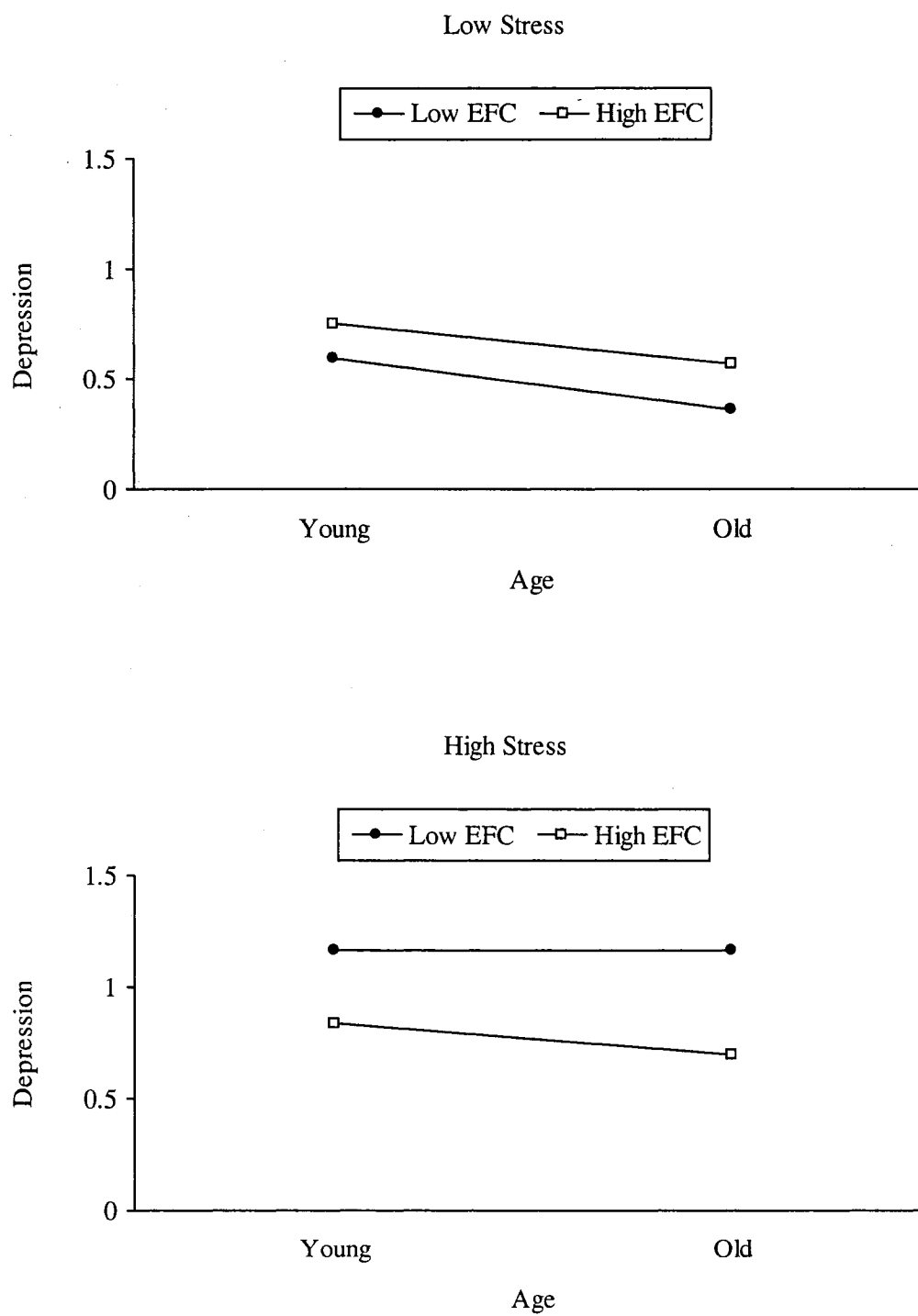
Figure 3. Regression lines for depression on age of participants for different levels of emotion-focused coping (EFC) and different levels of stress.

Low Stress

High Stress
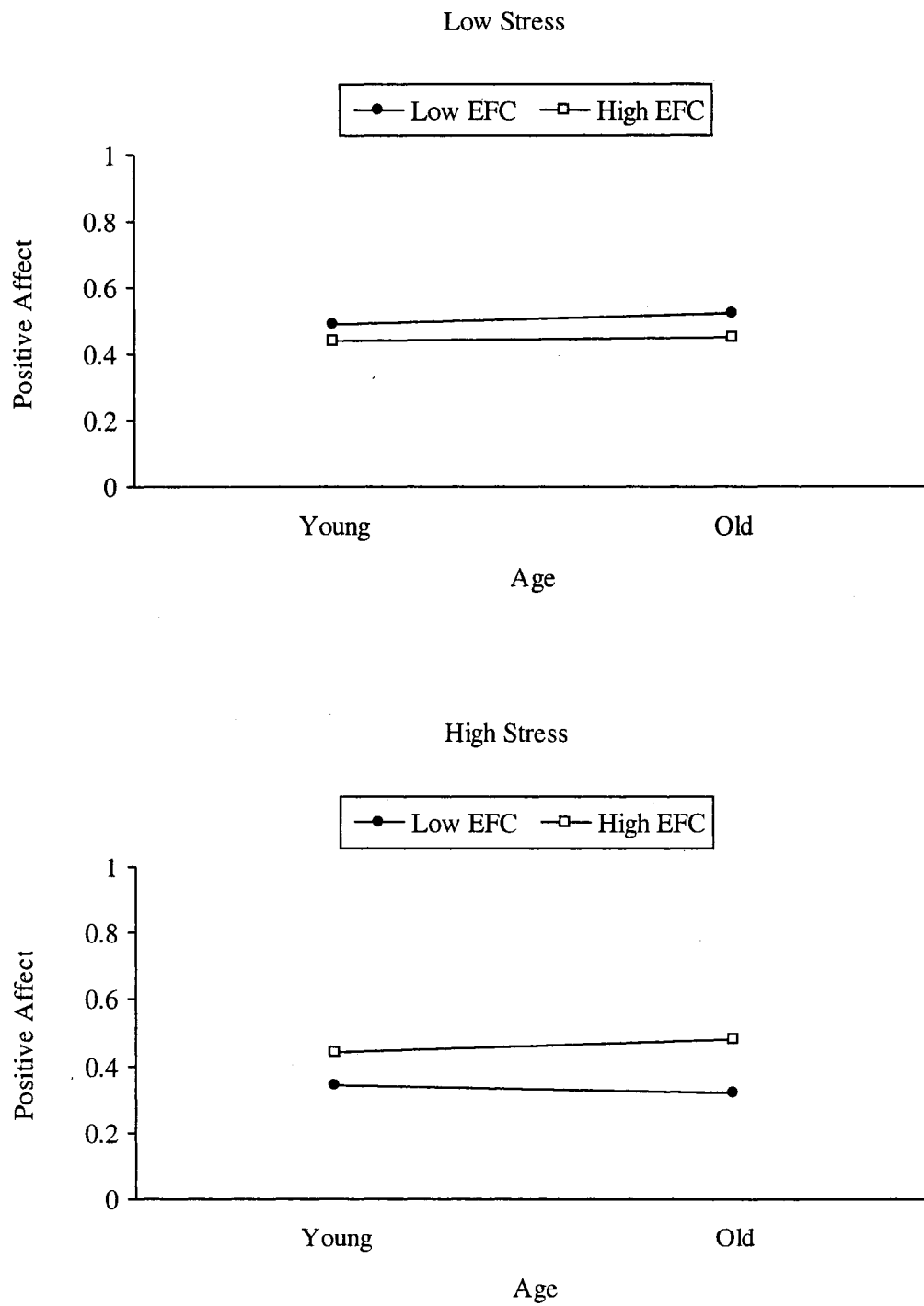
Figure 4. Regression lines for positive affect on age of participants for different levels of emotion-focused coping (EFC) and different levels of stress.

Low Stress

High Stress
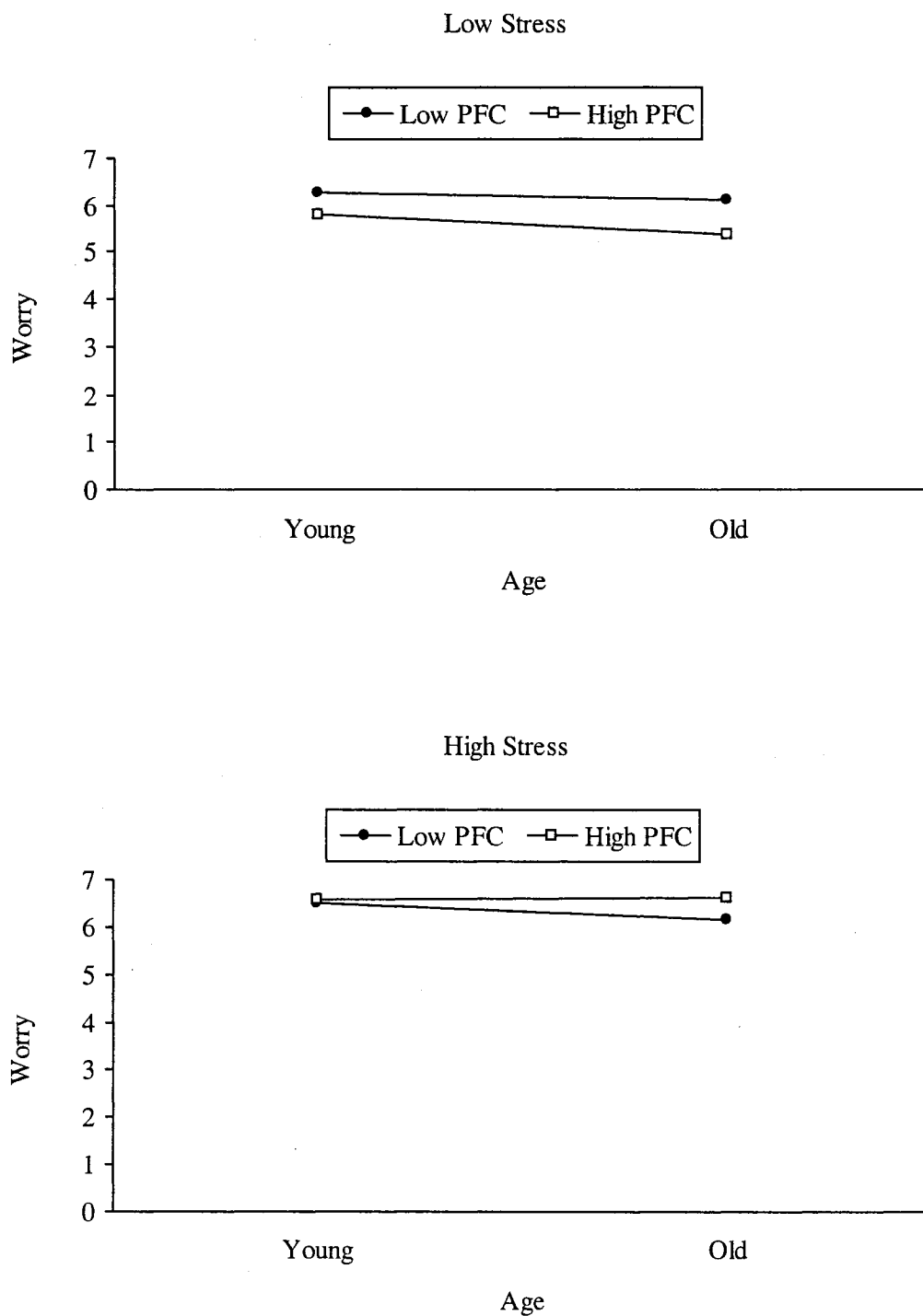
Figure 5. Regression lines for worry on age of participants for different levels of problem-focused coping (PFC) and different levels of stress.

reported similar levels of worry when using low levels of problem-focused coping. In contrast, when using high levels of problem-focused coping, older adults reported lower levels of worry than younger adults. Under high stress conditions, older and younger adults reported similar levels of worry when using high levels of problem-focused coping. Older adults reported lower levels of worry compared to younger adults when using low levels of problem-focused coping.

Finally, the inclusion of the three-way interaction between age, stress and social support seeking also significantly predicted overall levels of worry (see Figure 6). Under conditions of low stress, younger and older adults reported similar levels of worry when using low levels of social support seeking. However, when using high levels of social support seeking, older adults reported lower levels of worry compared to younger adults. In contrast, under high stress conditions, younger and older adults reported similar levels of worry for the use of both low and high levels of social support seeking.

Discussion

Results from confirmatory factor analyses supported the COPE's four-factor structure in younger and older adults (i.e., problem-focused coping, emotion-focused coping, social support seeking and avoidance). Although examination of measurement invariance revealed slight differences in factor loadings across younger and older adults, these differences were minor. Furthermore, the expected four-factor solution provided a better fit to the data than alternative two- or three-factor models. This study, which is the first study to examine the factor structure of the COPE in older adults, provides evidence for the stability of dispositional coping across age.

The present findings also provide support for the age-adapted management of life stress, suggesting that older adults may be able to maintain their psychological health by

Low Stress

High Stress
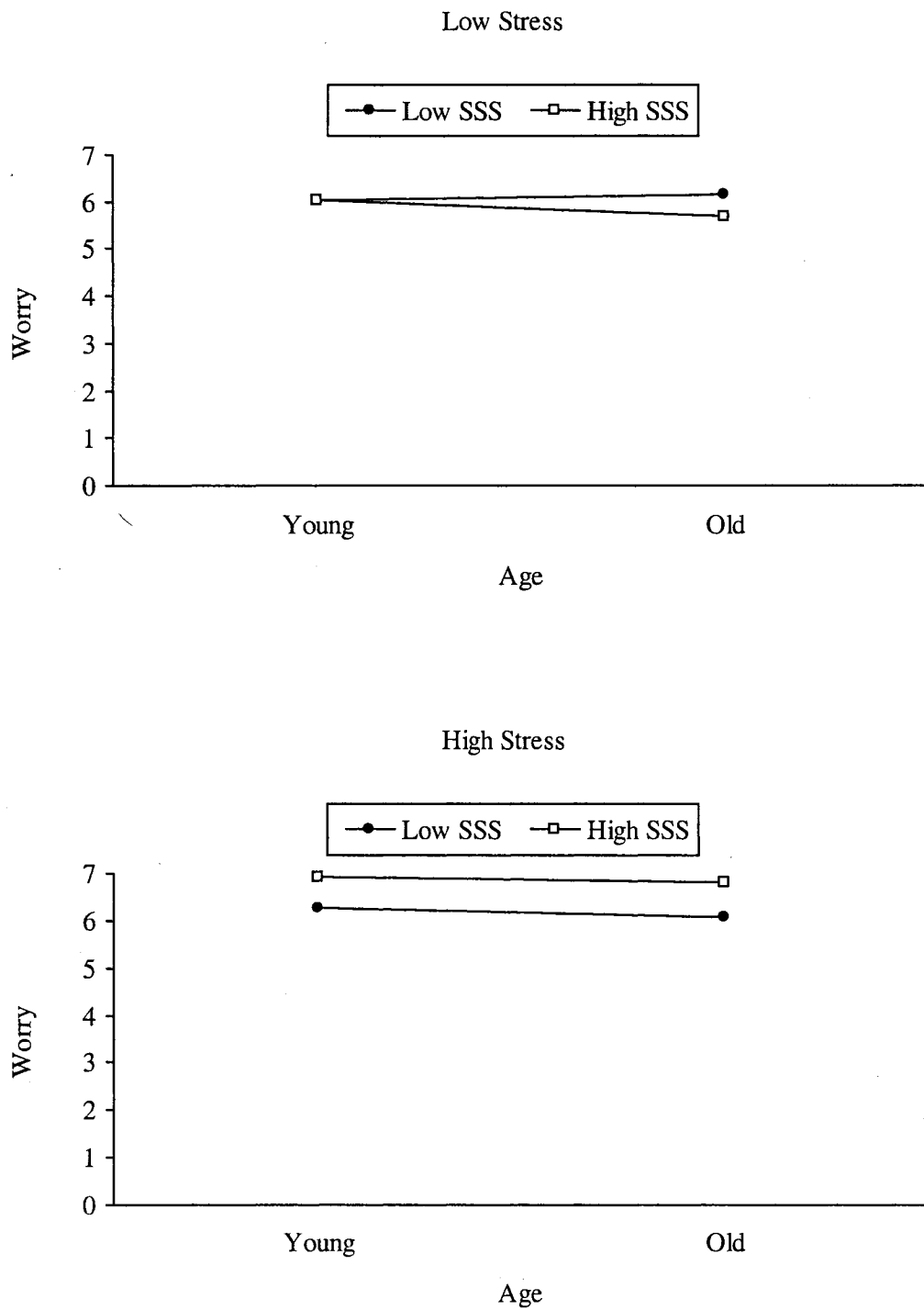
Figure 6. Regression lines for worry on age of participants for different levels of social support seeking (SSS) and different levels of stress.

modifying their use of coping dispositions to fit the needs of their developmental context. Significant differences in the endorsement of coping dispositions across age groups were obtained for problem-focused coping, social support seeking and the separate indicators of emotion-focused coping. More specifically, results indicated that older adults reported using higher levels of problem-focused coping than younger adults. Although these findings were somewhat surprising given the hypothesized reduction in control associated with age, they are consistent with findings reported by Wrosch et al. (2000), who found that older adults reported using higher levels of persistence than younger adults. Wrosch et al. (2000) concluded that older adults may intensify their efforts at resolving stressful situations because of decreased efficiency associated with attempts at exerting control. While this may partially explain the increased use of problem-focused coping in the present study, it is also possible that older adults intensify their efforts at resolving stressful situations in response to their perceived control over the environment. Research has repeatedly shown that individuals who perceive the environment to be more controllable report using higher levels of problem-focused coping than individuals who perceive their environment to be less controllable (Ben-Zur, 2002; Catanzaro & Greenwodd, 1994; Endler et al., 2000; Kirsch et al., 1990; Terry, 1994). In the present study, older adults reported higher levels of contingency beliefs than younger adults, a finding which might help explain the increased use of problem-focused coping with age. Although it is unclear why older adults possessed higher contingency beliefs than younger adults, it is important to note that they also reported less competency beliefs than younger adults. This suggests that while older adults felt the environment was more controllable than younger adults, they also reported feeling less competent in the skills they needed to manage stressful situations. The observed decrease in competency beliefs may help

explain the observed importance of emotion-focused coping for older adults in the present study, as the use of this strategy may help manage the internal consequences associated with perceived failure.

Despite the increased endorsement of problem-focused coping by older adults, it was shown to be more predictive of psychological health in younger versus older adults, as predicted by developmental theory. More specifically, the use of high levels of problem-focused coping was generally unrelated to psychological health in older adults, whereas it was related to high levels of positive affect and lower levels of worry in younger adults. There was also some support to suggest that the relation between problem-focused coping and psychological health in older adults was related to perceived levels of stress and control. Results from regression analyses showed that, under conditions of low stress, older adults who used higher levels of problem-focused coping reported lower levels of worry than younger adults. In contrast, under conditions of high stress, older adults who used lower levels of problem-focused coping reported lower levels of worry than younger adults. It is important to note that perceived level of competency was lower in high stress versus low stress conditions for older adults, but not younger adults. This suggests that the use of problem-focused coping may be more effective for older adults when used in the context of lower levels of stress and higher levels of perceived competency. This interpretation is consistent with developmental theories suggesting a need to be selective in the pursuit of goals with increasing age and with decreased opportunities for actual or perceived control (Baltes & Baltes, 1990; Freund & Baltes, 2000; Staudinger et al., 1995).

Unexpectedly, the use of emotion-focused coping did not differ across younger and older adults. This finding is inconsistent with past studies indicating an increase in

older adults' use of internally-focused coping strategies (Brandtstädter, 1992; Heckhausen, 1994; Heckhausen & Schulz, 1998; Wrosch & Heckhausen, 1999; Wrosch et al., 2000; Wrosch et al., 2003). Supplementary analyses, however, revealed statistically significant age differences across the different subscales of the emotion-focused coping factor. More specifically, acceptance and religion were endorsed more often by older adults, whereas humor was endorsed more often by younger adults. This suggests that there may be different developmental trajectories across subscales of the emotion-focused factor that obscured global differences in the use of this coping dimension.

Despite the different developmental trajectories in endorsement, there was substantial support for the age-related importance of emotion-focused coping for older adults. In general, for both younger and older adults, emotion-focused coping was unrelated to psychological health. However, under conditions of high stress, the use of higher levels of emotion-focused coping in older adults was associated with higher levels of positive affect and lower levels of depression than in younger adults. These findings are consistent with past studies indicating that the use of secondary control strategies, such as cognitive re-appraisal and flexible goal adjustment, is predictive of well-being in older adults (Brandtstädter & Renner, 1990; Brandtstädter, et al., 1997; Heckhausen & Schulz, 1995, 1998; Schmitz et al, 1996). These findings also suggest that the use of acceptance might protect older adults' motivational and emotional resources after the experience of loss or failure (Heckhausen & Schulz, 1995). The observed differences also emerged for the separate indicators of the emotion-focused coping factor, indicating that each serves a similar emotion-regulation role in older adults, despite different developmental trajectories in endorsement.

As expected, social support seeking was shown to decrease with age. This finding is consistent with past studies assessing both situational and dispositional coping (Blanchard-Fields et al., 1995; Folkman, 1991; Folkman et al., 1987). The lower reliance on social support seeking observed among older adults may reflect the decreased availability of social support resources that accompanies loss and death of loved ones (Costa et al., 1991; Dew, 1998; Lenze et al., 2001; Turner & Marino, 1994). At the same time, it is possible that older adults report using less social support seeking as they attempt to maximize their potential for positive affect and minimize the potential for negative affect (Carstensen, 1992; Carstensen et al., 1997). Consequently, higher levels of social support seeking might not necessarily be predictive of psychological health in older adults, as the quality of social interactions, rather than the quantity, appears to be emphasized in older age. In fact, older adults have been shown to deliberately reduce the size of their social network in order to spend more quality time with loved ones such as spouses and children (Carstensen, 1992). The decreased importance of overall levels of social support seeking may, therefore, help explain the fact that, in the present study, the use of social support seeking was generally unrelated to psychological health in older adults.

At the same time, results from regression analyses suggested that under conditions of low stress, older adults who reported using higher levels of social support seeking reported lower levels of worry compared to younger adults. Under conditions of high stress, in contrast, both younger and older adults who used higher levels of social support seeking reported higher levels of worry. This suggests that it may be beneficial for older adults to increase their levels of social support seeking under low-stress conditions when stressful situations may be more controllable, but decrease their social support seeking

under high-stress conditions when stressful situations are less controllable. This finding is not that surprising given the fact that past studies have shown that social support seeking is most beneficial when it is used to facilitate problem-solving, and that it may be detrimental when it is used alone or with the purpose of venting negative emotions (Carver et al., 1989).

Avoidance was initially shown to decrease with age. However, after controlling for perceived stress, this effect disappeared. This suggests that differences in the endorsement of avoidance among younger and older adults observed in past studies may not have been due to developmental factors, but instead to differences in the perceived severity of stressful encounters. This interpretation is supported by the fact that the use of avoidance is higher under more stressful conditions (Carver et al., 1993; Roth & Cohen, 1986; Terry, 1991; Zautra et al., 1996). Moreover, the association between avoidance and higher levels of depression and worry, and lower levels of positive affect, is consistent with past studies suggesting that the general use of this strategy is an ineffective means of managing stress (Carver et al., 1989; Zautra et al., 1996). In the past, avoidance has been positively associated with psychological health when used to facilitate re-engagement in alternate controllable tasks. Therefore, it may be important in future studies to examine the influence of this coping disposition on the psychological health of older adults when used in conjunction with problem-solving efforts.

In conclusion, results from the present study highlighted the differential importance of coping dispositions for maintaining psychological health in older adults. In the context of diminished resources, the age-adapted investment of problem-focused coping and social support seeking under low stress conditions, and emotion-focused coping under high stress conditions, appeared to be conducive to successful development.

One of the limitations of these findings, however, is that coping dispositions were examined in isolation. Results may thus provide a simplistic view of the coping process. One of the main tenets of developmental theory is that possessing a wide repertoire of coping strategies, and balancing the use of these strategies across different developmental contexts, is necessary for successful development. Although little is known about profiles of coping responses in older adults, the present findings suggest that the need to supplement one's problem-focused efforts may increase with age when opportunities for control decrease. A second set of analyses were thus conducted in order to identify different profiles of coping responses among older adults, and to determine if these profiles would be associated with differences in psychological health.

PART 2

The goal of Part 2 of this study was to identify and confirm the existence of different coping profiles in older adults, with the aim of testing a theoretically-based classification of coping styles. Cluster analyses of participants on contingency beliefs and dispositional problem-focused coping, emotion-focused coping, social support seeking and avoidance were performed in order to identify natural groupings in the data on relevant coping variables. It was expected that four coping profiles would be identified in older adults, and that these coping profiles would differ significantly on contingency beliefs and characteristic methods of coping (e.g., Cheng, 2001; Kaluza, 2000; Mattlin et al., 1990). Specifically, four groups of copers were expected to emerge, including: (1) individuals who perceive the environment as controllable and use high levels of problem-focused coping; (2) individuals who perceive the environment as uncontrollable and use high levels of emotion-focused coping and/or avoidance; (3) individuals who perceive the environment as moderately controllable and use moderate levels of all coping strategies; and (4) individuals who perceive the environment as uncontrollable and use high levels of all coping strategies, including high levels of avoidant behavior.

The second goal of Part 2 was to examine differences in psychological health and distress across each of the identified coping groups of older adults. Coping dispositions aimed at managing the external environment are proposed to have great adaptive value because they enable individuals to shape their environment to fit their particular needs and developmental potential. However, losses in the ability to produce behavior-event contingencies are thought to lead to increased pressure for older adults to find alternate ways to respond to stress (Abramson et al., 1978; Alloy & Abramson, 1979; Schulz et al., 1994; Seligman, 1975). The adoption of supplementary coping strategies aimed at

obtaining social support or managing the emotional consequences of stress may serve to minimize the negative outcomes associated with loss of control and maintain future problem-solving efforts. Consequently, it was hypothesized that: 1) older adults who report high levels of perceived environmental control, and use problem-focused coping, would report high levels of psychological health and low levels of distress, as they experience few declines in opportunities to exert direct control over the environment; 2) older adults who report low levels of environmental control, and supplement their problem-focused coping with emotion-focused coping and social support seeking, would report higher levels of psychological health, and lower levels of distress, than older adults with less variable or more passive coping profiles; and 3) older adults who report low levels of environmental control, and indiscriminately high levels of coping dispositions, including very high levels of avoidance, would report low levels of psychological health, and high levels of distress, because of significant declines in opportunities to exert direct control over the environment and problems with the selective allocation of coping resources.

The third and final goal of Part 2 was to examine the importance of each of the four types of coping dispositions (problem-focused, emotion-focused, social support seeking and avoidance) in predicting psychological health across the identified coping groups, with the goal of identifying the most useful methods of coping in each profile. It was expected that problem-focused coping and social support seeking would be related positively to psychological health in coping profiles characterized by higher levels of contingency beliefs, whereas the use of emotion-focused coping would be positively related to psychological health in coping profiles characterized by lower levels of contingency beliefs. The use of avoidance was expected to be negatively associated with

psychological health, and positively related to psychological distress, in coping profiles characterized by moderate levels of perceived control over the environment, as the use of this strategy may prevent the effective resolution of stressful events that are more amenable to change.

Method

Participants and Procedure

In total, complete data for Part 2 of this study was available for 227 of the 289 older adults (69 males and 158 females) in the present study. Recruitment and testing procedures were described in Part 1 of this study, and as previously indicated older participants were recruited either from seniors clubs and associations in the greater Montreal region or from data pools of past studies. The age of the participants ranged from 60 to 93 years ($M = 73.30$, $SD = 7.00$), and they reported an average of 13.9 years of education. Older participants also reported that their current overall health, on average, was good (5-point Likert scale, 1= *very bad*, 5 = *very good*; $M = 4.11$, $SD = 0.69$), and that they were fairly comfortable financially (7-point Likert scale, 1= *very difficult*, 7 = *very comfortable*; $M = 5.28$, $SD = 1.07$).

As described in Part 1 of this Study, not all participants completed all outcome measures. Of the older adult participants in Part 2, 138 were given a questionnaire package to complete at home, which consisted of measures of dispositional coping, control beliefs, control motivation, and positive affect and depression. A total of 89 older participants were interviewed in the laboratory and completed measures of dispositional coping, control beliefs and motivation, positive affect, pathological worry and rumination. As in Part 1 of this study, participants who were interviewed in person did not differ from participants who responded to mailed-out questionnaires on most

demographic variables. However, the percentage of males among participants who were interviewed in person (Old: 38 % men) was almost double the percentage of males who responded to mailed-out questionnaires (Old: 23 % men).

Measures

With the exception of the rumination questionnaire, most measures were described in Part 1 of this study and so will only be briefly reviewed in the present section. Participants first provided demographic information, including age, sex, marital status and the number of years they attended school. They then completed measures of dispositional coping, control beliefs, control motivation, positive affect, depression, worry and rumination.

Dispositional coping (COPE). Dispositional coping was measured using the COPE (Carver et al., 1989). Means, standard deviations and Cronbach alphas for all twelve coping subscales for the COPE are reported in Table 7. Factor scores were regressed independently for each of the identified coping factors, including problem-focused coping, emotion-focused coping, social support seeking and avoidance.

Perceived control and desire for control. Generalized personal control beliefs and control motivation were measured using the Personal Control scale (Lachman & Weaver, 1998; Pearlin & Schooler, 1978), and the Desirability of Control scale (Burger & Cooper, 1979). Items from the Personal Control scale were regressed into two separate control factors, Competency Beliefs ($\alpha = .73$, $M = .07$, $SD = 1.00$) and Contingency Beliefs ($\alpha = .79$, $M = .02$, $SD = 1.00$), using factor analysis with maximum-likelihood estimation. Items from the desirability of control scale were summed to form an index of control motivation ($\alpha = .85$, $M = 96.59$, $SD = 16.12$).

Table 7

Descriptive Statistics and Cronbach Alphas for the Coping Subscales in Older Adults

Scale	*M*	*SD*	α
Active Coping	3.21	.62	.76
Planning	3.31	.65	.82
Suppression	2.71	.71	.67
Acceptance	2.95	.71	.71
Humor	1.78	.80	.90
Religious Coping	2.20	1.10	.95
Instrumental Support	2.64	.82	.88
Emotional Support	2.40	.83	.91
Venting of Emotions	2.01	.73	.78
Self-Distraction	2.15	.66	.66
Behavioral Disengagement	1.51	.56	.72
Denial	1.42	.52	.73

Note. *N* = 227.

Positive affect and depression. Positive affect was assessed using the frequency subscale of the CEQ (Carstensen, 2000; Kennedy et al., 2004) and depression was assessed using the CES-D (Radloff, 1977). An index of positive affect was computed by subtracting the mean level of negative affect from overall reports of happiness ($M = 1.41$, $SD = .74$). The four subscales of the CES-D, including depressed mood, psychomotor retardation, well-being, and interpersonal difficulties, were summed to form a depression score for each individual, after reversing the scores for the well-being subscale ($\alpha = .73$, $M = 7.49$, $SD = 7.27$).

Psychological distress. Worry and rumination were used as indicators of psychological distress. As in Part 1, worry was assessed using the PSWQ (Meyer et al., 1990; $M = 39.42$, $SD = 12.81$). Participants' tendency to ruminate was measured using the Rumination on Sadness Scale (RSS; Conway, Csank, Holm & Blake, 2000). The RSS consists of 13 items that assess the degree to which individuals ruminate when they are feeling sad, down or blue (5-point Likert scale, 1 = *Not at all*, 5 = *Very Much*; $M = 28.69$, $SD = 10.16$). These two scales were highly correlated ($r = .52$), and the internal reliability coefficients for worry and rumination were .90 and .94, respectively. An index of psychological distress was computed by standardizing participants' scores on worry and rumination and by summing the z-scores on the two subscales. A higher score on this index indicates higher levels of psychological distress.

Results

As in Part 1 of this study, data were first screened for univariate and multivariate outliers. Univariate outliers were reduced to three standard deviations above or below the mean, and data for three participants were excluded from the analyses due to obvious

gaps between their coping and control variables and those of other participants. These

three cases were not included in the above description of the sample participants. The

distribution of positive affect and depression were non-normal and were transformed

using logarithmic transformations.

Pearson correlations between the variables in the present study are presented in

Table 8. Results indicate that contingency beliefs were associated with greater levels of

problem-focused coping ($r = .21, p < .01$) and lower levels of avoidance ($r = -.36, p <$

.001), but were unrelated to the use of emotion-focused coping ($r = -.03, n.s.$) and social

support seeking ($r = -.05, n.s.$). The four coping dispositions were significantly correlated

with each other (rs ranging from -.15 to .38, all $ps < .05$). Moreover, problem-focused

coping was negatively related to distress ($r = -.24, p < .05$) and depression ($r = -.26, p <$

.001), while emotion-focused coping was positively related to positive affect ($r = .16, p <$

.05). Avoidance was negatively related to positive affect ($r = -.21, p < .01$) and positively

related to distress ($r = .44, p < .001$) and depression ($r = .42, p < .001$). Social support

seeking was not significantly related to any of the outcome variables.

Identification of Cluster Profiles

Cluster analyses were conducted following procedures outlined by Kaluza (2000)

and Milligan and Cooper (1985, 1987). The variables (contingency beliefs, problem-

focused coping, emotion-focused coping, social support seeking and avoidance) were

standardized to avoid problems associated with clustering variables on different

measurement scales. In order to examine the validity of the obtained cluster solutions, all

analyses were conducted on the whole sample, and separately for two cross-validation

samples. The two cross-validation samples in the present were not randomly generated

but instead consisted of the 138 older participants who completed questionnaires at home

Table 8

Pearson Correlations for Study Variable in Older Adults

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	--											
2. Health	.11	--										
3. Contingency Beliefs	-.11	.13	--									
4. Problem-Focused Coping	-.11	.14*	.21**	--								
5. Emotion-Focused Coping	.07	.13*	-.03	.22***	--							
6. Social Support Seeking	-.21**	.02	-.05	.38***	.30***	--						
7. Avoidance	-.02	-.07	-.36***	-.15*	.36***	.15*	--					
8. Competency Beliefs	-.18**	.18**	-.01	.33***	.14*	.09	-.10	--				
9. Desire for Control	-.25***	.02	.24***	.38***	-.03	.01	-.26***	.36***	--			
10. Positive Affect	.14*	.19**	.32***	.11	.16*	-.11	-.21**	.19**	.09	--		
11. Psychological Distress	-.10	-.33**	-.65***	-.24*	-.07	.14	.44***	-.15	-.36***	-.62***	--	
12. Depression	.10	-.33***	-.37***	-.26***	-.01	-.05	.42***	-.37***	-.27***	-.50***	N/A	--

Note. $N = 227$ (except for psychological distress: $N = 89$, and depression: $N = 138$).

N/A: A Pearson correlation between psychological distress and depression could not be calculated because these two variables came from two different sub-samples.

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

(cross-validation sample 1), and the 89 older participants who were interviewed in the laboratory (cross-validation sample 2). The reliability of the cluster solution was also tested by examining the stability in the number of clusters, cluster profiles and cluster assignments across the Ward's and k-means analytic methods. Ward's (1963) minimum-variance procedure was used to identify the number of clusters in the data and to form initial cluster groups. This clustering procedure was chosen because of its ability to recover the underlying structure in data (Milligan & Cooper, 1987). To refine the obtained clusters, the k-means iterative partitioning cluster procedure was then used.

Ward's procedure is a hierarchical agglomerative procedure. In this method, clusters are formed using an iterative procedure that minimizes variation within cluster groups and maximizes variation between cluster groups using the squared Euclidean distances as the similarity index. Individual cases are iteratively agglomerated into larger clusters with the goal of minimizing the within-groups sum of squares as much as possible. Information was first obtained about the underlying cluster structure in the data by "running" Ward's method without specifying the number of clusters to be extracted. Initial inspections of continuities and discontinuities in proximity coefficients, agglomeration coefficients and tree-diagrams (see Milligan & Cooper, 1985) revealed either four or five clusters in the data. Four clusters were specified for further analyses, as the four-cluster solution appeared to be the most theoretically meaningful, and the most robust and distinct across the Ward's and k-means analytic procedures and the two cross-validation samples. Ward's method was therefore applied once again to obtain the four-cluster structure in the data. Cluster centers were calculated, and individuals were assigned to their appropriate cluster.

As mentioned earlier, k-means iterative portioning was used to refine cluster assignments. Unlike Ward's method, the k-means iterative partitioning cluster procedure is nonhierarchical. In this procedure, means for each variable in the cluster analysis are first specified. In the present study, the means, or the initial cluster centers or centroids, were those obtained from Ward's procedure. The nonhierarchical clustering procedure begins when cases are assigned to centroids on the basis of distance. The centroids are then recomputed, cases are once again assigned to the nearest means, and the process continues until there are no further changes in the k-means or shifts in cluster memberships (Lorr & Strack, 1993).

The sizes and centers of the four clusters are reported in Table 9 and Table 10 for the full sample and the cross-validation samples, respectively. The means of each cluster for the specified variables are illustrated in these tables, with information regarding the relative use of each of the coping dispositions and level of contingency beliefs across each of the generated clusters. The findings for the four cluster analyses (2 Ward's and 2 k-means) were similar for both cluster analytic techniques and for the two cross-validation samples. Although the overall size of the cluster centers varied across the full sample and the two cross-validation samples, the cluster patterns were very similar and were consistent with theoretical expectations.

The first cluster consisted of older adults (25 men and 29 women) who were characterized by high levels of contingency beliefs, as well as high levels of problem-focused coping, and low levels of all other coping dispositions. Participants in this group believed they had high levels of control over their environment and reported using mainly problem-focused coping to manage stress. The characteristics of this group were consistent with that of a persistent coping style.

Table 9

Cluster Centers and Sizes in Coping and Control Variables for the
Full Sample

| | Full Sample | | | | | |
| | $N = 227$ | | | | | |
	CON	PFC	EFC	SSS	AVD	*N*
Ward's Procedure:						
Cluster 1	0.77	0.59	-0.54	-0.35	-0.77	55
Cluster 2	-0.71	-0.44	0.28	0.48	1.26	37
Cluster 3	0.13	0.61	0.83	0.72	0.16	71
Cluster 4	-0.34	-1.10	-0.40	-0.91	-0.05	64
k-means Procedure:						
Cluster 1	0.81	0.47	-0.49	-0.41	-0.85	54
Cluster 2	-0.82	-0.28	0.45	0.41	1.42	43
Cluster 3	0.24	0.72	0.79	0.79	-0.03	65
Cluster 4	-0.32	-1.11	-0.46	-0.85	-0.00	65

Note. CON = Contingency Beliefs; PFC = Problem-Focused Coping; EFC = Emotion-Focused Coping; SSS = Social Support Seeking; AVD = Avoidance.

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Table 10

Cluster Centers and Sizes in Coping and Control Variables Across Validation Samples

	Cross-Validation Sample 1 N = 89						Cross-Validation Sample 2 N = 138					
	CON	PFC	EFC	SSS	AVD	N	CON	PFC	EFC	SSS	AVD	N
Ward's Procedure:												
Cluster 1	1.27	0.14	-0.49	-0.44	-0.92	21	0.38	0.67	-0.10	-0.31	-0.60	33
Cluster 2	-1.82	0.06	0.22	0.39	1.31	11	-0.40	-0.01	0.84	0.60	1.71	17
Cluster 3	0.05	0.69	0.34	0.69	0.13	28	0.24	0.51	0.87	0.90	-0.22	39
Cluster 4	-0.50	-0.82	-0.30	-0.57	0.46	29	-0.10	-1.06	-0.48	-0.85	0.00	49
k-means Procedure:												
Cluster 1	1.19	0.25	-0.52	-0.43	-0.84	24	0.46	0.65	-0.40	-0.23	-0.72	36
Cluster 2	-1.43	0.01	0.36	0.38	1.45	14	-0.61	-0.28	0.66	0.52	1.53	20
Cluster 3	0.06	0.76	0.42	0.71	0.12	24	0.32	0.59	1.05	0.87	-0.07	39
Cluster 4	-0.61	-0.94	-0.37	-0.52	0.33	27	-0.15	-1.19	-0.43	-0.99	-0.03	43

Note. CON = Contingency Beliefs; PFC = Problem-Focused Coping; EFC = Emotion-Focused Coping; SSS = Social Support Seeking; AVD = Avoidance.

The second and smallest cluster consisted of older adults (10 men and 33 women) who were characterized by very low levels of contingency beliefs, moderate levels of problem- and emotion-focused coping and social support seeking, as well as high levels of avoidance. Participants in this group believed they had low levels of control over their environment, but reported using moderate to high levels of all coping strategies to manage stress, including high levels of inconsistent strategies such as problem-focused coping and avoidance. The characteristics of this group were consistent with that of an indiscriminate coping style.

The third cluster consisted of older adults (15 men and 50 women) who were characterized by moderate levels of contingency beliefs and the use of moderate levels of most coping dispositions. Participants in this group believed that they had some control over their environment and reported using moderate levels of the four coping dispositions to manage stress. The characteristics of this group were consistent with that of a strategic coping style.

Finally, the fourth cluster consisted of older adults (19 men and 46 women) who were characterized by low levels of contingency beliefs and reported using low levels of problem-focused coping, emotion-focused coping and social support seeking. They also reported using moderate levels of avoidance. Participants in this group believed they had low levels of control over their environment and reported using very low levels of most coping strategies, with the exception of avoidance. The characteristics of this group were consistent with that of a passive coping style.

Group Differences on Demographics, Coping, Control and Psychological Health

Cluster group differences on demographic variables, including age, educational status, perceived health, and financial status, were first examined using a oneway

MANOVA, followed by Scheffé tests for differences between group means. Results for the oneway MANOVA were statistically significant, $F(15, 582) = 2.18, p < .01$. Post-hoc comparisons showed that individuals in the passive coping group reported less formal education ($M = 13.04, SD = 3.27$) than individuals in the persistent coping group ($M = 15.21, SD = 3.22$). No other demographic variable differed significantly across the coping groups. This suggests that cluster assignments were relatively independent of participants' basic demographic characteristics, and financial or health status.

The next step in the analyses focused on cluster group differences in scores on the coping, control, and psychological health variables measured in this study. Results from the oneway MANOVA were statistically significant, $F(24, 627) = 37.67, p < .001$. Scheffé tests revealed significant and expected differences between the four clusters on the contingency and coping variables, providing partial confirmation of the discriminant validity of the four coping clusters (see Table 11). For contingency beliefs, the persistent coping group had the highest levels, followed by the strategic, passive and the indiscriminate coping groups. The persistent and strategic coping groups also reported using more problem-focused coping than the indiscriminate coping group, which used more problem-focused coping than the passive coping group. Moreover, the indiscriminate and strategic coping groups reported the highest levels of emotion-focused coping and social support seeking. Finally, the indiscriminate coping group reported using more avoidance than the strategic and passive coping groups, who in turn reported using more avoidance than the persistent coping group. Participants in the four cluster groups also differed on the control variables and overall levels of positive affect. The persistent and strategic coping groups reported higher desire for control than the indiscriminate and passive coping groups, and more positive affect than the

Table 11

Multivariate Analysis of Variance on Cluster Variables for General Sample

		Cluster 1 Persistent N = 54	Cluster 2 Indiscriminate N = 43	Cluster 3 Strategic N = 65	Cluster 4 Passive N = 65	F	Group Differences (Scheffé Test)
Contingency Beliefs	M	0.82	-0.82	0.24	-0.32	35.45***	1 > 3 > 4 > 2
	SD	0.79	1.00	0.83	0.78		
Problem-Focused Coping	M	0.47	-0.28	0.73	-1.11	97.05***	1, 3 > 2 > 4
	SD	0.67	0.69	0.59	0.72		
Emotion-Focused Coping	M	-0.49	0.45	0.79	-0.46	41.45***	2, 3 > 1, 4
	SD	0.70	0.69	0.87	0.80		
Social Support Seeking	M	-0.41	0.41	0.79	-0.85	63.91***	2, 3 > 1 > 4
	SD	0.74	0.80	0.78	0.63		
Avoidance	M	-0.85	1.42	-0.03	-0.00	87.85***	2 > 3, 4 > 1
	SD	0.57	0.66	0.69	0.80		
Competency Beliefs	M	0.08	-0.05	0.36	-0.15	3.11*	3 > 4
	SD	1.17	0.89	0.88	1.05		
Desire for Control	M	103.46	90.33	99.78	91.84	9.03***	1, 3 > 2, 4
	SD	15.06	14.57	15.21	16.12		
Positive Affect	M	1.60	1.08	1.56	1.33	5.50***	1, 3 > 2
	SD	0.60	0.78	0.66	0.83		

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

indiscriminate coping group. Finally, the strategic coping group also reported higher competency beliefs than the passive coping group.

Cluster group differences were also examined across the two cross-validation samples of older adults. Oneway MANOVAs revealed significant results for cross-validation sample 1, $F(27, 226) = 13.29, p < .001$ (see Table 12), and cross-validation sample 2, $F(27, 369) = 20.48, p < .001$ (see Table 13). A few F values and Scheffé tests failed to reach significance. Nonetheless, the patterns of results were highly similar to those reported for the full sample. In addition, results showed that the coping groups also varied on outcome variables assessed specifically in the separate cross-validation samples (psychological distress in cross-validation sample 1; depression in cross-validation sample 2). The highest levels of psychological distress and depression were reported by older adults in the indiscriminate and passive coping groups, followed by those in the strategic coping group. Older adults in the persistent coping group reported the lowest levels of psychological distress.

Partial Correlations

Partial correlations were computed for the full sample in order to examine the unique relation between each of the coping dispositions and psychological adjustment across the four cluster groups. More specifically, associations between each coping disposition and psychological health was examined after statistically controlling for the three remaining coping dispositions, as well as general levels of contingency beliefs. Results from partial correlations are shown in Table 14. In Cluster 1 (persistent coping group) and Cluster 3 (strategic coping group), the use of problem-focused coping was significantly associated with higher levels of competency beliefs (persistent coping group, $pr = .54, p < .001$; strategic coping group, $pr = .46, p < .001$) and desire for control

Table 12

Multivariate Analysis of Variance on Cluster Variables for Cross-Validation Sample 1 (N = 89)

		Cluster 1 Persistent N = 24	Cluster 2 Indiscriminate N = 14	Cluster 3 Strategic N = 24	Cluster 4 Passive N = 27	F	Group Differences (Scheffé Test)
Contingency Beliefs	M	1.19	-1.43	0.06	-0.61	51.96***	1 > 3 > 4 > 2
	SD	0.44	0.79	0.77	0.72		
Problem-Focused Coping	M	0.25	0.01	0.76	-0.94	27.83***	1 > 4; 3 > 2 > 4
	SD	0.83	0.69	0.51	0.68		
Emotion-Focused Coping	M	-0.52	0.36	0.42	-0.37	10.17***	2, 3 > 1, 4
	SD	0.61	0.55	0.92	0.65		
Social Support Seeking	M	-0.43	0.38	0.71	-0.52	16.43***	2, 3 > 1, 4
	SD	0.62	0.81	0.78	0.71		
Avoidance	M	-0.84	1.45	0.12	0.33	28.22***	2 > 3, 4 > 1
	SD	0.58	0.64	0.89	0.81		
Competency Beliefs	M	-0.08	0.01	0.38	-0.48	3.23*	3 > 4
	SD	1.16	0.92	0.86	0.97		
Desire for Control	M	104.93	91.04	100.80	93.26	4.29**	1 > 2, 4
	SD	15.49	16.64	11.79	13.91		
Positive Affect	M	1.46	0.92	1.33	0.88	3.74**	1 > 4
	SD	0.61	0.79	0.78	0.70		
Psychological Distress	M	-1.16	1.59	-0.14	0.33	10.30***	2 > 1, 3; 4 > 1
	SD	1.30	1.57	1.71	1.50		

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

Table 13

Multivariate Analysis of Variance on Cluster Variables for Cross-Validation Sample 2 (N = 138)

		Cluster 1 Persistent N = 36	Cluster 2 Indiscriminate N = 20	Cluster 3 Strategic N = 39	Cluster 4 Passive N = 43	F	Group Differences (Scheffé Test)
Contingency Beliefs	M	0.46	-0.61	0.32	-0.15	8.78***	1 > 2, 4; 3 > 2
	SD	0.86	1.06	0.85	0.76		
Problem-Focused Coping	M	0.66	-0.28	0.59	-1.19	70.72***	1, 3 > 2 > 4
	SD	0.60	0.66	0.61	0.73		
Emotion-Focused Coping	M	-0.40	0.66	1.05	-0.43	31.69***	2, 3 > 1, 4
	SD	0.74	0.78	0.75	0.91		
Social Support Seeking	M	-0.23	0.53	0.87	-0.99	48.00***	2, 3 > 1 > 4
	SD	0.86	0.88	0.72	0.57		
Avoidance	M	-0.72	1.53	-0.07	-0.03	41.54***	2 > 3, 4 > 1
	SD	0.57	0.73	0.59	0.92		
Competency Beliefs	M	0.26	0.15	0.26	-0.03	0.72	
	SD	1.06	0.88	0.93	1.10		
Desire for Control	M	101.51	88.58	97.99	91.83	3.89**	1 > 2
	SD	14.19	13.77	17.43	17.70		
Positive Affect	M	1.79	1.23	1.58	1.55	2.91*	1 > 2
	SD	0.53	0.85	0.62	0.77		
Depression	M	4.67	12.95	5.78	8.87	7.82***	2 > 1, 3
	SD	6.79	7.86	4.56	7.85		

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

Table 14

Partial Correlations Between Each Type of Coping Disposition and Competency Beliefs, Desire for Control and Positive Affect in Four Cluster Groups (Controlling for the Other Types of Coping Dispositions and for Contingency Beliefs)

	Cluster 1 Persistent (N = 54)			Cluster 2 Indiscriminate (N = 43)			Cluster 3 Strategic (N = 65)			Cluster 4 Passive (N = 65)		
	CB	DC	PA	CB	DC	PA	CB	DC	PA	CB	DC	PA
Problem-Focused Coping	0.54***	0.42**	0.27	0.11	0.17	-0.18	0.46***	0.53***	0.18	0.14	0.21	-0.12
Emotion-Focused Coping	-0.21	-0.03	0.08	0.19	0.06	0.54***	0.09	0.18	0.16	0.39**	-0.14	0.19
Social Support Seeking	-0.09	-0.10	-0.01	0.02	0.12	-0.02	0.30*	0.21	-0.08	-0.34**	-0.29*	-0.25*
Avoidance	-0.09	-0.07	-0.10	0.17	0.02	-0.05	-0.03	-0.10	-0.12	-0.43***	-0.28*	-0.08

Note. CB = Competency Beliefs; DC = Desire for Control; PA = Positive Affect.

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

(persistent coping group, $pr = .42, p < .01$; strategic coping group, $pr = .53, p < .001$). The use of social support seeking was also associated with higher levels of competency beliefs in the strategic coping group ($pr = .30, p < .05$).

In contrast, in Cluster 2 (indiscriminate coping group) and Cluster 4 (the passive coping group), the use of problem-focused coping was unrelated to competency beliefs, desire for control or positive affect. The use of emotion-focused coping, however, was significantly related to higher levels of positive affect in the indiscriminate coping group ($pr = .54, p < .001$), and to higher levels of competency beliefs in the passive coping group ($pr = .39, p < .01$). In the passive coping group, social support seeking and avoidance were also negatively associated with competency beliefs (social support seeking: $pr = -.34, p < .01$; avoidance: $pr = -.29, p < .05$) and desire for control (social support seeking: $pr = -.43, p < .001$; avoidance: $pr = -.28, p < .05$). Finally, the use of social support seeking was also associated with lower levels of positive affect in the passive coping group ($pr = -.25, p < .05$).

Discussion

The present study attempted to identify different profiles of coping in older adults using a dispositional measure of coping. Cluster analyses confirmed the existence of four different coping groups of older adults, including persistent, indiscriminate, strategic and passive copers (Cheng, 2001; Krohne, 1989; Miller, 1987; Shapiro et al., 1994). Findings were robust across analytic methods and cross-validation samples, and these groups were consistent with previously identified groups in general adult samples. The coping groups differed in their perception of environmental control, characteristic method of responding to stress and level of psychological health. Moreover, differences in psychological health across the four coping groups were consistent with developmental theories of regulation

(Brandstädter & Renner, 1990; Heckhausen & Schulz, 1995; Schulz, et al., 1994). This study, which is the first study to identify different profiles of coping in older adults, provides evidence for consistency in patterns of coping across age.

One of the four identified coping groups, the persistent coping group, was characterized by high contingency beliefs and the use of problem-focused coping. Relative to the other coping groups, the persistent coping group reported using moderately low levels of social support seeking and low levels of emotion-focused coping and avoidance. Older adults in this group also reported among the highest levels of desire for control and positive affect, and the lowest levels of depression and psychological distress. These results are consistent with previous research suggesting that this coping profile is associated with high levels of coping efficacy and low levels of depression and anxiety in general adult samples (Bolger & Zuckerman, 1995; Cheng, 2001; Krohne, 1996; Mattlin et al., 1990). The maintenance of psychological health in this group of older adults further suggests that the need for compensatory coping strategies may be limited when perceived control over the environment is high and exposure to failure experiences is low. This interpretation is supported by the fact that this coping group endorsed among the lowest levels of emotion-focused coping and social support seeking, and that these strategies were unrelated to competency, desire for control, or positive affect. Indeed, the positive association between problem-focused coping, competency and desire for control substantiates the adaptive value of this strategy under conditions of high levels of perceived environmental control. Under such conditions, the use of problem-focused coping may enable older adults to directly shape their environment to fit their particular needs and developmental potential (Heckhausen & Schulz, 1995).

The strategic coping group was characterized by moderate levels of contingency beliefs and the use of high levels of problem-focused coping, emotion-focused coping and social support seeking, as well as moderate levels of avoidance. Compared to the other coping groups, the strategic coping group also reported among the highest levels of competency beliefs, desire for control and positive affect, as well as the lowest levels of depression and psychological distress. These findings are consistent with past studies in general adult samples indicating that a coping profile characterized by a variety of coping strategies is positively associated with psychological health (Cheng, 2001; Krohne, 1996; Mattlin et al., 1990; Pearlin & Schooler, 1978). The importance of using strategies to supplement problem-solving efforts was also supported in this coping group. More specifically, the strategic coping group endorsed high levels of problem-focused coping and social support seeking, which were related to higher levels of competency and desire for control. The use of social support seeking in the strategic coping group appears to be associated with the maintenance of important motivational resources needed for future problem-solving efforts. In addition, past studies have shown that the use of social seeking is beneficial when used with the goal of facilitating problem-solving efforts (Carver et al., 1989). Consequently, this strategy may have influenced psychological health by facilitating problem-solving efforts is an environment that is perceived to be somewhat manageable but less controllable than that perceived by individuals in the persistent group (Carver et al., 1989).

The absence of a significant relation between emotion-focused coping and psychological health in the strategic coping group is surprising, especially given this group's high level of endorsement of this strategy. One of the hypothesized functions of emotion-focused coping is to reduce the negative impact of failure on individuals'

motivational and emotional resources (Carver et al., 1989; Heckhausen & Schulz, 1995). Because environmental control is only slightly diminished in the strategic coping group, however, failure experiences may be limited. Consequently, the benefits of this strategy may not be as observable for this group of older adults. Finally, despite being endorsed by the strategic coping group, avoidance was neither related to motivational resources, nor to psychological health. This may suggest that avoidance is less detrimental when used in conjunction with high levels of problem-focused coping or with the goal of facilitating re-engagement in alternate solvable tasks (Carver et al., 1989; Moscowitz et al., 1996; Wrosch et al., 2003).

The passive and indiscriminate coping groups also differed in their perception of environmental control, characteristic methods of responding to stress, and levels of psychological health. Although both coping groups were characterized by low levels of contingency beliefs, these beliefs were higher in the passive coping group. Furthermore, older adults in the passive coping group also reported using lower levels of all four coping dispositions compared to older adults in the indiscriminate coping group. Specifically, the passive coping group was characterized by low levels of problem-focused coping, emotion-focused coping and social support seeking, and moderate levels of avoidance. Older adults in the passive coping group also reported among the lowest levels of competency beliefs, desire for control and positive affect, as well as the highest levels of depression and psychological distress. These results are consistent with previous research suggesting that this coping profile is associated with high levels of depression and anxiety in general adult samples (Aldwin et al., 1996; Cheng, 2001; Krohne, 1996, Mattlin et al., 1990; Sherbourne et al., 1995).

Results from the present study also suggested that problem-focused coping was unrelated to competency beliefs, desire for control and psychological health in the passive coping group. Emotion-focused coping, conversely, was positively associated with competency beliefs. The need for emotion-focused coping may be enhanced in individuals from the passive coping group who report low perceived control over the environment, and consequently may experience high levels of failure. The use of emotion-focused coping may serve to regulate internal reactions to failure, and consequently maintain individuals' motivational resources, which are essential for future goal striving efforts and the maintenance of psychological health (Heckhausen & Schulz, 1998). The high levels of psychological distress and depression in this group, therefore, may be related to the fact that the passive coping group reported using low levels of emotion-focused coping, despite lower perceptions of environmental control. In addition, the low levels of psychological health may also be explained by the relatively elevated use of avoidance and social support seeking in this coping group. Both avoidance and social support seeking were negatively associated with competency beliefs and desire for control in the passive coping group, and social support seeking was negatively associated with positive affect. Past studies have attested to the maladaptive nature of avoidance and social support seeking when used in isolation, as these strategies may prevent the person from directly attempting to resolve or move beyond stress (Carver et al., 1993; Carver & Scheier, 1994; Carver et al., 1989; Zautra, 1996).

The indiscriminate coping group, in contrast, reported the lowest levels of contingency beliefs, but moderate to high levels of all coping dispositions. Although both the indiscriminate and strategic coping groups reported using all of the coping dispositions, the indiscriminate group was characterized by lower levels of contingency

beliefs, desire for control, problem-focused coping and higher levels of avoidance. The indiscriminate coping group, in fact, also reported among the lowest levels of desire for control, positive affect, and the highest levels of depression, which is consistent with results from past studies assessing this coping profile (Carver et al., 1993; Krohne, 1989; Mattlin et al., 1990; Rosenbaum & Piamenta, 1998; Slangen et al., 1993). With the exception of emotion-focused coping and competency, none of the coping dispositions, including avoidance, was significantly related to desire for control or indices of psychological health in this coping group. This may suggest that the use of high levels of coping dispositions by the indiscriminate coping group had a negligible impact on psychological health. Empirical evidence suggests that this coping profile is characterized by high levels of intolerance of arousal when confronting threatening situations, and intolerance of uncertainty when avoiding threatening situations (Krohne, 1996; Mathews, 1993). This is thought to lead to fluctuating coping behavior characterized by high levels of approach and avoidance, as well as coping actions of limited value and short duration (Borkovec & Lyonfields, 1993; Cheng, 2001; Krohne, 1996; Rosenbaum & Piamenta, 1998). In addition, past research has shown that people who use a large number of coping strategies within a short period of time experience high levels of distress (Carver et al., 1993; Krohne, 1989; Rosenbaum & Piamenta, 1998; Slangen et al., 1993). The fact that avoidance appears to be unrelated to distress, despite a high rate of endorsement, may, therefore, suggest that the indiscriminate use of high levels of coping strategies leads to diminished psychological health more so than any single coping strategy. Although past research suggests that individuals tend to over-report the use of coping strategies when facing significant life stress (Smith et al., 1999; Todd et al., 2004), it is unlikely that this explains the pattern of findings observed in the

indiscriminate coping group, as all four coping groups reported similar levels of perceived health and financial strain.

In summary, this study attests to the usefulness of the clustering approach in identifying patterns of coping in older adults. More specifically, this statistical technique allows for the identification and description of different coping groups using an empirical approach. The groups derived from the clustering approach are meaningful and stable across analytic methods and cross-validation samples, with each group displaying different patterns of coping, and levels of motivational resources and psychological health. These differences are consistent with existing developmental theories of regulation of stress and with past findings on profiles of coping. Results from this study also provide support for the hypothesis that adaptive coping is defined not by the use of any single coping strategy, but by the discriminate use of strategies in combination. Moreover, when perception of environmental control is moderately high, the use of problem-focused coping and social support seeking appears important in maintaining coping efforts and facilitating psychological health. However, in the context of low perceptions of environmental control, the use of emotion-focused coping appears to be related to the maintenance of psychological health in older adults, and the use of social support seeking seems to be detrimental. In contrast, the use of avoidance appears to be less detrimental under conditions of very low perceptions of environmental control, or when used in conjunction with problem-solving. These results serve to increase the understanding of individual differences in coping and the potential influence of these differences on psychological health in older adults.

GENERAL DISCUSSION

The purpose of this dissertation was to investigate the association between dispositional coping and psychological health in older adults using major theories of developmental regulation as a guiding framework. Previous investigations of coping have relied almost exclusively on participants' self-report rating of coping in specific stressful transactions, and compared coping responses across transactions that often varied in important ways (for review, see Aldwin, 1994; Carver & Scheier, 1994; Folkman & Lazarus, 1985; Mattlin et al, 1990; Parkes, 1986; Patterson et al., 1990; Terry, 1994). The present study focused on gaining a better understanding of the coping process in older adults using a dispositional approach to coping assessment, with the specific goal of examining the use and efficacy of coping dispositions across age groups, as well as determining how coping processes might operate in conjunction to influence psychological health in older adults (Folkman & Moskowitz, 2000).

Coping Dispositions and Psychological Health

A major premise of developmental theory is that individuals constantly strive to exert control over their environment by using problem-focused coping. Older adults who face challenges that decrease their opportunities for control, however, may have to be selective in the goals they pursue in order to maintain their psychological health. They might also have to adopt coping strategies aimed at increasing their use of social support resources, and/or increase their use of strategies aimed at regulating their emotional reactions to experiences of failure. In other words, older adults may maintain their level of psychological health by using strategies aimed at changing the external environment and managing the internal consequences associated with stress. The absence of supplementary coping strategies in the context of diminished opportunities for control

may lead to lower levels of psychological health, as well as more limited capacities for managing stressful situations in the future.

Results from this dissertation were highly consistent with these theories and provided support for the age-graded endorsement and influence of coping dispositions on psychological health across older and younger adults. More specifically, results showed that, for older adults, the use of high levels of problem-focused coping and social support seeking was related to better psychological health under low stress conditions, while the use of emotion-focused coping was related to better psychological health under high stress conditions. Although the use of avoidance was related to worse psychological health regardless of age or stress, this association was dependant on the coping profile of the individual, as avoidance was most detrimental for older adults when opportunities for control were moderately low and it was used in conjunction with low levels of problem-focused coping.

Results also provided support for the importance of using a strategic approach to coping in old age. Older adults with reduced environmental opportunities for control reported better psychological health if they possessed more strategic, versus passive or indiscriminant, coping profiles. Indeed, the indiscriminate use of high levels of coping dispositions was not helpful, suggesting that being selective in expending resources is also important in maintaining psychological health in old age. Finally, results supported the hypothesis that the use of high levels of problem-focused coping and social support seeking were most beneficial among older adults with high levels of perceived environmental control. Indeed, social support seeking was related to decreased psychological health among older adults with low levels of perceived environmental control. These results are consistent with past studies suggesting the social support

seeking may be most helpful when used with the goal of facilitating problem-solving efforts, whereas it may be detrimental when used with the goal of venting negative emotions (Carver et al., 1989). The use of emotion-focused coping was most helpful for older adults with low levels of perceived environmental control who most likely need to manage the emotional consequences associated with failure experiences.

In conclusion, problem-focused coping and social support seeking appear to be most beneficial for older adults when coping situations are more manageable and the perception of environmental control is moderately high, while emotion-focused coping appears to be the most beneficial when coping situations are less manageable and the perception of environmental control is low. There is also evidence to suggest that having a strategic coping profile, that is characterized by the use of high levels of supplementary coping dispositions and low levels of avoidance, may allow one to adapt to the constraints within one's developmental context. The adoption of social support seeking most likely facilitates problem-focused coping efforts and psychological health in older adults, while the use of emotion-focused coping most likely serves to help older adults manage the emotional consequences associated with failure experiences. The theoretical and practical implications of these findings, as well as areas for future research, will be reviewed in the following sections.

<div align="center">Theoretical Implications</div>

The present study provides support for the use of a dispositional approach to the assessment of coping. Compared to situational measures of coping, the dispositional approach allows for the examination of the role of coping strategies across more comparable levels of analysis in younger and older adults. Dispositional coping may also be more closely related to indices of general psychological health than situation-specific

coping behavior. Moreover, the present study extends previous research by using developmental theory to link results across different bodies of research. Results showed that hypotheses derived from developmental theories could be examined, and were supported, within a dispositional coping paradigm. Indeed, the present findings highlight the importance of taking developmental considerations into account in future studies on coping. Moreover, the present dissertation is the first known attempt at examining individual differences in coping profiles among older adults, using cluster analyses. This statistical technique allows for the identification of coping types using both an empirically- and theoretically-based approach. It also allows for a better understanding of the associations between combinations of coping strategies and various outcome variables. As such, the clustering procedure permits a more comprehensive understanding of the coping process, suggesting that this technique should be used in future studies on coping in older adults.

Practical Implications

There are several practical implications associated with the results from the present study. A number of psychological interventions have been designed to enhance individuals' coping resources and coping skills (D'Zurilla & Goldfried, 1971; Ellis, 1977; Kaluza, 2000; Meichenbaum, 1977; Rodin & Langer, 1977; Schulz, 1976). These interventions have been shown to improve coping skills, enhance feelings of control and increase subjective well-being among general and older adult samples (Coyne & Racioppo, 2000; Rodin & Langer, 1977; Schulz, 1976). However, these interventions have not always been associated with positive psychological outcomes (Brennan, Moos, & Lemke, 1989; Evans et al., 1993). For older adults, in particular, interventions aimed at enhancing perceptions and opportunities for control have actually led to increased

levels of distress in some individuals (Rodin, 1986). The present research provides

important information on how to improve interventions aimed at enhancing older adults'

coping skills and psychological health.

Most coping enhancement programs offer very structured treatments focused on

improving general problem-solving skills. Results from this dissertation, however,

suggest that interventions that focus solely on increasing problem-solving capacities will

benefit only a sub-sample of older adults. A more effective approach would be to focus

on the development of a strategic coping repertoire that consists of a variety of coping

resources (Somerfield & McCrae, 2000). In addition, the developmental and contextual

constraints that may limit individuals from obtaining a desired goal or resolving a specific

stressor should also be taken into account (Evans et al., 1993; Mills & Krantz, 1979;

Schulz et al., 1991; Wallace & Bergman, 1997). Interventions designed to help

individuals improve their coping skills, therefore, should be tailored to individuals based

on their developmental context, as well as their coping profile. This may allow for the

early identification of individuals whose coping resources and styles may be inadequate

to deal with the aging process.

For instance, older adults whose coping repertoire includes both problem- and

emotion-oriented strategies might benefit most from learning how to use these strategies

conjointly. Alternatively, older adults who use mainly problem-focused coping to

manage stress, and who do not possess adequate emotion-regulation strategies, may run

the risk of experiencing increasing loss and failure as their physical and cognitive

resources diminish (Brandstädter, 1989; Brandstädter & Renner, 1990; Heckhausen &

Schulz, 1995). These individuals would thus benefit from an intervention aimed at

teaching them to adopt compensatory strategies earlier in the aging process, before

experiences with failure accumulate. The adoption of these strategies might prevent future decreases in psychological health and motivational resources.

For individuals with a passive coping profile, a central aim of treatment may be to increase the use of problem-focused coping, as well as more supplementary coping strategies, such as social support seeking and emotion-focused coping. The focus would be on building their coping repertoire, and could incorporate traditional cognitive-behavioral interventions such as cognitive restructuring, as well as problem-solving training (D'Zurilla & Goldfried, 1971; Ellis, 1977; Meichenbaum, 1977). Particular emphasis should also be placed on the negative consequences of using avoidance to manage stress. Related to this, a central goal of treatment for older adults who report using high levels of coping strategies indiscriminately, would be teaching them to be selective in the use of their coping resources. More specifically, this would involve helping them learn to modify their coping approach to available resources and opportunities for control, as well as teaching them when to engage in manageable tasks and when to disengage from unmanageable tasks. In sum, tailoring interventions to older adults' coping profile would considerably improve current coping interventions for older adults.

This approach has recently been adopted in general adult samples with some success. Kaluza (2000) examined the influence of stress management training (SMT) on coping and well-being in middle-aged adults with different styles of coping. Specifically, Kaluza (2000) identified three groups of copers, including individuals who used: 1) high levels of problem-focused coping and low levels of emotion-focused coping; 2) high levels of both problem- and emotion-focused coping; and 3) low levels of both of problem- and emotion-focused coping. The intervention consisted of a 12-week group

that focused on promoting a balance between the use of problem-focused and emotion-focused coping. Kaluza (2000) found that changes in coping produced by SMT depended on initial coping profiles. Specifically, participants who used predominately problem-focused coping showed an increase in the use of emotion-focused coping, while participants who used primarily emotion-focused coping showed an increase in the use of problem-focused strategies. Moreover, coping changes that reflected a broadening of initial coping profiles were associated with improvements in well-being. Kaluza (2000) concluded that participation in a cognitive-behavioral SMT leads to improved coping and well-being by differentially balancing one-sided initial coping profiles.

<div align="center">Limitations and Future Research</div>

Despite the contributions of this dissertation, important limitations should be discussed. One of the first limitations is related to the composition of the sample in the present study, and the fact that these findings may not be generalizable to all samples of younger or older adults. Younger adults in this study consisted of university students, while most of the older adults were from the community, and thus were relatively high functioning and autonomous. The older sample in the present study, in fact, was well educated and experienced little financial difficulty. Compared to younger adults, older adults also reported low levels of depression and anxiety, and high levels of contingency beliefs. This suggests that our sample of older adults may not be representative of the aging population.

At the same time, the present results confirm the fact that the aging process is characterized by a great deal of interindividual variability, as seen by the differences in psychological health across the different coping groups. There were a number of older participants in the present study, in particular participants characterized by

indiscriminately high levels of coping or by the absence of supplementary coping strategies, who were not functioning well and who reported high levels of psychological distress and low levels of psychological health. This suggests that even with a relatively high functioning sample of older adults, the role of supplementary coping dispositions is important. The importance of supplementary coping dispositions, in fact, may become even more pronounced in a more compromised sample of older adults. It is also important to note that participants in the present study consisted of a higher proportion of women than men, for both younger and older adults. Although this is a common limitation of research with older adults, attempts at replicating the present results across the lifespan, with equal numbers of men and women, and in different settings, should nonetheless be undertaken in future studies.

The use of cluster analysis is associated with a high risk for Type II error (Milligan & Cooper, 1985). Thus, although findings were robust across analytic methods and cross-validation samples (Ward's and k-means), it may be important to replicate the present results across different samples of older adults to ensure that the clusters are reliable. There are also a number of methodological limitations associated with the use of self-report coping questionnaires that should be addressed in relation to the present results, especially when discussing coping patterns among older adults, and when making generalizations about the present results across the literature (Stanton, Danoff-Buurg, Cameron, & Ellis, 1994; Stanton et al., 2000; Zuckerman & Gagné, 2003). For example, the lack of consistency in coping constructs makes comparisons across studies very difficult (Zuckerman & Gagné, 2003). It is also important to note that a number of coping dimensions may not be assessed by the COPE questionnaire, as most coping

questionnaires do not assess all domains relevant to the coping process (Stanton et al., 1994).

As discussed earlier, there have been a number of concerns expressed regarding the accuracy of retrospective reports of situational and dispositional coping (Smith et al., 1999; Somerfield & McCrae, 2000; Suls et al., 1996). Past researchers have questioned the usefulness of assessing dispositional coping, as it has been shown to have low correspondence to daily assessments of coping behavior (Schwartz et al., 1999; Todd et al, 2004), and the predictive value of specific coping dispositions has been highly inconsistent across studies (Zautra et al., 1995). The present results, however, provides some support for the use of dispositional measures of coping to examine the adaptation process across development. In the present study, specific associations between each of the four coping dispositions and adjustment were found, with the associations between dispositional coping strategies and psychological health differing across age groups and overall level of stress. This suggests that inconsistencies in past studies may be partially explained by the neglect of wider contextual and developmental factors that influence the efficacy of coping dispositions. Results from this study were also consistent with developmental theory and research examining the influence of attainment of life goals and adjustment in older adults (Brandtstädter, 1992; Heckhausen & Krueger, 1993; Heckhausen & Schulz, 1995, 1998; Wrosch et al., 2000; Wrosch et al., 2003), providing further support for the importance of taking the developmental context into account when examining the coping process. Future research should, nevertheless, focus on examining the correspondence between situational and dispositional measures of coping among different age groups, with the additional goal of clarifying the nature of dispositional coping.

Because a cross-sectional design was used in the present study to examine the associations between dispositional coping and psychological health, causality cannot be inferred. Longitudinal and experimental studies should be conducted in the future in order to examine the influence of development on the coping process. It will be important to determine if the observed differences in the benefit of coping dispositions actually reflect true age differences or are the result of cohort or contextual factors. In the future, a longitudinal design should also be used to delineate the development and course of certain coping patterns across the lifespan. Specifically, future studies should explore the association between failure experiences, sense of control and coping in samples of adults. The present findings indicate that a number of older adults develop a strategic repertoire of coping strategies, and that these individuals also report higher levels of psychological health. Little is known, however, about the factors that lead to the development of this approach to coping in old age. Further investigation in this area could lead to the identification of variables that facilitate the development of a broader range of coping strategies in older adults. This information could then be used to help older adults minimize the negative consequences of stress and maximize the adjustment process.

Similarly, it may also be important to examine the long-term consequences of using mainly problem-focused coping in old age. Although individuals who report using high levels of problem-focused coping report high levels of psychological health in the present study, they also report low levels of emotion management strategies. It may be essential to determine if these individuals are susceptible to psychological distress once the losses they experience begin to outweigh the gains associated with aging. Future research should also focus on examining the precipitators of loss of control, the effects of

loss of control on functioning and the factors that can help individuals regain control after experiencing a failure.

Finally, in order to expand on the present series of studies, which relied on a measure of dispositional coping, future studies on coping in older adults should adopt a multi-level and multi-method approach by including self-report and objective assessments of situation-specific and dispositional coping. Given that self-report data reflect subjective representations of coping, as well as a host of personal and contextual factors (Oakland & Ostell, 1996; Parker & Ender, 1992; Smith et al., 1999; Stone et al., 1991), experimental or observational data are needed to evaluate the coping behaviors of the identified coping groups (e.g., Cheng, 2001). Past research in this area has generally neglected the association between dispositional and situational assessment of daily coping behaviors. Doing so would provide more information about the possible interactive role of coping profiles and situation-specific behavior on psychological health.

Conclusion

Age-related losses in control increase pressure on older adults to be more selective in the allocation of their coping resources and to adopt compensatory strategies aimed at managing the emotional consequences associated with loss of control. There is, however, a great deal of variability in the coping strategies used by older adults. For instance, many older adults continue to use problem-focused efforts to deal with stress, and report high levels of perceived control and psychological health, while others adopt more variable coping styles that include both problem- and emotion-oriented coping strategies. Developmental theories of coping address the heterogeneity in aging by taking into consideration the role of developmental context, coping resources and environmental opportunities for control in the maintenance of psychological health in older adults.

Consequently, these theories provide a useful framework for understanding how older adults cope with decreases in perceived control over their environment. The present studies contributed to the understanding of aging by examining the association between dispositional coping and psychological health as a function of age, and by considering the interactive influence of coping dispositions on the maintenance of psychological health in older adults. A more systematic examination of the developmental antecedents of different coping profiles, and the influence of these coping profiles on psychological health, will lead to a more comprehensive understanding of the adaptation process in older adults. In turn, this should have significant implications for the prevention of distress in this segment of the population, and should facilitate the development of interventions aimed at helping older adults remain healthy and active.

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Appendix A

<u>Questionnaires</u>

Information Sheet

<div align="right">

Date_____

Start Time_____

Finish Time_____

</div>

Participant Information

Name:_____

Address:_____

_____

_____

Telephone:_____

Date of Birth:_____(day, month, year)

Sex: Male Female (circle)

Name of Interviewer:_____

Source of Recruitment_____

Tested where?

___Lab   ___Home

ID#_____

DEMOGRAPHIC INFORMATION - O

1. What is the date today? Year_____ Month_____Day_____

2. What is your sex? Female_____   Male_____

3. What is your date of birth? Year_____   Month_____   Day_____

4. What is your age?_____

5. Approximately, what is your annual income (optional)?_____$

6. How would you describe your financial situation as being?

1	2	3	4	5	6	7
Very difficult	Difficult	Fairly difficult	Not bad	Fairly comfortable	Comfortable	Very comfortable

7. What is the highest level of education you have completed (Grade or Diploma)?_____

8. What is/was your principal occupation throughout most of your adult life?_____

9. A. Are you retired?   Yes____ (For how long? _____ YEARS)
              No____

   B. If you are retired, do you do any volunteer work?
              Yes_____ No_____

10. A. Do you live in a residence?
              Yes_____   Name of Residence_____
              No _____

B. If so, for how long? _____YEARS

11. Who do you live with?

Alone   _____
Common-law/Friend   _____
Children   _____
Brother/Sister   _____
Husband/Wife   _____
Other (specify)   _____

12. What is your marital status?

Married   _____
Widow/widower   _____
Living with a partner   _____
Separated   _____
Divorced   _____
Never married   _____

How would you rate your overall health at the present time :

1	2	3	4	5
very poor	poor	fair	good	very good

How would you rate your overall health at the present time compared to other people your own age?

1	2	3	4	5
much worse	a little worse	same	a little better	much better

ONCE AGAIN, THANK YOU FOR YOUR COLLABORATION!

ID#_____

DEMOGRAPHIC INFORMATION - Y

1. What is the date today? Year_____ Month_____Day_____

2. What is your sex? Female_____   Male_____

3. What is your date of birth? Year_____   Month_____ Day_____

4. What is your age?_____

5. What is your principal occupation? _____

6. If you are a student, what is your current program of study? _____

   Year of study in program_____

7. What is the highest level of education you have completed (Grade or Diploma)?_____

8. Approximately, what is your annual income (optional)?_____$

9. How would you describe your financial situation as being?

1	2	3	4	5	6	7
Very difficult	Difficult	Fairly difficult	Not bad	Fairly comfortable	Comfortable	Very comfortable

10. Who do you live with?

Parents	_____
Alone	_____
Common-law/Friend	_____
Children	_____
Brother/Sister	_____
Husband/Wife	_____
Other (specify)	_____

11. What is your marital status?

Married   _____
Widow/widower   _____
Living with a partner _____
Separated   _____
Divorced   _____
Never married   _____

How would you rate your overall health at the present time :

1	2	3	4	5
very poor	poor	fair	good	very good

How would you rate your overall health at the present time compared to other people your own age?

1	2	3	4	5
much worse	a little worse	same	a little better	much better

ONCE AGAIN, THANK YOU FOR YOUR COLLABORATION !

Participant Form

Please indicate the date this questionnaire was completed _____

We are interested in how people respond when they confront difficult or stressful events in their lives. There are lots of ways to deal with stress. This questionnaire asks you to indicate what you <u>generally do and feel</u>, when you experience stressful events. Obviously, different events bring out somewhat different responses, but think about what you usually do when you are under a lot of stress.

Then respond to each of the following items by circling one number on your answer sheet for each, using the response choices listed just below. Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully, and make your answers as true FOR YOU as you can. Please answer every item. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU—not what you think "most people" would say or do.

Indicate what YOU usually do when YOU experience a stressful event.

1 = I usually don't do this at all
2 = I usually do this a little bit
3 = I usually do this a medium amount
4 = I usually do this a lot

1.	I think about how I might best handle the problem.	1	2	3	4
2.	I keep myself from getting distracted by other thoughts or activities.	1	2	3	4
3.	I learn to live with it.	1	2	3	4
4.	I use alcohol or other drugs to make myself feel better.	1	2	3	4
5.	I get comfort and understanding from someone.	1	2	3	4
6.	I force myself to wait for the right time to do something.	1	2	3	4

1 = I usually don't do this at all
2 = I usually do this a little bit
3 = I usually do this a medium amount
4 = I usually do this a lot

7.	I admit to myself that I can't deal with it, and quit trying.	1	2	3	4
8.	I make jokes about it.	1	2	3	4
9.	I pray or meditate.	1	2	3	4
10.	I refuse to believe that it has happened.	1	2	3	4
11.	I concentrate my efforts on doing something about the situation I am in.	1	2	3	4
12.	I try to get advice or help from other people about what to do.	1	2	3	4
13.	I feel a lot of emotional distress and I find myself expressing those feelings a lot.	1	2	3	4
14.	I turn to work or other activities to take my mind off things.	1	2	3	4
15.	I look for something good in what is happening.	1	2	3	4
16.	I think hard about what steps to take.	1	2	3	4
17.	I focus on dealing with this problem, and if necessary let other things slide a little.	1	2	3	4
18.	I get used to the idea that it happened.	1	2	3	4
19.	I try to lose myself for a while by drinking alcohol or taking drugs.	1	2	3	4
20.	I discuss my feelings with someone.	1	2	3	4

1 = I usually don't do this at all
2 = I usually do this a little bit
3 = I usually do this a medium amount
4 = I usually do this a lot

21.	I hold off doing anything about it until the situation permits.	1	2	3	4
22.	I reduce the amount of effort I'm putting into solving the problem.	1	2	3	4
23.	I laugh about the situation.	1	2	3	4
24.	I seek God's help.	1	2	3	4
25.	I act as though it hasn't even happened.	1	2	3	4
26.	I take additional action to try to get rid of the problem.	1	2	3	4
27.	I ask people who have had similar experiences what they did.	1	2	3	4
28.	I get upset and let my emotions out.	1	2	3	4
29.	I go to movies or watch TV, to think about it less.	1	2	3	4
30.	I learn something from the experience.	1	2	3	4
31.	I try to come up with a strategy about what to do.	1	2	3	4
32.	I put aside other activities in order to concentrate on this situation.	1	2	3	4
33.	I accept that this has happened and that it can't be changed.	1	2	3	4
34.	I use alcohol or other drugs to help me get through it.	1	2	3	4
35.	I get emotional support from others.	1	2	3	4

1 = I usually don't do this at all
2 = I usually do this a little bit
3 = I usually do this a medium amount
4 = I usually do this a lot

36. I restrain myself from doing anything
     too quickly.   1   2   3   4

37. I just give up trying to reach my goal.   1   2   3   4

38. I make fun of the situation.   1   2   3   4

39. I put my trust in God.   1   2   3   4

40. I pretend that it hasn't really happened.   1   2   3   4

41. I do what has to be done, one step at a time. 1   2   3   4

42. I talk to someone who could do
     something concrete about the problem.   1   2   3   4

43. I get upset, and am really aware of it.   1   2   3   4

44. I sleep more than usual.   1   2   3   4

45. I try to grow as a person as a result
     of the experience.   1   2   3   4

46. I make a plan of action.   1   2   3   4
46
47. I try hard to prevent other things from
     interfering with my efforts at
     dealing with this.   1   2   3   4

48. I accept the reality of the fact that it
     has happened.   1   2   3   4

49. I drink alcohol or take drugs, in order to
     think about it less.   1   2   3   4

50. I talk to someone about how I feel.   1   2   3   4

51. I make sure not to make matters worse
     by acting too soon.   1   2   3   4

1 = I usually don't do this at all
2 = I usually do this a little bit
3 = I usually do this a medium amount
4 = I usually do this a lot

52.	I give up the attempt to get what I want.	1	2	3	4
53.	I joke around about it.	1	2	3	4
54.	I try to find comfort in my religion or spiritual beliefs.	1	2	3	4
55.	I say to myself "this isn't real".	1	2	3	4
56.	I take direct action to get around the problem	1	2	3	4
57.	I talk to someone to find out more about the situation.	1	2	3	4
58.	I let my feelings out.	1	2	3	4
59.	I daydream about things other than this.	1	2	3	4
60.	I try to see it in a different light, to make it seem more positive.	1	2	3	4
61.	I try to ignore the difficulties by looking at the good things in life.	1	2	3	4
62.	I take action to try to make the situation better.	1	2	3	4
63.	I do something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.	1	2	3	4
64.	I tell myself the situation isn't worth getting upset about.	1	2	3	4
65.	I blame myself for things that happen.	1	2	3	4
66.	I get help and advice from other people	1	2	3	4

1 = I usually don't do this at all
2 = I usually do this a little bit
3 = I usually do this a medium amount
4 = I usually do this a lot

67.	I tell myself there's nothing more I can do so I might as well stop worrying	1	2	3	4
68.	I express my negative feelings.	1	2	3	4
69.	I tell myself that I can put up with the problem as long as everything else in my life is okay	1	2	3	4
70.	I give up the attempt to cope.	1	2	3	4
71.	I say things to let my unpleasant feelings escape.	1	2	3	4
72.	I criticize myself.	1	2	3	4

PC

Directions

On the next page is a series of attitude statements. Each represents a commonly held opinion. Read each statement, decide if you agree or disagree and the strength of your opinion, and then circle the appropriate number.

1	2	3	4	5	6	7
Disagree strongly	Disagree somewhat	Disagree a little	Don=t know	Agree a little	Agree somewhat	Agree strongly

1. I have little control over the things that happen to me.
    1   2   3   4   5   6   7

2. What happens to me in the future mostly depends on me.
    1   2   3   4   5   6   7

3. There is really no way I can solve all of the problems I have.
    1   2   3   4   5   6   7

4. There is little I can do to change many of the important things in my life.
    1   2   3   4   5   6   7

5. I can do just about anything I really set my mind to.
    1   2   3   4   5   6   7

6. I often feel helpless in dealing with the problems of life.
    1   2   3   4   5   6   7

7. Sometimes I feel that I=m being pushed around in life.
    1   2   3   4   5   6   7

8. When I really want to do something, I usually find a way to succeed at it.
    1   2   3   4   5   6   7

9. Whether or not I am able to get what I want is in my own hands.
    1   2   3   4   5   6   7

10. Other people determine most of what I can and cannot do.
    1   2   3   4   5   6   7

11. What happens in my life is often beyond my control.
    1   2   3   4   5   6   7

12. There are many things that interfere with what I want to do.
    1   2   3   4   5   6   7

DC

Instructions

Below you will find a series of statements. Please read each statement carefully and respond to it by expressing the extent to which you believe the statement applies to you. For all items, a response from 1 to 7 is required. Use the number that best reflects your beliefs when the scale is defined as follows: 1. The statement doesn't apply to me at all. 2. The statement usually doesn't apply to me. 3. Most often, the statement does not apply. 4. I am unsure about whether or not the statement applies to me, or it applies to me about half the time. 5. The statement applies more often than not. 6. The statement usually applies to me. 7. The statement always applies to me.

IT IS IMPORTANT THAT YOU RESPOND TO ALL ITEMS. THANK YOU!

1	2	3	4	5	6	7
Does Not Apply	Usually Does Not Apply	Most Often Does Not Apply	Unsure if Applies/ Applies Half the Time	Applies More Often than Not	Usually Applies	Applies

1. I prefer a job where I have a lot of control over what I do and when I do it.

    1   2   3   4   5   6   7

2. I enjoy political participation because I want to have as much of a say in running the government as possible.

    1   2   3   4   5   6   7

3. I try to avoid situations where someone else tells me what to do.

    1   2   3   4   5   6   7

4. I would prefer to be a leader rather than a follower.

    1   2   3   4   5   6   7

5. I enjoy being able to influence the actions of others.

    1   2   3   4   5   6   7

6. I am careful to check everything on an automobile before I leave for a long trip.

    1   2   3   4   5   6   7

1	2	3	4	5	6	7
Does Not Apply	Usually Does Not Apply	Most Often Does Not Apply	Unsure if Applies/ Applies Half the Time	Applies More Often than Not	Usually Applies	Applies

7. Others usually know what is best for me.

    1   2   3   4   5   6   7

8. I enjoy making my own decisions.

    1   2   3   4   5   6   7

9. I enjoy having control over my own destiny.

    1   2   3   4   5   6   7

10. I would rather someone else take over the leadership role when I'm involved in a group project.

    1   2   3   4   5   6   7

11. I consider myself to be generally more capable of handling situations than others are.

    1   2   3   4   5   6   7

12. I'd rather run my own business and make my own mistakes than listen to someone else's orders.

    1   2   3   4   5   6   7

13. I like to get a good idea of what a job is all about before I begin.

    1   2   3   4   5   6   7

14. When I see a problem I prefer to do something about it rather than sit by and let it continue.

    1   2   3   4   5   6   7

1	2	3	4	5	6	7
Does Not Apply	Usually Does Not Apply	Most Often Does Not Apply	Unsure if Applies/ Applies Half the Time	Applies More Often than Not	Usually Applies	Applies

15. When it comes to orders, I would rather give them than receive them.

    1   2   3   4   5   6   7

16. I wish I could push many of life's daily decisions off on someone else.

    1   2   3   4   5   6   7

17. When driving, I try to avoid putting myself in a situation where I could be hurt by someone else's mistake.

    1   2   3   4   5   6   7

18. I prefer to avoid situations where someone else has to tell me what it is I should be doing.

    1   2   3   4   5   6   7

19. There are many situations in which I would prefer only one choice rather than having to
make a decision.

    1   2   3   4   5   6   7

20. I like to wait and see if someone else is going to solve a problem so that I don't have to be bothered by it.

    1   2   3   4   5   6   7

CEQ

How often do you experience the following emotions?

	Often	sometimes	rarely
never			
Sadness	____	____	____
____			
Fear	____	____	____
____			
Happiness	____	____	____
____			
Anger	____	____	____
____			
Disgust	____	____	____
____			

CES-D

For each statement indicate how often you felt or behaved this way - DURING THE PAST WEEK.

Please use the following scale :

    0 – Rarely or none of the time (less than 1 day)
    1 – Some or a little of the time (1-2 days)
    2 – Occasionally or a moderate amount of time (3-4 days)
    3 – Most or all the time (5-7 days)

___1) I was bothered by things that usually don't bother me.

___2) I did not feel like eating; my appetite was poor.

___3) I felt that I could not shake off the blues even with help from my family or friends.

___4) I felt that I was just as good as other people.

___5) I had trouble keeping my mind on what I was doing.

___6) I felt depressed.

___7) I felt that everything I did was an effort.

___8) I felt hopeful about the future.

___9) I thought my life had been a failure.

___10) I felt fearful.

___11) My sleep was restless.

___12) I was happy.

___13) I talked less than usual.

___14) I felt lonely.

___15) People were unfriendly.

0 – Rarely or none of the time (less than 1 day)
1 – Some or a little of the time (1-2 days)
2 – Occasionally or a moderate amount of time (3-4 days)
3 – Most or all the time (5-7 days)

___16) I enjoyed life.

___17) I had crying spells.

___18) I felt sad.

___19) I felt that people dislike me.

___20) I could not get "going".

PSWQ

Please enter the number that best describes how typical or characteristic each item is of you, putting the number next to each item.

1	**2**	**3**	**4**	**5**
Not at all typical		**Somewhat typical**		**Very tpical**

____1) If I don't have enough time to do everything, I don't worry about it.

____2) My worries overwhelm me.

____3) I don't tend to worry about things.

____4) Many situations make me worry.

____5) I know I shouldn't worry about things, but I just can't help it.

____6) When I'm under pressure, I worry a lot.

____7) I am always worrying about something.

____8) I find it easy to dismiss worrisome thought.

____9) As soon as I finish one taks, I start to worry about everything else I have to do.

____10) I never worry about anything.

____11) When there is nothing I can do about a concern, I don't worry about it anymore.

____12) I've been a worrier all my life.

____13) I notice that I have been worrying about things.

____14) Once I start worrying, I can't stop.

____15) I worry all the time.

____16) I worry about projects until they are all done.

ROS SCALE

The statements below describe some thoughts that people may have when they are feeling sad or down. Please read each statement and decide how much you do what the statement describes when you are feeling sad. Indicate the degree to which you do what is described by circling the appropriate number on the scale.

WHEN I AM SAD, DOWN OR FEEL BLUE...

A.   **I have difficulty getting myself to stop thinking about how sad I am.**

1	2	3	4	5
NOT AT ALL	RARELY	SOMETIMES	QUITE A BIT	VERY MUCH

B.   **I repeatedly analyze and keep thinking about the reasons for my sadness.**

1	2	3	4	5
NOT AT ALL	RARELY	SOMETIMES	QUITE A BIT	VERY MUCH

C.   **I search my mind many times to try and figure out if there is anything about my personality that may have led me to feel this way.**

1	2	3	4	5
NOT AT ALL	RARELY	SOMETIMES	QUITE A BIT	VERY MUCH

D.   **I get absorbed in thinking about why I am sad and find it difficult to think about other things.**

1	2	3	4	5
NOT AT ALL	RARELY	SOMETIMES	QUITE A BIT	VERY MUCH

E.   **I search my mind repeatedly for events or experiences in my childhood that may help me understand my sad feelings.**

1	2	3	4	5
NOT AT ALL	RARELY	SOMETIMES	QUITE A BIT	VERY MUCH

F.   **I keep wondering about how I was able to be happy at other points in my life.**

1	2	3	4	5
NOT AT ALL	RARELY	SOMETIMES	QUITE A BIT	VERY MUCH

G.   I lie in bed and keep thinking about my lack of motivation and wonder about whether it will ever return.

1	2	3	4	5
NOT AT ALL	RARELY	SOMETIMES	QUITE A BIT	VERY MUCH

H.   If people try to talk to me or ask me questions it feels as though they are interrupting an ongoing silent conversation I am having with myself about my sadness.

1	2	3	4	5
NOT AT ALL	RARELY	SOMETIMES	QUITE A BIT	VERY MUCH

I.   I question and keep wondering about the meaning of life to find clues that may help me undertand my sadness.

1	2	3	4	5
NOT AT ALL	RARELY	SOMETIMES	QUITE A BIT	VERY MUCH

J.   I repeatedly think about what sadness really is by concentrating on my feelings and trying to understand them.

1	2	3	4	5
NOT AT ALL	RARELY	SOMETIMES	QUITE A BIT	VERY MUCH

K.   I get the feeeling that if I think long enough about my sadness I will find that it has some deeper meaning and that I will be able to understand myself better because of it.

1	2	3	4	5
NOT AT ALL	RARELY	SOMETIMES	QUITE A BIT	VERY MUCH

L.   I keep thinking about my problems to try and examijne where things went wrong.

1	2	3	4	5
NOT AT ALL	RARELY	SOMETIMES	QUITE A BIT	VERY MUCH

M.   I exhaust myself by thinking so much about myself and the reasons for my sadness. I exhaust myself by thinking so much about myself and the reasons for my sadness.

1	2	3	4	5
NOT AT ALL	RARELY	SOMETIMES	QUITE A BIT	VERY MUCH