This is to certify that the
thesis entitled

THE IMPACT OF ATTACHMENT AND COPING ON POST-SURGICAL RECOVERY IN OLDER ADULTS

presented by

ELLEN MARIE O'TOOLE

has been accepted towards fulfillment
of the requirements for the

M.A. degree in Clinical Psychology

Major Professor's Signature

12/9/02

Date

THE IMPACT OF ATTACHMENT AND COPING ON POST-SURGICAL RECOVERY IN OLDER ADULTS

By

Ellen Marie O'Toole

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF ARTS

Department of Psychology

2003

ABSTRACT

THE IMPACT OF ATTACHMENT AND COPING ON POST-SURGICAL RECOVERY IN OLDER ADULTS

By

Ellen Marie O'Toole

States of dependency in 70 older men (age 55 to 83) were examined as a key mechanism in the recovery from a coronary bypass procedure. Attachment traits and coping strategies were hypothesized to be important predictors of health, anxiety and depression in this population. Coping was hypothesized to act as a mediator on the relationship between attachment and mental and physical health. In general, coping did not mediate attachment on the outcome variables. However, emotion-focused coping was shown to mediate preoccupied traits on anxiety. More general predictions regarding the impact of attachment traits and coping on depression, anxiety, physical functioning, and general health were partly supported. Medium effect sizes were calculated for the relationship between emotion-focused coping and anxiety, and for planning coping on physical functioning. A medium to large effect size resulted for the relationship between preoccupied traits and anxiety. Notably, secure attachment traits were significant predictors of general health, although the effect was small to medium in size.

ACKNOWLEDGMENTS

I would like to acknowledge the efforts of the many people who enabled me to accomplish this project. First of all, I want to thank my advisor and mentor, Anne Bogat, for her guidance and encouragement throughout the entire process of creating this research project as well as writing the thesis. I have especially appreciated her support of my desire to pursue an independent project and her creative input in the practical application of my ideas. Thank you for supporting me through a difficult yet rewarding process. I would also like to thank Alytia Levendosky and Clare Collins, my two other committee members, for their excellent suggestions and assistance in a variety of matters. Their expertise in different areas greatly added to my understanding of the research process in both a practical as well as a conceptual sense. I would also like to thank my mentor from Mills College, Carol George, who graciously and promptly answered all of my questions about attachment theory throughout this period.

For help in recruiting subjects, I would like to acknowledge the medical staff who generously took time from their busy schedules to assist me: Steve Bush, P.A., Christine Sampson, R.N., and Jane Maxey, R.N. I would also like to thank the undergraduate research assistants who helped conduct interviews: Janna Bartalone, Jason Coletta, Chris Stickney, Paige Jones, and Brian Daniels. I would also like to thank the men who consented to be interviewed for this project and to acknowledge their contribution to a knowledge base that may help others in the future.

Finally, I would like to thank my partner, Holly Oppenheimer, whose support, encouragement, and love sustained me throughout this undertaking.

TABLE OF CONTENTS

LIST OF TABLES vi

INTRODUCTION 1

Attachment 2
Attachment and Coping 5
Coping and Health Outcomes 9
Attachment and Health 10
Depression and Anxiety 12
Coping and Psychological Outcomes 13
Attachment and Psychological Outcomes 14
Relevant Population Characteristics 17

HYPOTHESES OF PRESENT STUDY 20

METHOD 22

Participants 22
Measures 22
Procedures 27

RESULTS 30

Missing Data 30
Tests of Hypotheses 30
General Hypotheses 40

DISCUSSION 42

Alternative Explanations 46

APPENDICES 50

APPENDIX A: Demographics Questionnaire 51
APPENDIX B: Mini Mental State 54
APPENDIX C: Reciprocal Attachment Questionnaire 56
APPENDIX D: Revised scales for Reciprocal Attachment Questionnaire 59
APPENDIX E: COPE Inventory 60
APPENDIX F: Geriatric Depression Scale 63
APPENDIX G: State-Trait Anxiety Inventory 65
APPENDIX H: RAND SF-36 67
APPENDIX I: Telephone Script 71

APPENDIX J: Consent Form 72
APPENDIX K: Post-interview Letter and Community Resources 74

REFERENCES 77

LIST OF TABLES

Table 1. Means, Standard Deviations, and Ranges for Study Variables.....31

Table 2. Intercorrelations of Variables.....32

Table 3. Mediating Effects of Planning Coping on Secure Traits and Depression..33

Table 4. Mediating Effects of Planning Coping on Secure Traits and Anxiety.....33

Table 5. Mediating Effects of Planning Coping on Secure Traits and Physical Functioning.....34

Table 6. Mediating Effects of Planning Coping on Secure Traits and General Health.....34

Table 7. Mediating Effects of Emotion Coping on Preoccupied Traits and Depression.....35

Table 8. Mediating Effects of Emotion Coping on Preoccupied Traits and Anxiety.....35

Table 9. Mediating Effects of Emotion Coping on Preoccupied Traits and Physical Functioning.....36

Table 10. Mediating Effects of Emotion Coping on Preoccupied Traits and General Health.....36

Table 11. Mediating Effects of Disengagement Coping on Dismissing Traits and Depression.....37

Table 12. Mediating Effects of Disengagement Coping on Dismissing Traits and Anxiety.....37

Table 13. Mediating Effects of Disengagement Coping on Dismissing Traits and Physical Functioning.....38

Table 14. Mediating Effects of Disengagement Coping on Dismissing Traits and General Health.....38

Table 15. Correlations Between Attachment Traits and Coping.....40

Table 16. Effect Sizes for Attachment Traits and Coping as Predictors of Health and Psychological Variables in Regression.....42

INTRODUCTION

Attachment may be thought of as a complex process in which an individual's appraisal and response to a threat involves the use of a protective primary relationship. In adults, this relationship is generally one's romantic partner or a close friend, but it can also apply to adult children caregivers of the elderly (Feeney, 1999; Hazan & Zeifman, 1999; Rickelman, Gallman, & Parra, 1994). Internal working models, which are mental representations of the primary relationship, have been shown to be relatively stable and consist of expectations of the responsiveness and availability of attachment figures as well as beliefs regarding whether the self is valued or loved by the attachment figure. Secure attachment encompasses beliefs of the self as valued and worthy of protection, and attachment figures as accessible and likely to provide an appropriate and satisfying response to the individual's distress. Insecurely attached individuals have less optimal views of self and attachment figure, resulting in less confidence when confronted by significant stressors (George, West, & Pettem, 1999). Such expectations and beliefs guide both the degree to which specific situations are considered threatening by an individual and the response to that threat. Extant research has provided evidence that choice of coping style varies by attachment classification (Birnbaum, Orr, Mikulincer & Florian, 1997; Feeney, 1995; Ognibene & Collins, 1998; Torquati & Vazsonyi, 1999).

These concepts are of interest in examining recovery during a state of dependence in older adults. Such dependency may be found in those recovering from a major surgery such as a coronary bypass operation. When an older adult becomes dependent on a primary caregiver (and that caregiver is an attachment figure), aspects of attachment become relevant shapers of coping styles, emotion regulation, strategies to obtain comfort

in the face of physical and emotional pain, and confidence in obtaining protection when confronted with new physical limitations. If a newly disabled elder is successful and confident in eliciting instrumental help from an attachment figure, this deactivates the attachment system by removing the source of potential distress. Both attachment groups and coping styles have been linked to both psychological well being and health outcomes. Therefore, research on attachment classification and the resultant ability to predict coping style, is an important area of research with an older population vulnerable to states of dependency. This study examined whether coping was a mediator between attachment traits and two kinds of outcome: psychological difficulties (anxiety and depression) and health.

Attachment

Attachment theory was originally developed by John Bowlby to define the human behavioral system providing protection for children (Bowlby, 1969; Ainsworth, Blehar, Waters, & Wall, 1978). This system works through the interaction between the child and his or her primary caregiver whenever threatening situations arise. This perceived threat begins a cycle (or activation of the attachment system) whereby the child seeks contact with or expresses distress, and a timely, sensitive response from the caregiver soothes the child (Ainsworth et al., 1978; Goldberg, 1995). Such comfort affirms for the child the sensitivity of the caregiver to such expressed needs, and a feeling of safety is therefore associated with proximity to this caregiver. It follows that the attachment behaviors of the child are no longer necessary when an appropriate response is provided; the attachment system shuts down, or deactivates, and the child's behavior and physiological arousal returns to a normal state (Fox & Card, 1999; Hofer, 1995). The caregiver thus

acts as a secure base for the child, offering protection and comfort when needed, and enabling the child to balance the need for security with the need to explore his or her environment (George & Solomon, 1999).

One of Bowlby's collaborators, Mary Ainsworth, created the basis of the classification scheme still in use today by analyzing patterns of behavior observed when the attachment system is activated. Using a laboratory task involving separation and reunion (the Strange Situation), Ainsworth distinguished between three qualitatively different types of attachment relationships: secure, avoidant, and ambivalent/resistant (Ainsworth et al., 1978). Infants in the most frequently occurring attachment type, secure, engage in exploration in the mother's presence, maintain proximity checks, show a variety of distress responses upon her leaving, yet respond to her return in a positive manner. Avoidant children tend to focus on their surroundings and objects therein, do not check proximity of the mother as the secure child will, and most saliently, will mask emotional response to both the mother's departure and return. Those in the ambivalent category tend to cling to the mother, avoiding exploration, and show great distress when the mother leaves and returns. Upon reunion, ambivalent children may show both angry and contact seeking behavior, and will take much longer to be comforted than secure children (Ainsworth et al., 1978; George & Solomon, 1999; Goldberg, 1995). The rates of occurrence within the population estimated from research findings are as follows: secure, 55-65%, avoidant, 20-25%, and ambivalent, 10-15% (Goldberg, 1995).

In adults, a comparable use of a protective primary relationship is accomplished with an attachment figure who is usually one's partner or a close friend (Feeney, 1999; Hazan & Zeifman, 1999), but this person may also be a sibling (Hazan & Zeifman, 1999)

or an adult child caregiver to an older parent (Rickelman et al., 1994). Attachment researchers have identified several criteria that differentiate adult attachment relationships from other social relationships: seeking contact with the attachment figure when contending with stress; decreased anxiety through use of the attachment figure as a haven of safety (either through contact or by use of mental representation); a substantial increase in anxiety and searching behavior if threatened by separation from the attachment figure; expectations that the relationship will last over time; and a reciprocity appropriate to adult relationships, based on a mutual sharing of comfort and protection (George et al., 1999; West, Sheldon, & Reiffer, 1987). Feeney (1999) explicates the nature of the events that arouse the adult attachment system: "stressful conditions in the social or physical environment; conditions that appear to threaten the future of the attachment relationship; and conditions of the individual, such as ill health" (Feeney, 1999: p.371).

Adult attachment has been measured by developmental psychologists through narrative analysis of semistructured interviews asking subjects questions about their early relationships with attachment figures. The Adult Attachment Interview (AAI; George, Kaplan & Main, 1984 / 1985 / 1996) is a significant predictor of both measures of parental responsiveness and actual attachment classifications of subjects' children (Hesse, 1999; Main, 1996). Adult classifications have been developed which correspond to the established categories for children: Secure/autonomous (secure), dismissing (avoidant), and preoccupied (ambivalent) (George & Solomon, 1999; Hesse, 1999). Secure adults give evidence of valuing attachment relationships while being able to discuss events in a coherent and consistent manner. Dismissing subjects will describe early relationships

with normalizing language (often idealizing parents) while offering contradictory evidence during specific vignettes. Subjects in the other insecure category, preoccupied, offer incoherent discourse with salient angry, passive or fearful content; their narratives contain long, rambling sentences with repeated or excessive detail. (George et al., 1999; Hesse, 1999; Main, 1996). These descriptions of differential responses to stress based on attachment classification provide a foundation for understanding the impact of attachment on coping.

Attachment and Coping

Bowlby (1973) first postulated that early attachment experiences precede a development of what he termed internal working models of attachment figures and self. Children who are securely attached develop a model of self as worthy and valued by attachment figures and a model of attachment figures as responsive and available. Insecure children establish representations of self as rejected or unloved and views of attachment figures as rejecting or inconsistent in response (Bowlby, 1973; Dozier, Stovall, & Albus, 1999; Feeney, 1999). Such internalized representations are the dominant mechanism of the attachment system by adulthood (Bowlby, 1973). Pertaining to this, Bowlby discussed how secure attachment for an individual pervasively colors his or her world view: when confronted by life stressors or difficulties, such a secure person will carry an internal assurance that trustworthy attachment figures are available for comfort or protection. Thus, a securely attached person will "approach the world with confidence and, when faced with potentially alarming situations, is likely to tackle them effectively or to seek help in doing so" (Bowlby, 1973; p. 208).

Therefore, in those situations seen as threatening or potentially harmful, attachment should intrinsically shape coping responses of an individual (Feeney, 1995). Empirical evidence supports the concept that different classification groups respond differentially to stressful situations, as seen in infant response to separation in the Strange Situation (Ainsworth et al., 1978; Main, 1996). The limited research on the impact of attachment on coping offers results extending such findings to differential choices of coping styles by classification groups (Birnbaum et al., 1997; Feeney, 1995; Ognibene & Collins, 1998; Torquati & Vazsonyi, 1999). Unfortunately, such findings are complicated by inconsistency in the coping literature in defining coping styles (Strack & Feifel, 1996) as well as the use of psychometrically weak or untested instruments (Endler, Parker, & Summerfeldt, 1998).

Coping is defined as a process of appraisal and behavior in response to stress. Lazarus & Folkman (1984) initially identified two main coping functions, emotion-focused coping (regulation of emotions associated with the stressor) and problem-focused coping (acting on the source of the stress). Parker and Endler (1996) define these two constructs thus:

> "the problem-focused coping dimension involves strategies that attempt to solve, reconceptualize, or minimize the effects of a stressful situation. The emotion-focused coping dimension...includes strategies that involve self-preoccupation, fantasy, or other conscious activities related to affect regulation" (p. 8).

Lazarus (2000) notes that these two styles of coping are generally used in tandem, although one or the other may predominate. Past research has provided much evidence

linking problem-solving approaches with better psychological well-being and emotion-focused approaches with worse (Aldwin & Revinson, 1987; Downe-Wambolt & Melanson, 1995; Zeidner & Saklofske, 1996), but contradictory findings have also been reported (Bolger, 1990; Baum, Fleming, & Singer, 1983). Downe-Wambolt and Melanson (1995) report a significant negative relationship between emotion-focused coping and levels of psychological well-being on the Mental Health Inventory (MHI) in a sample of 78 older adults diagnosed with chronic rheumatoid arthritis. Zeidner and Saklofske (1996) describe emotion-focused approaches as helpful (in terms of providing an outlet for emotional release) when used along with the more active problem-focused approaches which enable the individual to maintain a sense of mastery in the situation. Other coping researchers affirm that some use of emotion-focused coping enhances problem-focused coping (Aldwin & Brustrom, 1997; Lazarus, 2000) but point out that dependence upon emotion processing as a strategy is ineffective in facing many stressors (Aldwin & Brustrom, 1997). Downe-Wambolt and Melanson (1995) also report a significant positive relationship between optimistic coping (a form of problem-focused coping) and well-being; as with most coping studies, the levels of problem-focused coping here are analyzed separately from amount of emotion-focused coping engaged in.

Another coping style commonly measured is the avoidant dimension. This is characterized by a diversion of attention away from the problem, which may be in the form of seeking social diversion or by immersion in other tasks (Parker & Endler, 1996). Health researchers have found an avoidant coping style to be somewhat beneficial over the short term although linked to poor outcomes when used as a long term strategy (Suls & Fletcher, 1985). This finding appears to generalize to an older, disabled population, as

suggested by a study examining older adults with reduced immobility (with 62% of the sample reporting mobility difficulties for at least seven years); the researchers reported a significant positive correlation between escape-avoidance coping and level of depression (Landreville, Dube, Lalande, & Alain, 1994).

Coping style has been reported to vary significantly by attachment classification (Birnbaum et al., 1997; Feeney, 1995; Ognibene & Collins, 1998; Torquati & Vazsonyi, 1999). The literature provides support for a proposed relationship between secure attachment and problem-focused strategies when individuals are faced with a variety of stressors. Adults who endorse statements reflecting current secure attachment are more likely to engage in support seeking during stressful life experiences (Ognibene & Collins, 1998), including combat training (Mikulincer & Florian, 1995), to focus on tasks during stressful moments in relationships (Lussier, Sabourin, & Turgeon, 1997), and to engage in active coping when held as prisoners of war (Solomon, Ginzburg, Mikulincer, Neria, & Ohry, 1998). An exception was reported by Birnbaum et al. (1997), who did not find a relationship between secure attachment and the coping strategies of problem-solving and support seeking in their divorce sample. However, based on ratings of stressor appraisal, the authors concluded that the secure group did not perceive (and thus, react to) divorce as a threat compared to the other groups classified as insecure.

Findings for the insecure attachment subgroups (preoccupied and dismissing) are less clear. Adults endorsing preoccupied statements to describe their current attachment status appear more likely to use emotion-focused coping than other groups (Feeney, 1995; Lussier et al., 1997; Mikulincer & Florian, 1995). What might be expected to clearly differentiate the dismissing group from the preoccupied, namely the dismissing

group's tendency to use avoidance or distancing coping (Birnbaum et al., 1997; Lussier et al., 1997; Mikulincer & Florian, 1995), is also reported for adult subjects who characterize their current attachment as preoccupied, in some studies (Birnbaum et al., 1997; Lussier et al., 1997; Ognibene & Collins, 1998). Some research is thus difficult to interpret because of coping outcomes that fail to make a distinction between the dismissing and preoccupied groups (Birnbaum et al., 1997; Lussier et al., 1997). However, not all research has been unable to make such a differentiation. Vetere and Myers (2002) treated coping as a stable trait rather than a situational or time-specific strategy, and found a significant link between avoidant attachment and a repressor coping style (low anxiety and higher defensiveness), with results showing the ambivalent attachment group significantly higher on anxiety.

Coping and Health Outcomes

An examination of the literature shows a clear link between attachment and coping style; within the arena of coping research, relationships between coping and outcome variables such as health are well-established. A current review of coping strategies and their impact on health for older adults concluded that cognitive restructuring of stressors (a problem solving approach) has a positive relationship to health outcomes, where avoidant coping predicts negative health outcomes (Arbuckle, Pushkar, Chaikelson, & Andres, 1999). This conclusion cannot be considered definitive due to the small number of studies analyzed (seven) and the fact that these studies used various health and coping strategy measures, many of which Arbuckle and colleagues found too dissimilar to compare. Interestingly enough, Arbuckle et al. present their own study in the same article, with cognitive coping resulting in no significant predictions

regarding self reported health or illness scores over five years for a sample of World War II veterans. Echoing Arbuckle and colleague's findings, Day and Livingston (2001) reported nonsignificant results for problem-focused coping and health symptoms in their sample of military personnel. They also reported finding both emotion-focused and avoidant coping styles significantly linked to higher reporting of symptoms.

Attachment and Health

The current study hypothesizes that coping style acts as a mediator between attachment and health. In the attachment literature, some research exists that suggests such a relationship between attachment and health outcomes. Within the last decade, a few studies can be found which have assessed the relationship between physiological stress responses and attachment, although most of this research has been limited to children. Empirical evidence using protocols such as the Strange Situation reveal differences in behavioral response to stress according to attachment classification; such differences imply related physiological responses which may impact health. Cortisol is a stress hormone released by the hypothalamic-pituitary-adrenocortical (HPA) system which has been used as an index of stress by health researchers. Nachiamas and colleagues (1996) found a significant positive relationship between behaviorally inhibited insecure 18 month-olds and cortisol levels. One tentative conclusion from this study was that secure attachment may act as a buffer against stress, especially in those children determined to be shy or inhibited. Nachiamas et al. (1996) also report that maternal behavior, particularly intrusive acts indicative of insensitive or untimely caregiving, is significantly related to increased levels of cortisol in insecure and disorganized children. Spangler and Grossman (1993) found significantly higher levels of cortisol in groups of

infants classified as disorganized or insecure, when compared to secure infants, after administration of the Strange Situation protocol. In the area of health psychology, chronic stress is known to result in elevated cortisol levels (Schaeffer & Baum, 1984). Such high adrenocortical response has been linked to higher reports of health symptoms (Kirschbaum et al., 1995). Chronic stress has also been significantly related to levels of respiratory illness (Boyce et al., 1995). Researchers in psychoimmunology suggest that long term stress may impact health through decreased levels of immune system functioning (Bachen, Cohen, & Marsland, 1997). Insecure or unresolved attachment may be thought of in terms of nonoptimal responses to stress, with an extended period of anxiety (or, a longer activation of the attachment system when stressors occur) in comparison to those persons who are securely attached. This implies a compounding of the amount of stress experienced. Considering this, it is not surprising that in one of the few studies examining attachment and health in adults, preoccupied women reported significantly more health symptoms on the Diagnostic Interview Schedule than secure subjects (Ciechanowski, Walker, Katon, & Russo, 2002). However, the clinical relevance of this difference is questionable, since the means of both groups fell below the cutoff (3 or more symptoms) indicating a significant level of symptoms (secure group M=1.89; preoccupied group M=2.36). In addition, women who were preoccupied also reported more physician visits and higher health care costs than secure subjects.

Clearly, the empirical findings on the relationship between attachment and health are not yet substantial enough to provide definitive statements. The theoretical basis of attachment and previous research points to unregulated emotion states (thus, prolonged distress) in response to stress in insecure children. Longitudinal studies have established

that attachment classifications are stable characteristics (Urban, Carlson, Egeland, & Sroufe, 1991; Waters, Merrick, Treboux, Crowell, & Albersheim, 2000), and can therefore be conceived of as predictive of long-term typical responses to stressors. This fits well with the body of knowledge from health psychology pertaining to chronic stress in postulating an impact of attachment classification on health outcomes. The aforementioned empirical work which supports links between attachment and coping, attachment and health, and coping and health outcomes, is suggestive of a mediating role for coping.

Depression and Anxiety

As psychological outcome variables, depression and anxiety have an impact on the lives of older adults that varies from the rest of the adult population. Rates of depression and anxiety in older adults may be underestimated when using criteria derived from the DSM-IV for diagnosis; research has shown that significant depressive symptoms are found in about 15 percent of older adults (Gallo & Lebowitz, 1999) while significant symptoms of anxiety have been estimated to range from 0.7% to 21% in older adults (Himmelfarb & Murrell, 1984; Flint, 1994). De Beurs and colleagues (1999) found significantly higher levels of disability and lower ratings of well-being for older adults with either an anxiety disorder or subclinical levels of anxiety, as compared to nonanxious controls. While De Beurs et al. describe anxiety symptoms as having "grave consequences for the quality of life" (p.583), it should be noted that anxiety (and especially subclinical anxiety) is an understudied area of research among older adults (Flint, 1994; Gallo & Lebowitz, 1999; Wetherell, 1998).

Comparative studies have found that rates of depressive symptoms are higher in an older population (Flint, 1994). Older adults with depressive symptoms are vulnerable to decreases in functional abilities (Gallo & Lebowitz, 1999), and both depressive and anxious symptoms are linked to difficulties with cognitive performance in the general population (Eysenck & Calvo, 1992). Yaretsky and colleagues (1998) generalized these findings to state anxiety and older adults, reporting that those hospitalized elders with higher levels of state anxiety showed significantly lower ability to successfully complete a Clock Completion Test measuring psychomotor speed, attention, concentration, learning, and memory.

The research on the impact of anxiety and depression on older adults suggests that these are two psychological outcomes with implications for significant disability and decline. More research is thus needed that specifically aims to understand the mechanisms underlying the development of such symptoms in older adults, particularly those facing physical illness (Aldwin & Brustrom, 1997; Flint, 1994; Gallo & Lebowitz, 1999; Wetherell, 1998). This discussion of the unique role depression and anxiety play in the lives of older adults establishes the importance of defining the relationship of attachment and coping to these variables for this population.

Coping and Psychological Outcomes

Studies investigating coping and depression have established clear links between dependence on either emotion-focused coping or avoidance coping and depressive outcomes (Summerfeldt & Endler, 1996). The few studies in this area using an older adult sample confirmed this for avoidance coping and depressive symptomalogy as measured with self report scales: the Mental Health Inventory (MHI; Veit & Ware, 1983)

(Downe-Wambolt & Melanson, 1995) and the Geriatric Depression Scale (GDS; Brink et al., 1982) (Landreville et al., 1994). Arbuckle and colleagues (1999) reported avoidance coping as a strong predictor of anxiety and somatization in their sample of older men (as measured by the neuroticism subscale of the Eysenck Personality Inventory; EPI; Eysenck & Eysenck, 1968). A discussion of the general literature on coping and anxiety by Summerfeldt and Endler (1996) confirms that avoidance coping has been empirically related to higher levels of anxiety. The authors explore this by considering how the avoidance of problems or stressors may be related to the vigilance and preoccupation with threat associated with higher levels of anxiety. Differentiating between this and a tendency toward passive and ruminative worry (as an extreme tendency toward emotion-focused coping may be described) could explain predictions of depression via coping style. However, given high rates of comorbidity of depression with anxiety reported in both the general population as well as in older adults (Flint, 1994), a distinction between pathways is more challenging to determine.

Attachment and Psychological Outcomes

In their meta-analysis of thirty-three studies using AAI protocols, van IJzendoorn & Bakermans-Kranenburg (1996) report a significant relationship between parental groups classified as either insecure or unresolved and the clinical status of their children. The authors report a strong representation of preoccupied parents (with a somewhat smaller degree of dismissing parents) in groups of children with psychiatric diagnoses. This study cited a variety of psychological diagnoses examined, including anxiety and mood disorders, but did not conclude any further differentiation based on attachment classification (van IJzendoorn & Bakermans-Kranenburg, 1996). There is, however,

some support from both longitudinal and correlational research that insecurity and disorganization are related to greater anxiety and depression in both adults and children. From their work with the Minnesota Parent-Child Project, Warren and colleagues (1997) reported that ambivalent attachment in infancy predicted a modest but significant relationship to anxiety disorders at age 16 (using diagnoses obtained with the KSADS-III-R-MPE). In their high-risk group, the potential for developing an anxiety disorder if the subject was classified as ambivalent was more than twice that of other subjects. Lyons-Ruth and colleagues (1997) followed a low-income sample from the ages of 18 months to 7 years, and reported a significant positive relationship between avoidant children and internalizing problems (as measured by the Child Behavior Checklist).

Studies on attachment classification and levels of depression in adults have found significant links between the insecure and unresolved groups and mood disorders (Dozier et al., 1999). In their study on eating disorders and depression in women, Cole-Detke and Kobak (1996) found a significant positive relationship between depression (as measured by the Beck Depression Inventory) and preoccupied classification. Another study on hospitalized adolescents (Rosenstein & Horowitz, 1996) compared three groups differentiated by psychiatric disorder: affective disorders, conduct disorder and affective disorders comorbid with conduct disorder. Those diagnosed with just affective disorders were significantly more often classified as preoccupied, and unresolved classification was significantly related to both affective disordered subjects and the comorbid group. Patrick and colleagues (1994) reported in their sample of women inpatients a significantly higher link between dysthymia and a dismissing classification. However, this study divided the sample into groups diagnosed with either dysthymia or borderline

personality disorder, without further identifying those in the borderline group who may have had depressive symptomology. West and colleagues (1999) report a significant relationship between depression (measured with the CES-D) and endorsement of behavior linked to the preoccupied classification. These behaviors were high proximity seeking coupled with both fear of loss of the attachment figure and inability to use the attachment figure in the face of stress. West et. al explain this in terms of living in a state of continual anxiety over whether one's need for security can be met via an important, protective relationship. Behavior undertaken with the goal of proximity to an attachment figure coupled with awkwardness in approaching that person leads to further failure and reinforcement of such insecurity. Hence one can see how a sense of helplessness and even depression may result.

The research on anxiety and attachment in adults and adolescents is even more scarce. Rosenstein and Horowitz (1996) report that 65% of preoccupied subjects and 35% of dismissing subjects showed elevated scores on the anxiety scale of the Millon Multiaxial Personality Inventory. Fonagy and colleagues (1996) report that a majority of subjects diagnosed with anxiety disorders were also determined to have a preoccupied classification. In their study using the Behavior Symptom Checklist to measure anxiety and depression, Cooper, Shaver, & Collins (1998) reported significant differences between each of the secure, preoccupied and dismissing groups (measured via self endorsement of statements pertaining to current attachment) on depression (preoccupied having highest levels and dismissing showing moderate levels), and significantly high levels of anxiety in both of the insecure groups when compared with the secure group. The authors report that the preoccupied and dismissing groups did not differ significantly

on the subscale of general anxiety. Cooper et al. (1998) also state that attachment status accounted significantly for the variance in each of the eight subscales of psychological symptomology, as well as for over 5% of the overall variance in the model after including demographic variables. These studies suggest that insecure and internal working models are significantly linked to higher levels of both anxiety and depression.

Sroufe (1997) comments on how ambivalence in children is typified by a chronic vigilance in tracking an inconsistent caregiver, and how avoidant children learn to move their focus to the environment when painful or stressful attachment needs are aroused, due to rejecting caregivers. These patterns of behavior have been shown to be consistent over time (Urban, Carlson, Egeland, & Sroufe, 1991; Waters, Merrick, Treboux, Crowell, & Albersheim, 2000); therefore, in the face of a stressor such as coronary bypass surgery, it is predicted that subjects with insecure traits will report higher rates of anxiety and depression.

Relevant Population Characteristics

Coronary bypass patients are expected to enter a state of short-term dependency due to their surgery. Such a dependent state provides an avenue to examine the mechanisms involved in coping with a stressor significant enough to activate subjects' attachment systems. In a current review of research on contributions of coping and control processes to health outcomes in older adults, Arbuckle and colleagues concluded that "the most striking effects of control or coping on health were obtained in samples that were under the stress of declining health" (Arbuckle et al., 1999, p.308). Tienari (1994) states that in 25-40% of coronary bypass patients, well-being remains at low levels post-surgery, and such distressed patients tend to cope poorly and may not return

to previous levels of activity due to fears about how physical exertion may impact their heart. This suggests the importance of understanding the mechanisms which significantly predict coping strategies in such a population. Research also suggests that surgical success is not related to the emotional well-being of the coronary bypass patient (Magni, Unger, & Valfre, 1987). In their review of the psychosocial literature on coronary heart disease (CHD) patients, Krantz and McCeney (2002) note that persons with low social contact have an approximately 50% higher risk for CHD. They also report that close relationships have a salient impact on the quality of life for CHD patients, and urge researchers to include more measures examining the nature of such relationships.

Research on the effects of coping on health status provides evidence that use of specific coping strategies, such as problem-focused coping, is linked to better outcomes (Arbuckle et al., 1999). However, it should be noted that much of the coping research has been conducted on young adults. Addressing this point, Arbuckle and colleagues note that with

> "age-related change in the type of stressors that people experience, previously favoured strategies may no longer be as effective, and persistence in their use may negatively affect health" (Arbuckle et al., 1999, pp. 308-309).

Successful adaptation to aging may mean learning new ways to cope with stressors that can no longer be resolved through behavioral intervention (Heckhausen & Schulz, 1995). A few researchers have pinpointed increased use of cognitive restructuring (redefining one's perception of the problem in such a way that associated anxiety is reduced) as related to age (Arbuckle et al., 1999; Diehl, Coyle, & Labouvie-

Vief, 1996; Heckhausen & Schulz, 1995). Another relevant aspect of coping is whether gender impacts choice of coping strategy. Although the current research does not provide clear answers to this for the general population, at least one study concluded that men with heart disease may adopt different coping styles than women (Weidner, 2000). Controlling for gender is therefore an additional consideration in answering questions about coping in the coronary bypass population. Thus, identifying effective coping strategies for older adults facing, for example, an acute health condition, is important in order to refine current knowledge of the processes as well as the predictors involved in successful recovery.

Thus, it is important to examine potential predictors of outcomes of depression, anxiety, and quality of relationships for this group. This population was targeted by this study in order to better investigate the impact of coping strategy as a mediator of attachment on health and psychological outcomes.

HYPOTHESES OF PRESENT STUDY

The aim of this study was to investigate the impact of attachment classification and coping strategy on the psychological and physical outcomes of older men who have undergone a coronary bypass procedure.

Although research on attachment in various domains provides good evidence that attachment significantly predicts coping strategy as well as levels of anxiety and depression, no studies have yet integrated this knowledge into an explanatory model of the mechanisms of the process. Furthermore, previous research has provided physiological evidence that attachment classification is significantly related to levels of stress, such as cortisol. Health psychologists have established an inverse relationship between cortisol level and health status, but few studies have examined the impact of attachment on health, particularly in adults.

Based on both theory and empirical findings, it was proposed that coping strategy would act as a mediator of attachment on both health and psychological outcomes. It was predicted that higher levels of secure attachment traits would be significantly associated with successful, problem-focused forms of coping, which in turn would be linked to higher levels of perceived health functioning as well as lower levels of self-reported anxiety and depression. It was also predicted that dismissing attachment traits would be positively associated with avoidance coping strategies, which have been associated with good health outcomes in previous short term studies on coronary patients. However, levels of depression and anxiety were hypothesized to be higher for dismissing individuals. Preoccupied attachment traits were hypothesized to be associated with the

least successful coping strategies (emotion-focused and or avoidance) and have the worst outcomes on all psychological and health indices. Specific hypotheses are listed below:

Hypothesis 1: Planning Coping will mediate the relationship between Secure Traits and Depression
Hypothesis 2: Planning Coping will mediate the relationship between Secure Traits and Anxiety

Hypothesis 3: Emotion Coping will mediate the relationship between Preoccupied Traits and Depression
Hypothesis 4: Emotion Coping will mediate the relationship between Preoccupied Traits and Anxiety

Hypothesis 5: Disengagement Coping will mediate the relationship between Dismissing Traits and Depression
Hypothesis 6: Disengagement Coping will mediate the relationship between Dismissing Traits and Anxiety

Hypothesis 7: Planning Coping will mediate the relationship between Secure Traits and Physical Functioning
Hypothesis 8: Planning Coping will mediate the relationship between Secure Traits and General Health

Hypothesis 9: Emotion Coping will mediate the relationship between Preoccupied Traits and Physical Functioning
Hypothesis 10: Emotion Coping will mediate the relationship between Preoccupied Traits and General Health

Hypothesis 11: Disengagement Coping will mediate the relationship between Dismissing Traits and Physical Functioning
Hypothesis 12: Disengagement Coping will mediate the relationship between Dismissing Traits and General Health.

METHOD

Participants

Participants in the study were 70 male subjects who were interviewed three to ten weeks (M =5.80, SD =1.73) following their coronary bypass surgery. Subjects ranged in age from 55 to 83 years (M = 68.13, SD =7.71). Ethnicity of subjects was largely Caucasian (93%), with a small minority identifying as African American (4%), Asian American (2%), or Native American (1%). Approximately one-half of the sample reported having a 12^{th} grade education or less (49%), while the rest reported having some college or vocational/skilled trades training (31%), or earning graduate degrees (10%), undergraduate degrees (9%) and professional degrees (1%). Seventy-six percent of the sample were married, 13% were widowed, 9% were divorced, 1% were unmarried, living with a partner, and 1% were single. Median annual household income was $30,000 to $39,999. Although 63% of the subjects reported not being employed, the rest reported varying degrees of hours worked per week: 40 or more hours (11%), 30 to 40 hours (10%), 20 to 30 hours (10%), or less than 20 hours (6%). Participants underwent coronary bypass surgery involving between 1 to 5 grafts (single bypass, 7%; double bypass, 13%; triple bypass, 30%; quadruple bypass, 31%; and quintuple bypass, 19%).

Measures

Demographics. Subjects completed a demographics questionnaire that asked about their age, ethnicity/race, marital status, employment status, household composition, income level, years of education, and number of bypass grafts. See Appendix A.

Cognitive Status. A brief measure of cognitive status, the Mini-Mental State (MMS; Folstein, Folstein, & McHugh, 1975) was employed to screen for those subjects

too impaired to take part in the study. The MMS is a widely used 21-item mental status examination requiring subjects to answer questions (such as "what is today's date?" and "what floor are we on?") and perform simple tasks (for example, correctly following the command to "take the paper in your right hand, fold it in half and put it on the floor"). Folstein and colleagues reported high test-retest reliability (r = .89). This protocol successfully identifies subjects with moderate to severe mental impairment using cutoff scores of 23 points or less out of 30 total points (Folstein et al.). Lezak's (1995) recommendation to alter the cutoff to 19 points for subjects with an 8th grade education or less was employed as well. Therefore, subjects had to score 24 points or higher to continue the interview, except for those who reported lower education completion (8th grade or less), who had to score 20 points or higher in order to stay in the study. Scores in the current study ranged from 20 to 30, with a mean of 27.17 (SD=1.94). See Appendix B.

Attachment. Adult attachment was measured by the Reciprocal Attachment Questionnaire (RAQ; West et al., 1987). The RAQ is a 43 item questionnaire developed to measure nine individual dimensions of attachment: proximity seeking, use of the attachment figure, perception of availability of the attachment figure, angry withdrawal, separation protest, feared loss, compulsive care-giving, compulsive self-reliance, and compulsive care-seeking. Each subject was asked to consider the questions in terms of his relationship to his attachment figure, who is defined as "the person you have been most likely to turn to or depend on for comfort or help when facing stress." Questions were phrased in terms of this relationship (for example, "I feel it is best not to depend on my attachment figure") and answered on a 5-point Likert scale (ranging from 1, strongly

agree, to 5, strongly disagree). West et al. (1994) reported coefficient alpha ranging from .74 to .85, and test-retest reliability over a four month period ranging from .76 to .82, across the nine scales (see Appendix C).

In order to analyze the data using the most well-known global concepts associated with adult attachment, namely, autonomous, preoccupied and dismissing traits, principal components factor analysis with varimax rotation was employed to force the items into three factors, which were refined by omitting items that had loadings less than +/- .500, or that loaded higher than +/- .300 on any other factor. The items in each factor were then examined and determined to fit well theoretically, as traits associated with the three attachment groups. Scales were derived by summing the items. The preoccupied traits scale contained 7 items with a range of 7-35, and both the secure traits and dismissing traits scales had 4 items each and ranged from 4-20 (see Appendix D). Higher scores corresponded to greater levels of each attachment trait. The preoccupied traits and secure traits scales had good internal consistency, with a coefficient alpha of .86 for both measures. The dismissing traits scale demonstrated lower reliability, with a coefficient alpha of .68.

Coping. The COPE inventory (Carver, Scheier, & Weintraub, 1989) is a 52-item measure with 13 scales. Five scales reflect problem-focused coping (planning, active, suppression of competing activities, use of instrumental social support, and positive reinterpretation/growth), three are related to emotion-focused coping (focus on and venting of emotions, use of emotional social support, humor), two are related to acceptance coping (restraint, acceptance), and four are related to avoidant type strategies (mental disengagement, denial, behavioral disengagement, substance use). Subjects rate

statements from 1 (I usually didn't do this at all) to 4 (I usually did this a lot) in reference to coping with their health condition. Examples of statements are "I get upset and let my emotions out," "I refuse to believe that it has happened," and "I do what has to be done, one step at a time." Scales were derived by summing the items. Each scale had a range of 4-16, with higher scores indicating greater use of a particular coping strategy. Cronbach's alpha are reported to vary from 0.62 to 0.92 for the subscales, with the exception of Mental Engagement, with an alpha coefficient of 0.45 (Carver et al., 1989). See Appendix E.

In this study, one scale from the three more widely used categories (emotion-focused, problem-focused, and avoidant coping) was chosen based on content-theory match and strength of coefficient alphas. From the problem-focused coping scales, planning was chosen, with a coefficient alpha of .87. The focus on and venting of emotions scale (emotion) was chosen from the emotion-focused coping scales, showing adequate internal consistency with a coefficient alpha of .77. From the avoidant coping scales, denial (the avoidant scale with the highest alpha at .70) was rejected for use because the distribution was significantly skewed and violated the assumption of normality (Kolmogorov-Smirnov z=1.77, p=.00). The behavioral disengagement scale did not have a skewed distribution and was used in the analyses, although reliability was low (Cronbach's alpha=.52).

Psychological outcomes. Depression was measured using the Geriatric Depression Scale (GDS; Brink et al., 1982). The GDS, developed by Brink and colleagues, is a widely used self-report screening test for depression developed especially for older adults, taking into consideration the tendency of this group to indicate their

depressive symptomology as somatic in nature, rather than psychological. It consists of 30 yes-no questions. Examples of questions are : "Do you often feel helpless?" and "Do you feel full of energy?" Scores are derived by summing all the items, some of which are reverse coded. The range of scores is from 0-30, with higher scores indicating greater depression. The authors' reliability reports are high, with a Cronbach's alpha of .94, split-half reliability coefficient of .94, and one-week test-retest reliability of .85. Convergent validity with the Beck Depression Inventory (BDI) resulted in correlations of 0.73. In the current study, internal consistency was high on this measure (Cronbach's alpha=.87). See Appendix F.

Anxiety was measured using the State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, & Lushene, 1970). The STAI consists of two forms of 20 items each, answered on a 1-4 Likert-type scale, ranging from 1, not at all, to 4, very much so. Subjects rate such statements as "I feel jittery" and "I am relaxed." This instrument measures both state anxiety (a fluctuating characteristic dependent on circumstance) and trait anxiety (a stable characteristic dependent on the individual). Test-retest reliability is high for the trait anxiety scale (ranging from .73 to .86), but low for state anxiety (.16 to .54), which is congruent with both operational definitions given (Finney, 1985). The Trait scale was chosen for the analyses in order to measure anxiety as a stable attribute rather than a situation-dependent characteristic. Subjects' scores were obtained by summing the items from the Trait measure, some of which are reverse coded. Scores range from 20-80, with higher scores indicating greater levels of anxiety. Internal consistency for the Trait scale in the current study was high (Cronbach's alpha=.91). See Appendix G.

Health outcomes. The RAND SF-36 (Ware & Sherbourne, 1992) is a commonly employed self-report measure of general health and physical functioning. This measure is an 11-item questionnaire requiring subjects to report health self-perception with a variety of Likert-like scale choices for different items (for example, "In general, would you say your health is:" offers five answers ranging from "excellent" to "poor"). McHorney (1996) reports good reliability with this instrument using cognitively intact older subjects (Cronbach's alpha ranges from .82 to .91 on seven of the subscales; for the General Health Perception subscale, Cronbach's alpha = .78). This measure was developed to measure health concepts with four different scales (physical functioning, bodily pain, role-physical, and general health). The two more general scales of health were used for analysis, physical functioning and general health, with respective coefficient alphas of .90 and .57. Scores were obtained by summing the items corresponding to each scale; the physical functioning scale had a range of 10-30, and the general health scale had a range of 5-24. Higher scores indicate better health on both scales. See Appendix H.

Procedures

Recruitment of subjects was conducted through four Lansing area cardiovascular medical practices. Recruitment efforts were changed after 17 subjects were interviewed, due to the difficulty of obtaining participants. This change consisted of the student investigator obtaining names from the medical office and calling patients directly; prior to this, nurse managers in each practice asked patients for consent to release their names and telephone numbers to the investigator. Subjects were contacted by telephone three to four weeks post-surgery and asked to participate in the study (see Appendix I for

telephone script). Those agreeing to do so were given the choice of being interviewed in their home or at our office on campus. The majority of subjects were interviewed in their homes (97%). Participants were recruited from nine counties located in the Southwest (74%), East Central (19%), and West Central (7%) regions of Michigan.

At the beginning of the interview, informed consent was obtained (see Appendix J), then participants filled out a demographics questionnaire and were given the Mini-Mental State (MMS; Folstein et al., 1975). The MMS served to screen out cognitively impaired patients, using point cutoffs recommended by Lezak (1995): 19 for those with an 8th grade education or less, and 23 for those with a 9th grade education or higher. Two subjects were screened from the study in this manner. Interviewers read instructions for each measure, and all but two subjects (due to visual difficulties) then read and marked the questionnaires' self-report items to themselves (see Appendices A, and C through H). The entire interview protocol lasted approximately 90 minutes. At the end of the interview, participants were thanked for volunteering their time. The student investigator sent each subject a thank-you letter containing community resources for older cardiac patients (see Appendix K).

Interviewers were five undergraduate student volunteers and the graduate student investigator. Training on the interview protocol consisted of three weeks of supervised practice administration, including meetings devoted to issues such as interviewer bias and standardized test administration. Interviewers then administered the protocol with an 85% accuracy rate or better on two practice and two supervised interviews, consisting of scoring accuracy on the MME and reading all directions correctly. Subjective feedback about overall interview administration, including handling questions from subjects, was

provided as well. Weekly meetings and feedback continued throughout the interviewing process. Furthermore, after interviewers had completed five interviews on their own, they were observed again, with each earning an 85% accuracy rate or better on interview administration.

RESULTS

Missing Data

Two methods of dataset adjustment were employed due to missing information. For subjects missing items from otherwise complete measures, mean substitution from the scale in question was used. Six data points were accounted for in this manner. For missing data that could not be replaced using mean substitution, values were imputed from the dataset with the EM algorithm method, using the SYSTAT 10.2 statistical analysis program. Data was imputed for nine subjects who declined to answer the income question, one subject who refused to answer the attachment questionnaire, and one subject who refused to answer the health questionnaire.[1]

Tests of Hypotheses

Mediation was tested with regression analyses using the method suggested by Baron and Kenny (1986). The authors recommend three steps to establish mediation. The first is to regress the dependent variable on the independent variable; the second is to regress the mediator on the independent variable; and the third is to regress the dependent variable on both the mediator and the independent variable. Evaluation of the steps is used in order to provide support for mediation: the first two analyses must result in significance; if, in the last regression, the mediator variable remains significant, and the effect of the independent variable on the dependent decreases to zero, full mediation occurs. Partial mediation may be shown by a decrease in the effect of the independent variable on the dependent variable. The Sobel test (Sobel, 1982), recommended by Baron and Kenny (1986), was used to determine whether such decreases were significant.

---

[1]See Table 1 for means, standard deviations, and ranges of study variables. See Table 2 for intercorrelations of study variables.

Table 1

Means, Standard Deviations, and Ranges for Study Variables

Variable	M	SD	Range
Secure	15.77	3.41	16
Dismissing	10.55	3.10	15
Preoccupied	14.95	4.77	19
Emotion	7.76	2.89	12
Planning	10.99	3.64	12
Disengagement	6.59	2.26	9
Depression	5.71	4.96	26
Anxiety	32.23	9.29	39
Physical Functioning	19.74	5.14	19
General Health	17.00	3.26	15
Age	68.13	7.70	28
Education	12.67	1.89	9
Yearly Income	4.59	2.59	10
Weeks post surgery	5.80	1.73	7

For the current analyses, an alpha level of .05 was used for all statistical tests. The regressions performed covaried for demographic variables that extant literature has shown to influence levels of psychological and health outcomes: age, education level, yearly income (Adler et al., 1994; Syme & Berkman, 1997; Thoits, 1995). The number of weeks between surgery and the interview were also controlled for in analyses.

Secure Attachment. With regard to Hypothesis 1, regression analyses showed a decrease in significance for the effect of secure traits on depression when planning coping was added to the equation. However, in the third regression, planning coping was not a significant predictor, which is a required condition for testing mediation (see Table 3). For Hypothesis 2, a nonsignificant effect of secure traits on anxiety did not fulfill the criteria for step 1 of mediation testing (see Table 4). In testing Hypothesis 7, results showed that secure traits were not significantly related to physical functioning (β=.13,

Table 2

Intercorrelations of Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Secure Traits	---	-.219	-.032	.239*	.069	.047	-.273*	-.194	.120	.263*	.105	.090	.178	.088
2. Dismissing Traits		---	.029	-.005	-.013	.167	.001	.119	.144	-.125	.190	.026	-.189	.255*
3. Preoccupied Traits			---	-.122	.473***	.459***	.321**	.498***	-.269*	.070	.069	-.297*	-.219	-.168
4. Planning Coping				---	.222	.130	-.297*	-.198	.504***	.293*	-.107	.079	.175	.165
5. Emotion Coping					---	.521***	.348**	.488***	-.108	.169	-.145	-.344***	-.246*	-.179
6. Disengagement Coping						---	.269*	.326**	-.154	-.009	.129	-.368**	-.266*	.023
7. Depression							---	.690***	-.369**	-.288*	-.070	-.195	-.253*	-.118
8. Anxiety								---	-.309**	-.063	-.064	-.207	-.342**	-.022
9. Physical Functioning									---	.110	-.238*	.207	.254*	.264*
10. General Health										---	.161	.085	.028	.114
11. Age											---	-.031	-.139	.063
12. Education Level												---	.486***	-.039
13. Yearly Income													---	-.144
14. Days Post Surgery														---

note: * $p<.05$, ** $p<.01$, *** $p<.001$

Table 3

Mediating Effects of Planning Coping on Secure Traits and Depression

Predictor	Planning Coping				Depression			
	β	t	p	ΔR^2	β	t	p	ΔR^2
Hypothesis 1								
Step 1								
Block 1: (demog)								.10
Block 2:								.05
Secure Traits					-.23	-2.01	.05	
Step 2								
Block 1: (demog)				.08				
Block 2:				.06				
Secure Traits	.25	2.10	.04					
Step 3								
Block 1: (demog)								.10
Block 2:								.09
Planning Coping					-.21	-1.69	.10	
Secure Traits					-.19	-1.56	.12	

Table 4

Mediating Effects of Planning Coping on Secure Traits and Anxiety

Predictor	Planning Coping				Anxiety			
	β	t	p	ΔR^2	β	t	p	ΔR^2
Hypothesis 2								
Step 1								
Block 1: (demog)								.14
Block 2:								.02
Secure Traits					-.13	-1.10	.28	
Step 2								
Block 1: (demog)				.08				
Block 2:				.06				
Secure Traits	.25	2.10	.04					
Step 3								
Block 1: (demog)								.14
Block 2:								.03
Planning Coping					-.12	-.98	.33	
Secure Traits					-.10	-.82	.42	

Table 5

Mediating Effects of Planning Coping on Secure Traits and Physical Functioning

Predictor	Planning Coping				Physical Functioning			
	β	t	p	ΔR^2	β	t	p	ΔR^2
Hypothesis 7								
Step 1								
Block 1: (demog)								.21
Block 2:								.02
Secure Traits					.13	1.15	.25	
Step 2								
Block 1: (demog)				.08				
Block 2:				.06				
Secure Traits	.25	2.10	.04					
Step 3								
Block 1: (demog)								.21
Block 2:								.16
Planning Coping					.41	3.79	.00	
Secure Traits					.03	.29	.78	

Table 6

Mediating Effects of Planning Coping on Secure Traits and General Health

Predictor	Planning Coping				General Health			
	β	t	p	ΔR^2	β	t	p	ΔR^2
Hypothesis 8								
Step 1								
Block 1: (demog)								.05
Block 2:								.06
Secure Traits					.26	2.12	.04	
Step 2								
Block 1: (demog)				.08				
Block 2:				.06				
Secure Traits	.25	2.10	.04					
Step 3								
Block 1: (demog)								.05
Block 2:								.12
Planning Coping					.26	2.06	.04	
Secure Traits					.20	1.60	.17	

Table 7

Mediating Effects of Emotion Coping on Preoccupied Traits and Depression

Predictor	Emotion Coping				Depression			
	β	t	p	ΔR^2	β	t	p	ΔR^2
Hypothesis 3								
Step 1								
Block 1: (demog)								.10
Block 2:								.06
Preoccupied Traits					.26	2.10	.04	
Step 2								
Block 1: (demog)				.20				
Block 2:				.13				
Preoccupied Traits	.39	3.48	.00					
Step 3								
Block 1: (demog)								.10
Block 2:								.08
Emotion Coping					.19	1.41	.17	
Preoccupied Traits					.18	1.38	.17	

Table 8

Mediating Effects of Emotion Coping on Preoccupied Traits and Anxiety

Predictor	Emotion Coping				Anxiety			
	β	t	p	ΔR^2	β	t	p	ΔR^2
Hypothesis 4								
Step 1								
Block 1: (demog)								.14
Block 2:								.19
Preoccupied Traits					.47	4.25	.00	
Step 2								
Block 1: (demog)				.20				
Block 2:				.13				
Preoccupied Traits	.39	3.48	.00					
Step 3								
Block 1: (demog)								.14
Block 2:								.25
Emotion Coping					.30	2.52	.01	
Preoccupied Traits					.35	3.05	.00	

Table 9

Mediating Effects of Emotion Coping on Preoccupied Traits and Physical Functioning

Predictor	Emotion Coping				Physical Functioning			
	β	t	p	ΔR^2	β	t	p	ΔR^2
Hypothesis 9								
Step 1								
Block 1: (demog)								.21
Block 2:								.02
Preoccupied Traits					-.14	-1.19	.24	
Step 2								
Block 1: (demog)				.20				
Block 2:				.13				
Preoccupied Traits	.39	3.48	.00					
Step 3								
Block 1: (demog)								.21
Block 2:								.02
Emotion Coping					.08	.57	.57	
Preoccupied Traits					-.17	-1.32	.19	

Table 10

Mediating Effects of Emotion Coping on Preoccupied Traits and General Health

Predictor	Emotion Coping				General Health			
	β	t	p	ΔR^2	β	t	p	ΔR^2
Hypothesis 10								
Step 1								
Block 1: (demog)								.05
Block 2:								.06
Preoccupied Traits					.12	.95	.35	
Step 2								
Block 1: (demog)				.20				
Block 2:				.13				
Preoccupied Traits	.39	3.48	.00					
Step 3								
Block 1: (demog)								.05
Block 2:								.08
Emotion Coping					.30	2.11	.04	
Preoccupied Traits					.01	.05	.96	

Table 11

Mediating Effects of Disengagement Coping on Dismissing Traits and Depression

Predictor	Disengagement Coping				Depression			
	β	t	p	ΔR^2	β	t	p	ΔR^2
Hypothesis 5								
Step 1								
Block 1: (demog)								.10
Block 2:								.00
Dismissing Traits					.02	.12	.91	
Step 2								
Block 1: (demog)				.16				
Block 2:				.02				
Dismissing Traits	.16	1.32	.19					
Step 3								
Block 1: (demog)								.10
Block 2:								.04
Disengagement Coping					.23	1.76	.08	
Dismissing Traits					-.02	-.17	.87	

Table 12

Mediating Effects of Disengagement Coping on Dismissing Traits and Anxiety

Predictor	Disengagement Coping				Anxiety			
	β	t	p	ΔR^2	β	t	p	ΔR^2
Hypothesis 6								
Step 1								
Block 1: (demog)								.14
Block 2:								.01
Dismissing Traits					.11	.86	.40	
Step 2								
Block 1: (demog)				.16				
Block 2:				.02				
Dismissing Traits	.16	1.32	.19					
Step 3								
Block 1: (demog)								.14
Block 2:								.07
Disengagement Coping					.27	2.14	.04	
Dismissing Traits					.06	.52	.60	

Table 13

Mediating Effects of Disengagement Coping on Dismissing Traits and Physical Functioning

Predictor	Disengagement Coping				Physical Functioning			
	β	t	p	ΔR^2	β	t	p	ΔR^2
Hypothesis 11								
Step 1								
Block 1: (demog)								.21
Block 2:								.02
Dismissing Traits					.17	1.42	.16	
Step 2								
Block 1: (demog)				.16				
Block 2:				.02				
Dismissing Traits	.16	1.32	.19					
Step 3								
Block 1: (demog)								.21
Block 2:								.03
Disengagement Coping					-.71	-.59	.56	
Dismissing Traits					.18	1.49	.14	

Table 14

Mediating Effects of Disengagement Coping on Dismissing Traits and General Health

Predictor	Disengagement Coping				General Health			
	β	t	p	ΔR^2	β	t	p	ΔR^2
Hypothesis 12								
Step 1								
Block 1: (demog)								.05
Block 2:								.04
Dismissing Traits					-.21	-1.62	.11	
Step 2								
Block 1: (demog)				.16				
Block 2:				.02				
Dismissing Traits	.16	1.32	.19					
Step 3								
Block 1: (demog)								.05
Block 2:								.04
Disengagement Coping					.04	-.31	.76	
Dismissing Traits					-.21	-1.63	.11	

t=1.15, p=.25). See Table 5. Regressing general health on secure traits did show a significant relationship (β=.26, t=2.12, p=.04). The second and third regressions met Baron and Kenny's criteria as well, with a change in significance for secure traits on general health with the addition of the mediator, planning coping (see Table 6). The Sobel test was conducted and determined the decrease in the impact of the independent variable on the dependent variable to be nonsignificant (Sobel significance test=1.45, p=.15). Therefore, only partial support was provided for Hypothesis 8.

Preoccupied Attachment. Preoccupied attachment traits were not mediated by emotion-focused coping for depression (see Table 7). Although a decrease occurred in the effect of preoccupied traits on depression, the effect of emotion coping on depression did not remain significant in the final regression (β=.19, t=1.41, p=.17), providing no support for the prediction of mediation in Hypothesis 3. Partial mediation was supported in the regression outcomes for Hypothesis 4 with the effect of preoccupied traits on anxiety decreasing when emotion coping was entered into the analysis during step 3 (see Table 8). The Sobel test determined that the decrease was significant (Sobel significance test=2.04, p=.04). For Hypotheses 9 and 10, the preoccupied traits measure was not a significant predictor of either physical functioning or general health when covarying for demographic variables (see Tables 9 and 10). Thus, tests of mediation did not provide evidence for these two hypotheses.

Dismissing Attachment. Unexpectedly, dismissing attachment traits were not significantly related to any of the dependent variables: depression (β=.02, t=.12, p=.91), anxiety (β=.11, t=.86, p=.40), physical functioning (β=.17, t=1.42, p=.16), or general health (β=-.21, t=-1.62, p=.11). By not meeting the first condition in testing mediation,

these results did not demonstrate support for Hypotheses 5, 6, 11, or 12 (see Tables 11, 12, 13 and 14).

General Hypotheses

Analyses provided partial support for general predictions regarding level of secure and preoccupied attachment traits. The secure traits variable was significantly positively related to planning coping (r=.24, p=.05), a problem-focused coping strategy, while the preoccupied traits variable was significantly associated with higher levels of both emotion coping (r=.47, p=.00) and disengagement coping (r=.46, p=.00), an avoidant strategy. Although dismissing attachment traits were expected to be significantly related to avoidance coping, analyses showed that the measure of dismissing traits was not related to any of the coping styles. See Table 15.

Table 15

Correlations Between Attachment Traits and Coping

	Coping		
Traits	Planning	Emotion	Disengagement
Secure	.24*	.07	.05
Preoccupied	-.12	.47***	.46***
Dismissing	-.01	-.01	.17

note: * p<.05, ** p<.01, ***p<.001

Linear regression analyses were conducted to evaluate whether attachment traits and coping strategies were significant predictors of psychological and health outcomes. Some evidence was provided to support general hypotheses, but overall results were

mixed. Neither preoccupied nor dismissing attachment traits were significant predictors of health, but higher levels of secure traits were associated with better general health (see Table 16). The lack of secure traits was associated with higher depression, while greater amounts of preoccupied traits predicted higher levels of both depression and anxiety. Low planning coping was associated with high depression and lower scores on both of the health measures. As was also predicted, both emotion coping and disengagement coping is positively related to higher reports of depression and anxiety. While disengagement coping was not significantly related to the health outcomes, higher scores on emotion coping predicted lower general health. These analyses consisted of linear regressions controlling for demographic variables (age, income, education, and number of weeks between surgery and the interview), with predictor variables entered in a second block alone to determine the unique variance they accounted for. Effect sizes are reported in Table 16 as a f^2 test statistic, calculated from ΔR^2. Although many of the effect sizes are modest (falling between small and medium), the effect size for the relationship between preoccupied attachment and anxiety is medium to large (f^2 =.24), and two other analyses show effect sizes that are medium (emotion coping on anxiety, f^2 =.19; planning coping on physical functioning, f^2 =.19) (see Table 16).

DISCUSSION

This study examined the impact of attachment traits and coping on psychological and health outcomes in older male coronary bypass patients. Evidence was provided to partially support the general hypotheses that traits associated with two attachment groups, secure and preoccupied, are significantly related to psychological and health outcomes. Secure attachment was negatively related to depression, but results showed no significant relation to anxiety. Preoccupied attachment was positively related to both anxiety and depression variables. Surprisingly, dismissing attachment traits were not significantly related to any of the outcome variables.

Table 16

Effect Sizes for Attachment Traits and Coping as Predictors of Health and Psychological Variables in Regression

	Dependent Variables			
Predictors	Depression	Anxiety	Physical Functioning	General Health
Secure	.06 (.05)	ns	ns	.07 (.06)
Preoccupied	.06 (.06)	.24 (.19)	ns	ns
Dismissing	ns	ns	ns	ns
Planning	.06 (.06)	ns	.19 (.16)	.09 (.09)
Emotion	.06 (.06)	.19 (.16)	ns	.08 (.07)
Disengagement	.04 (.04)	.07 (.07)	ns	ns

Note. The values represent the f^2 effect size statistic: small=.02, medium=.15, large=.35. ΔR^2 is reported in parentheses.

Although evidence generally supported broad hypotheses concerning preoccupied and secure attachment, tests of mediation failed to establish coping as a mediator of attachment traits on health and psychological outcomes. Only one of the hypotheses was supported, with results showing emotion-focused coping partially mediating preoccupied traits on anxiety (Hypothesis 4). This is consistent with previous research establishing a positive relationship between preoccupied attachment and both emotion-coping and levels of anxiety (Cooper et al., 1998; Fonagy et al., 1996; Ognibene & Collins, 1998; Lussier et al., 1997; Mikulincer & Florian, 1995; Rosenstein & Horowitz, 1996; van Ijzendoorn & Bakermans-Kranenburg, 1996; Warren et al., 1997). However, given an alpha of .05 and 36 regressions employed, it is likely that one or two regressions would be significant purely by chance.

Both preoccupied and secure traits were predictors of depression, and results of the test of mediation saw a decrease in significance for these variables, but the mediator variables did not remain significant. Secure traits did not significantly predict anxiety. The outcomes of the regression analyses with health and preoccupied attachment were unexpected. Significant relationships between preoccupied traits and the health variables did not remain once the demographic variables (age, income, level of education and number of weeks between surgery and interview) were covaried. Planning coping appeared to fulfill the three steps of Baron and Kenny's (1986) tests of mediation (of secure traits on general health), but was not significant on the Sobel test (1982). No significant relationship resulted from regressing physical functioning against secure attachment. These results show that coping is a poor mediator of attachment on psychological and health outcomes.

The current study contributes to the sparse current literature on attachment and anxiety in adult subjects, confirming findings that preoccupied tendencies are strongly associated with higher levels of anxiety (Cooper, Shaver, & Collins, 1998; Fonagy et al., 1996; Rosenstein & Horowitz, 1996). The lack of an association between secure traits and anxiety presents a challenge to research that has suggested a protective role for secure attachment (Cooper, Shaver, & Collins, 1998; Fonagy et al., 1996). This appears to be consistent, however, with other research reporting fewer significant results for secure attachment and psychopathology, although most studies in this area have consistently reported findings linking insecure attachment and poor psychological outcomes (Cole-Detke & Kobak, 1996; Dozier et al., 1999; Rosenstein & Horowitz, 1996; West et al., 1999). One interpretation of this is that much of the previous research has been with psychiatric clinical and inpatient populations, from which it may not be possible to generalize about secure attachment, and in which higher levels of insecure attachment are found (Fonagy, 1996).

As predicted, secure traits were positively associated with one of the health outcomes, general health, but not physical functioning. Preoccupied traits were not related to general health, and were not significant predictors of physical functioning once demographic variables were covaried in regression analyses. The latter findings are inconsistent with Ciechanowski et al.'s (2002) results that preoccupied persons reported more health symptoms and physician visits. These different results may be related to sample size as well as power and effect size. For example, effect sizes for relationships between the general health variable and the predictor variables in this study all fell within the small to medium range. It is possible that our sample size of 70 was not adequate to

detect a relationship between the preoccupied variable and health outcomes. In contrast, Ciechanowski and colleagues' sample size of 701 subjects provided ample power for detecting even small effects. One argument to counter this is that the difference cited by Ciechanowski et al. appears to be clinically irrelevant in terms of health status. As more research becomes published in this area, coupled with researchers' growing tendency to report effect sizes, estimation of needed sample size for research projects will become easier.

Although analyses failed to provide support for the specific hypotheses of the study, other results offer a unique contribution to the limited research in this area. Linear regression provided further support to the general hypotheses of the impact of attachment and coping on health and psychological outcomes. Effect sizes calculated from ΔR^2 revealed that attachment traits and coping styles frequently continued to have a significant impact on the outcome variables when demographic variables were covaried. Although most of the effect sizes were modest and fell somewhere between the conventional delineation of small and medium, three more substantial relationships were noted: a medium to large effect size for preoccupied traits and anxiety, and medium effect sizes for emotion coping and anxiety, and planning coping and physical functioning. Although the effect size was in the small to medium range for general health regressed on secure traits, it is a notable finding that secure attachment contributes significantly to predicting health outcomes in a sample of vulnerable older adults. The sparse prior research on health and attachment supports the latter finding, although also reporting significant relationships between insecure attachment and worse health outcomes (Feeney, 1995). A reasonable explanation for this difference may lie in how

Feeney measured health (health locus of control, health behavior, and lifestyle choices), versus the more physically and functionally related nature of our health measure, the SF-36. Feeney's measures may more closely approximate functions associated with attachment: self care, appraisal of stress, and sense of efficacy in the face of stressors, whereas our aim was to more closely examine and measure the sphere of physical functioning and overall health.

Alternative Explanations

Currently, the strict dichotomization (emotion-focused versus problem-focused) of the coping process is under criticism by researchers who cite some inconsistency in results and call for different ways of conceptualizing coping: analyzing combinations of coping strategy use rather than coding predominant strategies only (Aldwin & Brustrom, 1997; Lazarus, 2000; Steiner, Erickson, Hernandez, & Pavelski, 2001); use of both general and specific types of coping (Martin et al., 2001); and clearly distinguishing between whether the scale being used reflects a stable attribute or a situation-specific response (Day & Livingstone, 2001). It may well be the latter issue which led to the current results. The situation our subjects were confronted with was (typically) a time-limited recovery from major surgery. Instructions were added to the COPE measure, asking subjects to refer to their most recent illness as they filled out the questionnaire. However, it is conceivable that subjects were coping with the aftermath of open-heart surgery in ways they typically did not with other, more commonly encountered stressors, and that this was not adequately captured by the COPE scales.

The lack of results with dismissing traits is surprising, as it is contrary to previous research showing higher levels of depression and anxiety (Cole-Detke & Kobak, 1996;

Cooper, Shaver, & Collins, 1998; Patrick et al., 1994; Rosenstein & Horowitz, 1996). This may be explained in terms of the measure used in the current study. The reformulation of the RAQ into traits reflecting preoccupied, secure and dismissing attachment, although based on theory and factor analytic methods, is not the scoring system originally developed by the authors (West et al., 1987). West and his colleagues conceived the RAQ with continuous dimensions of attachment in mind. In the current study we revised the scale to reflect the three most commonly researched attachment categories (preoccupied, secure and dismissing), using principal components factor analysis. While such a revision may be theoretically accurate and methodologically solid, it may fall short of providing a complete picture of each group. In other words, while the traits appear to have been categorized accurately here regarding attachment group characteristics, the items were not originally chosen to create a holistic portrait of each group. It is probable that traits essential to defining the dismissing group were simply not present in the measure. Another pertinent difference regarding the measurement of the attachment variable is the present study's use of continuous scores rather than categorizing subjects according to classification group, the method used in the cited studies (Cole-Detke & Kobak, 1996; Cooper, Shaver, & Collins, 1998; Patrick et al., 1994; Rosenstein & Horowitz, 1996). It is possible that our results did not support our hypotheses due to not using attachment categories. However, a strong argument for the use of continuous variables for our study is that it provided greater statistical power for the analyses, decreasing the number of subjects needed and thus allowing us to investigate a medical population that is difficult to recruit and interview shortly after

surgery. Further research with categorical measures is needed to clarify our results with this population.

Limitations of the current study include its cross-sectional methodology, which disallows us from making definitive causal statements about our results. Given that attachment is considered a trait that is stable, we might, with caution, infer causation in the present study. However, it is not clear whether life events typically encountered by coronary patients who are older (i.e., major surgery, bereavement, chronic health difficulties) are of a nature stressful enough to impact and subsequently alter attachment itself. It is imperative that future research employ longitudinal methods in order to comprehensively understand the direction of the relationships we have reported.

Although the noted limitations should be kept in mind when interpreting the results of the current study, it is also one of the few studies examining the mechanisms of attachment, coping, health and mental health. Furthermore, it has been conducted with a population noted for different vulnerabilities linked to cardiac condition, age, and general health. Strengths of our methodology include the use of rigorous statistical analyses (the Baron & Kenny method of testing mediation, as opposed to using partial correlations), in-person interviews, instruments with good psychometric properties, and controlling for cognitive impairment with a pre-interview screening measure. Several contributions to the literature on attachment were provided by this study. First, this research demonstrated a significant impact of attachment and coping on health outcomes. Second, this study investigated attachment in a population with sparse empirical work to date, older adults, and showed that coping is not a good mediator between attachment and health outcomes. Finally, this study examined these variables in a population difficult to

recruit and interview, coronary bypass patients. Thus this study provides a first, important step towards comprehending the patterns of both risk and resilience in older male coronary bypass patients. Future research employing longitudinal methodology is needed in order to make causal statements about this population. Other suggestions for future research include the use of coping measures specifically targeting the coronary bypass experience, examination of gender, and using categorical attachment measures, all of which may provide a clearer picture of the underlying mechanisms of states of dependency.

APPENDICES

APPENDIX A

Demographics Questionnaire

Subject # _____
Date: _____
Interviewer:_____

Please answer the following questions about yourself:

1. Age: ____ Date of birth: _____

2. **Education -- indicate highest level attained: (Circle one)**
a. elementary school grade: **1 2 3 4 5 6 7 8**
b. high school grade: **9 10 11 12 13=GED**
c. vocational training/trade school/nursing
d. college -- (AA degree)
e. college -- undergraduate degree (BA/BS)
f. college -- graduate degree (MA/MS/PhD)
g. professional degree (MD/JD)
h. other (please indicate type):_____

3. **Ethnicity:**
____African American
____Asian American
____Caucasian
____Hispanic
____Native American
____Other (please indicate):_____

4. Marital status:
A. Married
B. Partnered (unmarried, living together)
C. Single
D. Divorced
E. Widowed

5. **Household members.**
   A. How many people live in your household?_____
   B. List your relationships to them (Such as Spouse/Partner, Daughter/Son, Brother/Sister, Friend, etc.):_____

   _____

6. What is your total yearly income reported for the last year for tax purposes? (Circle one)

A. under $10,000
B. $10,000-$19,999
C. $20,000-$29,999
D. $30,000-$39,999
E. $40,000-$49,999
F. $50,000-$59,999
G. $60,000-$69,999
H. $70,000-$79,999
I. $80,000-$89,999
J. $90,000-$99,999
K. $100,000 and over

7. A. Are you currently employed? Yes/No
B. If so, do you work:
a) 40 hours/week or more
b) between 30-40 hours/week
c) between 20-30 hours/week
d) less than 20 hours/week

8. Have you experienced any of the following in the past 3 years? (Circle all that apply)

a. Death of a spouse/partner
b. Death of a close family member
c. Death of a good friend
d. None of the above.

9. Identify attachment figure.

We would like you to identify your attachment figure for us. By attachment figure, we mean:

- **The person you have been most likely to turn to or depend on for comfort or help when facing stress.**

This person may be a spouse/partner, a friend, a family member or someone else. You may have several people in your life whom you are close to in different ways, or it may be difficult to think of one person who means that much to you. Think of **the person you feel closest to right now**. This person is your attachment figure. Please report the relationship you have to your attachment figure **(circle one):**

1. Spouse/romantic partner
2. Daughter
3. Son
4. Brother
5. Sister
6. Friend
7. Other (specify):_____

7. Surgery information

1. Date of your coronary bypass surgery:_____
2. Type of procedures you had done:_____

_____

3. Have you had a repeat admission since the original surgery? Yes/No
4. Have you had other major medical illnesses / difficulties since your surgery? If so, what illnesses?_____

_____

APPENDIX B

Mini Mental State

Subject #_____
Date: _____

1. **What is today's date?**	Date		___
2. **What is the year?**	Year		___
3. **What is the month?**	Month		___
4. **What day is today?**	Day		___
5. **Can you also tell me what season it is?**	Season		___
6. **Can you also tell me the name of this school?**	School		___
7. **What floor are we on?**	Floor		___
8. **What town or city are we in?**	Town or City		___
9. **What country are we in?**	County		___
10. **What state are we in?**	State		___
11. **I'm going to test your memory now.**			
"Ball" (one second pause)	Ball		___
"Flag" (one second pause)	Flag		___
"Tree" (one second pause)	Tree		___
Can you repeat what I just said?			
12. **Now I would like you to start with 100 and count backwards by 7.**		93	___
		86	___
		79	___
(Stop after 65; Score total # of correct answers)		72	___
		65	___
(If subject cannot or will not perform the counting task, ask him		D	___
or her to spell backwards)		L	___
Can you spell the word "world" backwards for me?		R	___
		O	___
		W	___
13. **Can you recall the three words I just asked you to remember?**		Ball	___
		Flag	___
		Tree	___
14. **What is this?** (show watch)	Watch		___
15. **What is this?** (show pencil)	Pencil		___
16. **Please repeat after me: "No ifs, ands, or buts."**			___
17. **Do exactly as I say: Take the paper in your right hand, fold it in half, and put it on the floor.**			___
18. (Present Close Your Eyes sheet). **Read this and do what it says.**			___
19. (Give paper to subject) **Write a sentence on this paper for me** (Scoring: sentence must contain a subject and a verb and be sensible; correct grammar and punctuation are not necessary)			___
20. **Copy these figures exactly.**			___
(Cutoff: must be 24 or higher.)	Total score:		___

CLOSE

YOUR

EYES

APPENDIX C

Reciprocal Attachment Questionnaire

In this questionnaire, you will find questions about your relationship to your attachment figure. Remember, your attachment figure is:

- **The person you have been most likely to turn to or depend on for comfort or help when facing stress.**

Please circle a number to indicate how you feel each statement applies to you.

1	2	3	4	5
Strongly disagree	**Disagree**	**Somewhat agree and somewhat disagree**	**Agree**	**Strongly agree**

1. I turn to my attachment figure for many things, including comfort and reassurance. **1 2 3 4 5**
2. I wish there was less anger in my relationship with my attachment figure. **1 2 3 4 5**
3. I put my attachment figure's needs before my own. **1 2 3 4 5**
4. I get frustrated when my attachment figure is not around as much as I would like. **1 2 3 4 5**
5. I feel it is best not to depend on my attachment figure. **1 2 3 4 5**
6. I want to get close to my attachment figure but I keep pulling back. **1 2 3 4 5**
7. I often feel too dependent on my attachment figure. **1 2 3 4 5**
8. I can't get on with my work if my attachment figure has a problem. **1 2 3 4 5**
9. I enjoy taking care of my attachment figure. **1 2 3 4 5**
10. I don't object when my attachment figure goes away for a few days. **1 2 3 4 5**
11. I'm confident that my attachment figure will try to understand my feelings. **1 2 3 4 5**
12. I wish that I could be a child again and be taken care of by my attachment figure. **1 2 3 4 5**

1	2	3	4	5
Strongly disagree	**Disagree**	**Somewhat agree and somewhat disagree**	**Agree**	**Strongly agree**

13. I worry that my attachment figure will let me down
1 2 3 4 5
14. I wouldn't want my attachment figure relying on me.
1 2 3 4 5
15. I resent it when my attachment figure spends time away from me.
1 2 3 4 5
16. I have to have my attachment figure with me when I'm upset.
1 2 3 4 5
17. I rely on myself and not my attachment figure to solve my problems.
1 2 3 4 5
18. When I'm upset, I am confident my attachment figure will be there to listen to me. **1 2 3 4 5**
19. I usually discuss my problems and concerns with my attachment figure.
1 2 3 4 5
20. I feel abandoned when my attachment figure is away for a few days.
1 2 3 4 5
21. I have a terrible fear that my relationship with my attachment figure will end. **1 2 3 4 5**
22. I do not need my attachment figure to take care of me.
1 2 3 4 5
23. My attachment figure only seems to notice me when I am angry.
1 2 3 4 5
24. I talk things over with my attachment figure.
1 2 3 4 5
25. It's easy for me to be affectionate with my attachment figure.
1 2 3 4 5
26. I expect my attachment figure to take care of his/her own problems.
1 2 3 4 5
27. I'm afraid that I will lose my attachment figure's love.
1 2 3 4 5
28. I feel lost if I'm upset and my attachment figure is not around.
1 2 3 4 5

1	2	3	4	5
Strongly disagree	**Disagree**	**Somewhat agree and somewhat disagree**	**Agree**	**Strongly agree**

29. I'm furious that I don't get any comfort from my attachment figure.
1 2 3 4 5
30. I'm so used to doing thing on my own that I don't ask my attachment figure for help. **1 2 3 4 5**
31. I'm confident that my attachment figure will always love me.
1 2 3 4 5
32. I'm never certain about what I should do until I talk to my attachment figure. **1 2 3 4 5**
33. I would be helpless without my attachment figure.
1 2 3 4 5
34. Things have to be really bad for me to ask my attachment figure for help.
1 2 3 4 5
35. I get really angry at my attachment figure because I think he/she could make more time for me. **1 2 3 4 5**
36. I often feel angry with my attachment figure without knowing why.
1 2 3 4 5
37. I feel that the hardest thing to do is to stand on my own.
1 2 3 4 5
38. I feel that there is something wrong with me because I'm remote from my attachment figure. **1 2 3 4 5**
39. I don't make a fuss over my attachment figure.
1 2 3 4 5
40. I don't sacrifice my own needs for the benefit of my attachment figure. **1 2 3 4 5**
41. My attachment figure is always disappointing me.
1 2 3 4 5
42. When I am anxious I desperately need to be close to my attachment figure. **1 2 3 4 5**
43. It makes me feel important to be able to do things for my attachment figure. **1 2 3 4 5**

APPENDIX D

Revised scales for Reciprocal Attachment Questionnaire:

Secure Attachment Traits:
1. I turn to my attachment figure for many things, including comfort and reassurance
11. I'm confident that my attachment figure will try to understand my feelings.
18. When I'm upset, I am confident my attachment figure will be there to listen to me.
31. I'm confident that my attachment figure will always love me.

Preoccupied Attachment Traits:
4. I get frustrated when my attachment figure is not around as much as I would like.
16. I have to have my attachment figure with me when I'm upset.
20. I feel abandoned when my attachment figure is away for a few days.
21. I have a terrible fear that my relationship with my attachment figure will end..
28. I feel lost if I'm upset and my attachment figure is not around.
37. I feel that the hardest thing to do is to stand on my own.

Dismissing Attachment Traits:
14. I wouldn't want my attachment figure relying on me.
22. I do not need my attachment figure to take care of me.
34. Things have to be really bad for me to ask my attachment figure for help.
39. I don't make a fuss over my attachment figure.

APPENDIX E

The COPE Inventory

We are interested in how people respond when they confront difficult or stressful events in their lives. There are lots of ways to try to deal with stress. This questionnaire asks you to indicate what you did and felt, when you experienced stressful events **during your last illness**. Obviously, different events bring out somewhat different responses, but think about what you usually did when you were under a lot of stress during this period.

Then respond to each of the following items by marking 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 did when YOU experienced a stressful event **during your last illness**.

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

_____1. I try to grow as a person as a result of the experience.
_____2. I turn to work or other substitute activities to take my mind off things.
_____3. I get upset and let my emotions out.
_____4. I try to get advice from someone about what to do.
_____5. I concentrate my efforts on doing something about it.
_____6. I say to myself "this isn't real."
_____7. I put my trust in God.
_____8. I laugh about the situation.
_____9. I admit to myself that I can't deal with it, and quit trying.
_____10. I restrain myself from doing anything too quickly.
_____11. I discuss my feelings with someone.
_____12. I use alcohol or drugs to make myself feel better.
_____13. I get used to the idea that it happened.
_____14. I talk to someone to find out more about the situation.

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

_____15. I keep myself from getting distracted by other thoughts or activities.
_____16. I daydream about things other than this.
_____17. I get upset, and am really aware of it.
_____18. I seek God's help.
_____19. I make a plan of action.
_____20. I make jokes about it.
_____21. I accept that this has happened and that it can't be changed.
_____22. I hold off doing anything about it until the situation permits.
_____23. I try to get emotional support from friends or relatives.
_____24. I just give up trying to reach my goal.
_____25. I take additional action to try to get rid of the problem.
_____26. I try to lose myself for a while by drinking alcohol or taking drugs.
_____27. I refuse to believe that it has happened.
_____28. I let my feelings out.
_____29. I try to see it in a different light, to make it seem more positive.
_____30. I talk to someone who could do something concrete about the problem.
_____31. I sleep more than usual.
_____32. I try to come up with a strategy about what to do.
_____33. I focus on dealing with this problem, and if necessary let other things slide a little.
_____34. I get sympathy and understanding from someone.
_____35. I drink alcohol or take drugs, in order to think about it less.
_____36. I kid around about it.
_____37. I give up the attempt to get what I want.
_____38. I look for something good in what is happening.
_____39. I think about how I might best handle the problem.
_____40. I pretend that it hasn't really happened.
_____41. I make sure not to make matters worse by acting too soon.
_____42. I try hard to prevent other things from interfering with my efforts at dealing with this.

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

_____43. I go to movies or watch TV, to think about it less.
_____44. I accept the reality of the fact that it happened.
_____45. I ask people who have had similar experiences what they did.
_____46. I feel a lot of emotional distress and I find myself expressing those feelings a lot.
_____47. I take direct action to get around the problem.
_____48. I try to find comfort in my religion.
_____49. I force myself to wait for the right time to do something.
_____50. I make fun of the situation.
_____51. I reduce the amount of effort I'm putting into solving the problem.
_____52. I talk to someone about how I feel.
_____53. I use alcohol or drugs to help me get through it.
_____54. I learn to live with it.
_____55. I put aside other activities in order to concentrate on this.
_____56. I think hard about what steps to take.
_____57. I act as though it hasn't even happened.
_____58. I do what has to be done, one step at a time.
_____59. I learn something from the experience.
_____60. I pray more than usual.

Geriatric Depression Scale

Instructions: Choose the best answer for how you felt over the past week.

1. Are you basically satisfied with your life? **YES / NO**

2. Have you dropped many of your activities and interests? **YES/NO**

3. Do you feel that your life is empty? **YES / NO**

4. Do you often get bored? **YES / NO**

5. Are you hopeful about the future? **YES / NO**

6. Are you bothered by thoughts you can't get out of your head? **YES / NO**

7. Are you in good spirits most of the time? **YES / NO**

8. Are you afraid that something bad is going to happen to you? **YES / NO**

9. Do you feel happy most of the time? **YES / NO**

10. Do you often feel helpless? **YES / NO**

11. Do you often get restless and fidgety? **YES / NO**

12. Do you prefer to stay in your room, rather than going out and participating in new activities? **YES / NO**

13. Do you frequently worry about the future? **YES / NO**

14.Do you feel you have more problems with memory than most? **YES /NO**

15.Do you think it is wonderful to be alive now? **YES / NO**

16.Do you often feel downhearted and blue? **YES / NO**

17.Do you feel pretty worthless the way you are now? **YES / NO**

18.Do you worry a lot about the past? **YES / NO**

19.Do you find life very exciting? **YES / NO**

20.Is it hard for you to get started on new projects? **YES / NO**

21.Do you feel full of energy? **YES / NO**

22.Do you feel that your situation is hopeless? **YES / NO**

23.Do you think that most people are better off than you are? **YES / NO**

24.Do you frequently get upset over little things? **YES / NO**

25.Do you frequently feel like crying? **YES / NO**

26.Do you have trouble concentrating? **YES / NO**

27.Do you enjoy getting up in the morning? **YES / NO**

28.Do you prefer to avoid social gatherings? **YES / NO**

29.Is it easy for you to make decisions? **YES / NO**

30.Is your mind as clear as it used to be? **YES / NO**

APPENDIX G

State-Trait Anxiety Inventory (STAI Y1)

Directions: A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you feel ***right*** now, that is, ***at this moment***. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

	Not at all	Some-what	Moder-ately so	Very much so
1. I feel calm	[1]	[2]	[3]	[4]
2. I feel secure	[1]	[2]	[3]	[4]
3. I am tense	[1]	[2]	[3]	[4]
4. I feel strained	[1]	[2]	[3]	[4]
5. I feel at ease	[1]	[2]	[3]	[4]
6. I feel upset	[1]	[2]	[3]	[4]
7. I am presently worrying over possible misfortunes	[1]	[2]	[3]	[4]
8. I feel satisfied	[1]	[2]	[3]	[4]
9. I feel frightened	[1]	[2]	[3]	[4]
10. I feel comfortable	[1]	[2]	[3]	[4]
11. I feel self-confident	[1]	[2]	[3]	[4]
12. I feel nervous	[1]	[2]	[3]	[4]
13. I am jittery	[1]	[2]	[3]	[4]
14. I feel indecisive	[1]	[2]	[3]	[4]
15. I am relaxed	[1]	[2]	[3]	[4]
16. I feel content	[1]	[2]	[3]	[4]
17. I am worried	[1]	[2]	[3]	[4]
18. I feel confused	[1]	[2]	[3]	[4]
19. I feel steady	[1]	[2]	[3]	[4]
20. I feel pleasant	[1]	[2]	[3]	[4]

STAI-Y2

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you ***generally*** feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

	Almost never	Some-times	Often	Almost always
21. I feel pleasant	[1]	[2]	[3]	[4]
22. I feel nervous and restless	[1]	[2]	[3]	[4]
23. I feel satisfied with myself	[1]	[2]	[3]	[4]
24. I wish I could be as happy as others seem to be	[1]	[2]	[3]	[4]
25. I feel like a failure	[1]	[2]	[3]	[4]
26. I feel rested	[1]	[2]	[3]	[4]
27.I am "calm, cool, and collected"	[1]	[2]	[3]	[4]
28. I feel that difficulties are piling up so that I cannot overcome them	[1]	[2]	[3]	[4]
29. I worry too much over some-thing that really doesn't matter	[1]	[2]	[3]	[4]
30. I am happy	[1]	[2]	[3]	[4]
31. I have disturbing thoughts	[1]	[2]	[3]	[4]
32. I lack self-confidence	[1]	[2]	[3]	[4]
33. I feel secure	[1]	[2]	[3]	[4]
34. I make decisions easily	[1]	[2]	[3]	[4]
35. I feel inadequate	[1]	[2]	[3]	[4]
36. I am content	[1]	[2]	[3]	[4]
37. Some unimportant thought runs through my mind and bothers me	[1]	[2]	[3]	[4]
38. **I take disappointments so keenly that I can't put them out of my mind**	[1]	[2]	[3]	[4]
39. I am a steady person	[1]	[2]	[3]	[4]
40. **I get in a state of tension or turmoil as I think over my recent concerns and interests**	[1]	[2]	[3]	[4]

APPENDIX H

RAND SF-36

1. In general, would you say your health is:	
Excellent	**1**
Very good	**2**
Good	**3**
Fair	**4**

2. **Compared to one year ago,** how would your rate your health in general **now**?	
Much better now than one year ago	**1**
Somewhat better now than one year ago	**2**
About the same	**3**
Somewhat worse now than one year ago	**4**
Much worse now than one year ago	**5**

3. The following items are about activities you might do during a typical day. Does **your health now limit you** in these activities? If so, how much?

(Circle One Number on Each Line)	Yes, Limited a Lot	Yes, Limited a Little	No, Not limited at All
a) **Vigorous activities**, such as running, lifting heavy objects, participating in strenuous sports	[1]	[2]	[3]
b) **Moderate activities,** such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	[1]	[2]	[3]
c) Lifting or carrying groceries	[1]	[2]	[3]
d) Climbing **several** flights of stairs	[1]	[2]	[3]
e) Climbing **one** flight of stairs	[1]	[2]	[3]
f) Bending, kneeling, or stooping	[1]	[2]	[3]
g) Walking **more than a mile**	[1]	[2]	[3]
h) Walking **several blocks**	[1]	[2]	[3]
i) Walking **one block**	[1]	[2]	[3]
j) Bathing or dressing yourself	[1]	[2]	[3]

4. During the **past week,** have you had any of the following problems with your work or other regular daily activities **as a result of your physical health?**

Circle One Number on Each Line	**Yes**	**No**
a) Cut down the **amount of time** you spent on work or other activities	**1**	**2**
b) **Accomplished less** than you would like	**1**	**2**
c) Were limited in the **kind** of work or other activities	**1**	**2**
d) Had **difficulty** performing the work or other activities (for example, it took extra time)	**1**	**2**

5. During the **past week,** have you had any of the following problems with your work or other regular daily activities **as a result of any emotional problems** (such as feeling depressed or anxious)?

(Circle One Number on Each Line)	**Yes**	**No**
a) Cut down the **amount of time** you spent on work or other activities	**1**	**2**
b) **Accomplished less** than you would like	**1**	**2**
c) Didn't do work or other activities as carefully as usual	**1**	**2**

6. During the **past week,** to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?
(Circle One Number)

Not at all	Slightly	Moderately	Quite a bit	Extremely
1	**2**	**3**	**4**	**5**

7. How much **bodily** pain have you had during the **past week**?
(Circle One Number)

None	Very mild	Mild	Moderate	Severe	Very severe
1	**2**	**3**	**4**	**5**	**6**

8. During the **past week,** how much did **pain** interfere with your normal work (including both work outside the home and housework)?
(Circle One Number)

Not at all	A little bit	Moderately	Quite a bit	Extremely
1	**2**	**3**	**4**	**5**

9. These questions are about how you feel and how things have been with you **during the past week.** For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the **past week:** . . .
(Circle One Number on Each Line)

	All of the Time	**Most of the Time**	**A Good Bit of the Time**	**Some of the Time**	**A Little of the Time**	**None of the Time**
a) Did you feel full of pep?	1	2	3	4	5	6
b) Have you been a very nervous person?	1	2	3	4	5	6
c) Have you felt so down in the dumps that nothing could cheer you up?	1	2	3	4	5	6
d) Have you felt calm and peaceful?	1	2	3	4	5	6
e) Did you have a lot of energy?	1	2	3	4	5	6
f) Have you felt downhearted and blue?	1	2	3	4	5	6
g) Did you feel worn out?	1	2	3	4	5	6
h) Have you been a happy person?	1	2	3	4	5	6
i) Did you feel tired?	1	2	3	4	5	6

10. During the **past week,** how much of the time has your **physical health or emotional problems** interfered with your social activities (like visiting with friends, relatives, etc.)?
(Circle One Number)

1 All of the Time	2 Most of the time	3 Some of the Time	4 A Little of the Time	5 None of the Time

11. How TRUE or FALSE is <u>each</u> of the following statements for you.
(Circle One Number on Each Line)

	Definitely True	Mostly True	Don't Know	Mostly False	Definitely False
a) I seem to get sick a little easier than other people	1	2	3	4	5
b) I am as healthy as anybody I know	1	2	3	4	5
c) I expect my health to get worse	1	2	3	4	5
d) My health is excellent	1	2	3	4	5

APPENDIX I

Telephone Script

- My name is Peggy O'Toole and I'm with the MSU Coronary Bypass Recovery Study. We received your name from Jane Maxey/ Christine Sampson/ Sherry / Steve Bush, the nurse manager/Physician's Assistant at TCI / CVT / Dr. Goldshlack's office / Lansing Heart & Lung Specialists, and she / he told us you might be interested in our study. We are looking at how different characteristics of coronary patients impact their recovery; in order to do this, we will be asking people questions about social, emotional and physical aspects of their lives. The whole interview will take about 1 ½ hours to complete. You can either come in to our office on campus for this or we can come out to your home if you would prefer. Would you be interested in doing the interview?

- Verify:
  Age?
  Coronary bypass on_____date?
- **(Yes)**—Would you prefer to come in to our office or for us to come out to your home?

Office: give directions to Snyder (someone will be outside to meet them)
Home: Get address plus city/ driving instructions / estimate of driving time

- **(Schedule a time):**These are the times we have open for interviews:

(List times here)

- For the interview, we will need a **quiet room with a table available to set our materials up on.** We will tape record part of the interview, and it is especially important for this part that you not be distracted by anything so you can concentrate on the interview.

- Also, I'd like to **leave my name and phone number** in case you need to call us: Peggy O'Toole @ 432-3684.
  WE LOOK FORWARD TO MEETING YOU ON _____ AT _____.

Consent Form

Coronary Bypass Recovery Study
Consent Form

You are invited to participate in this study on recovery from coronary bypass surgery. Your participation is completely voluntary. This research is being conducted through Michigan State University and is not associated with your cardiovascular surgeon/cardiologist in any manner beyond recruitment for the study. In consenting to take part in this study, you authorize your physician to release only the following information about you to the study investigators: pre- and post-surgery stress test (treadmill rate), and information about the extent of your artery occlusion. Whether or not you choose to participate, this will not affect your medical service with Thoracic & Cardiovascular Healthcare Foundation / Cardiovascular Thoracic Surgeons of Mid-Michigan / Dr. Paul Goldshlack.

We are interested in the experiences of people who have undergone coronary bypass surgery and how this impacts the ways in which they recover from the surgery. You will be asked to fill out some questionnaires as well as answer questions about yourself and your health. The entire interview will take about 1 ½ hours to complete. All of your answers and responses will be kept completely confidential. Your privacy will be protected to the maximum extent allowable by law.

If at any time you decide that you cannot or do not want to continue, you may withdraw from the study. You may also decline to complete any item or portion of the interview. If you have any questions about the project, feel free to ask them now.

Coronary Bypass Recovery Study

If you have any questions or concerns about this research project, you may contact Peggy O'Toole at (517) 432-3825, or Professor Anne Bogat at (517) 353-0812. Further questions about your rights as a research participant can be answered by David Wright of the University Committee for Research Involving Human Subjects at Michigan State University at (517) 355-2180.

Your signature indicates your voluntary agreement to participate in this study. This decision may be changed at any point during this interview.

---------- ----------

Signature of subject Date

Printed subject name

---------- ----------

Signature of examiner Date

Thank you very much for your help.

APPENDIX K

Post-interview Letter and Community Resources

Coronary Bypass Recovery Study
Department of Psychology
43 Snyder Hall
Michigan State University
East Lansing MI 48824
(517) 432-3684

Name
Street
City state zip

Date

Dear Mr. Name,

We would like to thank you for recently participating in our research project. Your time and effort enable us to discover important elements of the process of recovering from coronary bypass surgery. Once the study is completed, we will share the information we have gathered with the scientific and professional community. Your participation is an important part of helping us to understand how social, emotional, and physical aspects play a role in the recovery process.

Many people find the aftermath of a major surgery to be a difficult time for them in a variety of ways. It is common to want to talk to someone about these difficulties or to be around other people who are going through similar problems. We are sending out to all of our participants an information list that includes available counseling services as well as cardiac health resources. We hope you find this helpful.

Once again, your participation has been greatly appreciated. If you have any questions about the research project, feel free to contact us at (517) 432-3684.

Anne Bogat, Ph.D.
Director of Clinical Training
Department of Psychology

Peggy O'Toole
Graduate student investigator

Counseling and therapy services

MICHIGAN STATE UNIVERSITY PSYCHOLOGICAL CLINIC

Olds Hall, MSU Campus **Ph: 355-9564**
Hours: 8am to 9pm (Mon-Thurs)
8am to 5pm (Friday)
10am to 2pm (Saturday)
Services: Individual, couples and family therapy. Psychological and neuropsychological assessments. Memory assessments. Call for appointment and further information.
Cost: Fees based on ability to pay (sliding scale).

CLINTON COUNTY COUNSELING CENTER

1000 E. Sturgis St., Suite 3, St. Johns, MI 48879
Ph: (517) 224-6729 or 1-800-372-8460 (24 hour emergency)
Appointments: (888) 800-1559
Hours: 8:30 a.m. - 12 noon, 1:00 - 5:00 p.m., Monday through Friday. Evenings by appointment.
Services: Outpatient counseling services to individuals, couples and families. Also offers substance/drug abuse and mental health counseling and treatment.
Eligibility: Clinton, Eaton or Ingham county residents.
Cost: Fees based on ability to pay (sliding scale).

EATON COUNTY COUNSELING CENTER
551 Courthouse Dr. ,Charlotte, MI 48813 **Ph: (517) 543-5100**
Hours: 8:00 a.m. to 5:00 p.m., Monday through Friday. Evening hours available by appointment.
Services: Counseling services to individuals, couples and families. Adult after care, case management, and medication clinic services.
Eligibility: Eaton county residents.
Cost: Fees are on a sliding scale basis.

FAMILY VIOLENCE PREVENTION HELPLINE

Gateway Community Services: P.O. Box 4152, East Lansing, MI 48826-4152
Ph: (800) NO-ABUSE or (800-996-6228) - Seniors & Adults
(800) 942-4357 - Parents & Caregivers
Hours: 24 hours a day, 7 days a week
Services: Provides confidential crisis counseling and referral in cases of elder abuse (physical, emotional, financial exploitation). Also able to connect callers to local Adult Protective Services.
Eligibility: Senior citizens and vulnerable adults or anyone with questions or concerns regarding elder abuse.
Cost: No cost.

CARDIAC HEALTH

HEART WISE

Ingham Regional Medical Center
401 W. Greenlawn, Lansing, MI 48910 **Ph: (517) 334-2405**
Services: A support and educational group for surgical and medical cardiac patients. Family and friends encouraged and welcome to attend.
Meetings: Meetings held monthly, September - June. Call for meeting times and locations.
Eligibility: Any interested party.

AMERICAN HEART ASSOCIATION - MIDWEST AFFILIATE

Capital Division
271 Woodland Pass, Suite 110, East Lansing, MI 48823
Ph: (517) 332-0385 or 1-800-968-2425
Hours: 8:30 a.m. to 5:00 p.m., Monday through Friday.
Services: Walking clubs meet in numerous pedestrian malls. CPR classes, speakers bureau, film library, educational materials on heart disease, nutrition information, and a stroke support club are also available.
Eligibility: Anyone.
Cost: None with exception of charge for large quantities of literature.

SPARROW LIFETIME

Sparrow Health System
1215 E. Michigan Ave. P.O. Box 30480 / Lansing, MI 48909-7980
Ph: (517) 483-3696 Nurse Line: (517) 483-3838
Hours: 8:00 a.m. to 5:00 p.m. Monday through Friday
Services: Health screenings, bimonthly newsletter and discounts on health products and to area stores. Also monthly "Lunch with a Doctor" series features discussions on various health issues and "Pacers" walking and aerobics program at the Lansing Mall.
Eligibility: Free membership program for people age 50 and older
Cost: There are fees for some programs. Call for information.

WELLNESS CENTER

Hayes Green Beach Hospital
123 Lansing St., Charlotte, MI 48813
Ph: (517) 543-1050 ext. 315
Hours: 8:30 to 9:30 a.m. Tuesdays and Thursdays
Services: Senior Fitness Class. Includes stretching and low intensity exercise. Can use a chair or stand.Fees: **First week is free. Walk-ins $4.00 tickets are $3.00/non-members**

REFERENCES

Adler, N.E., Boyce, T., Chesney, M.A., Cohen, S., Folkman, S., Kahn, R.L., & Syme, S.L. (1994). Socioeconomic status and health: The challenge of the gradient. American Psychologist, 49, pp. 15-24.

Ainsworth, M.D.S., Blehar, M.C., Waters, E. & Wall, S. (1978). Patterns of attachment: A psychological study of the Strange Situation. Hillsdale: Lawrence Erlbaum Associates.

Aldwin, C.M., & Brustrom, J. (1997). Theories of coping with chronic stress: Illustrations from the health psychology and aging literatures. In B.H. Gottlieb (Ed.), Coping with chronic stress (pp. 75-103). New York: Plenum Press.

Aldwin, C.M., & Revenson, T.T. (1987). Does coping help? A reexamination of the relation between coping and mental health. Journal of Personality and Social Psychology, 53, 337-348.

Arbuckle, T.Y., Pushkar, D., Chaikelson, J., & Andres, D. (1999). Coping and control processes: Do they contribute to individual differences in health and older adults? Canadian Journal on Aging, 18, 285-312.

Bachen, E., Cohen, S., & Marsland, A.L. (1997). Psychoimmunology. In Baum, A., Newman, S., Weinman, J., West, R., & McManus, C. (Eds.), Cambridge handbook of psychology, health, and medicine (pp. 35-39). Cambridge: Cambridge University Press.

Baron, R.M., & Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of Personality and Social Psychology, 51, 1173-1182.

Baum, A., Fleming, R.E., & Singer, J.E. (1983). Coping with technological disaster. Journal of Social Issues, 39, 117-138.

Beck, A.T. (1987). Beck Depression Inventory. San Antonio: The Psychological Corporation.

Beck, A.T., & Steer, R.A. (1990). Beck anxiety inventory manual. Orlando: The Psychological Corporation.

Birnbaum, G.E., Orr, I., Mikulincer, M., & Florian, V. (1997). When marriage breaks up—does attachment style contribute to coping and mental health? Journal of Social and Personal Relationships,14, 643-654.

Bolger, N. (1990). Coping as a personality process: A prospective study. Journal of Personality and Social Psychology, 59, 525-527.

Bowlby, J. (1969). Attachment and loss 1: Attachment. New York: Basic Books.

Bowlby, J. (1973). Attachment and loss 2: Separation: Anxiety and anger. London: The Hogarth Press.

Boyce, W.T., Chesney, M., Alkon, A., Tschann, J.M., Adams, S., Chesterman, B., Cohen, F., Kaiser, P., Folkman, S., & Wara, D. (1995). Psychobiologic reactivity to stress and childhood respiratory illnesses: Results of two prospective studies. Psychosomatic Medicine, 57, 411-422.

Brink, T.L., Yesavage, J.A., Lum, O., Heersema, P.H., Adey, M., & Rose, T.L. (1982). Screening tests for geriatric depression. Clinical Gerontologist, 1, 37-43.

Browne, M.W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K.A. Bollen & J.S. Long (Eds.), Testing structural equation models (pp. 136-162). Newbury Park: Sage Publications.

Carver, C.S., Scheier, M.F., & Weintraub, J.K. (1989). Assessing coping strategies: A theoretically based approach. Journal of Personality and Social Psychology, 56, 267-283.

Ciechanowski, P.S., Walker, E.A., Katon, W.J., & Russo, J.E. (2002). Attachment theory: A model for health care utilization and somatization. Psychosomatic Medicine, 64, pp. 660-667.

Cole-Detke, H., & Kobak, R. (1996). Attachment processes in eating disorder and depression. Journal of Consulting and Clinical Psychology, 64, 282-290.

Cooper, M.L., Shaver, P.R., & Collins, N. (1998). Attachment styles, emotion regulation, and adjustment in adolescence. Journal of Personality and Social Psychology, 74, 1380-1397.

Day, A.L., & Livingstone, H.A. (2001). Chronic and acute stressors among Military personnel: Do coping styles buffer their negative impact on health? Journal of Occupational Health Psychology, 6, pp. 348-360.

De Beurs, E., Beekman, A.T.F., van Balkom, A.J.L.M., Deeg, D.J.H., van Dyck, R., & van Tilburg, W. (1999). Consequences of anxiety in older persons: Its effect on disability, well-being and use of health services. Psychological Medicine, 29, 583-593.

Diehl, M., Coyle, N., & Labouvie-Vief, G. (1996). Age and sex differences in the strategies of coping and defense across the lifespan. Psychology and Aging, 11, 127-139.

Downe-Wambolt, B.L., & Melanson, P.M. (1995). Emotions, coping, and psychological well-being in elderly people with arthritis. Western Journal of Nursing Research, 17, 250-265.

Dozier, M., Stovall, K.C., & Albus, K.E. (1999). Attachment and psychopathology in adulthood. In Cassidy, J., & Shaver, P.R. (Eds.), Handbook of attachment: Theory, research, and clinical applications (pp. 497-519). New York: The Guilford Press.

Endler, N.S., Parker, J.D.A., & Summerfeldt, L.J. (1998). Coping with health problems: Developing a reliable and valid multidimensional measure. Psychological Assessment, 10, 195-205.

Eysenck, H.J., & Eysenck, S.B.G. (1968). Manual: Eysenck Personality Inventory. San Diego: Educational and Industrial Testing Service.

Eysenck, M.W., & Calvo, M.G. (1992). Anxiety and performance: The processing efficiency theory. Cognition and Emotion, 6, 409-434.

Feeney, J.A. (1995). Adult attachment, coping style and health locus of control as predictors of health behavior. Australian Journal of Psychology, 47, 171-177.

Feeney, J.A. (1999). Adult romantic attachment and couple relationships. In Cassidy, J., & Shaver, P.R. (Eds.), Handbook of attachment: Theory, research, and clinical applications (pp. 355-377). New York: The Guilford Press.

Finney, J.C. (1985). Anxiety: Its measurement by objective personality tests and self-report. In A.H. Tuma & J. Maser (Eds.), Anxiety and the anxiety disorders (pp. 645-679). Hillsdale: Lawrence Erlbaum Publishers.

Flint, A.J. (1994). Epidemiology and comorbidity of anxiety disorders in the elderly. American Journal of Psychiatry, 151, 640-649.

Folstein, M.F., Folstein, S.E., & McHugh, P.R. (1975). Mini-mental state. Journal of Psychiatric Research, 12, 189-198.

Fonagy, P., Leigh, T., Steele, M., Steele, H., Kennedy, R., Mattoon, G., Target, M., & Gerber, A. (1996). The relation of attachment status, psychiatric classification, and response to psychotherapy. Journal of Consulting and Clinical Psychology, 64, 22-31.

Fox, N.A., & Card, J.A. (1999). Psychophysiological measures in the study of attachment. In Cassidy, J., & Shaver, P.R. (Eds.), Handbook of attachment: Theory, research, and clinical applications (pp. 226-245). New York: The Guilford Press.

Gallo, J.J., & Lebowitz, B.D. (1999). The epidemiology of common late-life mental disorders in the community: Themes for the new century. Psychiatric Services, 50, 1158-1166.

George, C., Kaplan, N., & Main, M. (1984/ 1985 / 1996). Attachment Interview for Adults. Unpublished manuscript, University of California, Berkeley.

George, C., & Solomon, J. (1999). Attachment and caregiving: The caregiving behavioral system. In Cassidy, J., & Shaver, P.R. (Eds.), Handbook of attachment: Theory, research, and clinical applications (pp. 649-670). New York: The Guilford Press.

George, C., West, M., & Pettem, O. (1999). The Adult Attachment Projective: Disorganization of adult attachment at the level of representation. . In J. Solomon and C. George (Eds.), Attachment Disorganization (pp. 318-346). New York: Guilford Press.

Goldberg, S. (1995). Introduction. In S. Goldberg, R. Muir, & J. Kerr (Eds.) Attachment theory: Social, developmental, and clinical perspectives (pp. 1-15). Hillsdale: The Analytic Press.

Hadjistavropoulos, H.D., Asmundson, G.J.G., & Norton, G.R. (1998). Validation of the Coping with Health, Injuries, and Problems Scale in a chronic pain sample. The Clinical Journal of Pain, 15, 41-49.

Hazan, C., & Shaver, P.R. (1987). Romantic love conceptualized as an attachment process. Journal of Personality and Social Psychology, 52, 511-524.

Hazan, C., & Zeifman, D. (1999). Pair bonds as attachments. In Cassidy, J., & Shaver, P.R. (Eds.), Handbook of attachment: Theory, research, and clinical applications (pp. 336-354). New York: The Guilford Press.

Heckhausen, J., & Schulz, R. (1995). A life-span theory of control. Psychological Review, 102, 284-304.

Hesse, E. (1999). The Adult Attachment Interview: Historical and current perspectives. In Cassidy, J., & Shaver, P.R. (Eds.), Handbook of attachment: Theory, research, and clinical applications (pp. 395-433). New York: The Guilford Press.

Himmelfarb, S., & Murrell, S. (1984). The prevalence and correlates of anxiety symptoms in older adults. Journal of Psychology, 116, 159-167.

Hofer, M.A. (1995). Hidden regulators: Implications for a new understanding of attachment, separation, and loss. In S. Goldberg, R. Muir, & J. Kerr (Eds.), Attachment theory: Social, developmental, and clinical perspectives (pp. 203-230). Hillsdale: The Analytic Press.

Hu, L., & Bentler, P.M. (1999). Cut off criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural Equation Modeling, 6, 1-55.

Kirschbaum, C., Prussner, J.C., Stone, A.A., Federenko, I., Gaab, J., Lintz, D., Schommer, N., & Hellhammer, D.H. (1995). Persistent high cortisol responses to repeated psychological stress in a subpopulation of healthy men. Psychosomatic Medicine, 57, 468-474.

Krantz, D.S., & McCeney, M.K. (2002). Effects of psychological and social factors on organic disease: A critical assessment of research on coronary heart disease. Annual Review of Psychology, 53, pp. 341-369.

Landreville, P., Dube, M., Lalande, G., & Alain, M. (1994). Appraisal, coping and depressive symptoms in older adults with reduced mobility. Journal of Social Behavior and Personality,9, 269-286.

Lazarus, R.S. (2000). Toward better research on stress and coping. American Psychologist, 55, 665-673.

Lazarus, R.S., & Folkman, S. (1984). Stress, appraisal, and coping. New York: Springer.

Levenson, J.L., Mishra, A., Hamer, R.M., & Hastillo, A. (1989). Denial and medical outcome in unstable angina. Psychosomatic Medicine, 51, 27-35.

Levine, J., Warrenburg, S., Kerns, R., Schwartz, G., Delaney, R., Fontana, A., Gradman, A., Smith, S., Allen, S., & Cascione, R. (1987). The role of denial in recovery from coronary heart disease. Psychosomatic Medicine, 49, 109-117.

Lezak, M.D. (1995). Neuropsychological Assessment. New York: Oxford University Press.

Livneh, H., Antonak, R.F., & Gerhardt, J.G. (2000). Multidimensional investigation of the structure of coping among people with amputations. Psychosomatics, 41, pp. 235-244.

Lussier, Y., Sabourin, S., & Turgeon, C. (1997). Coping strategies as moderators of the relationship between attachment and marital adjustment. Journal of Social and Personal Relationships, 14, 777-791.

Lyons-Ruth, K., Easterbrooks, M.A., & Cibelli, C.D. (1997). Infant attachment strategies, infant mental lag, and maternal depressive symptoms: Predictors of internalizing and externalizing problems at age 7. Developmental Psychology, 33, 681-692.

Magni, G., Unger, H.P., & Valfre, C. (1987). Psychosocial outcome one year after heart surgery. Archives of Internal Medicine, 147, 473-477.

Main, M. (1996). Introduction to the special section on attachment and psychopathology: 2. Overview of the field of attachment. Journal of Consulting and Clinical Psychology, 64, 237-243.

Main, M., & Solomon, J. (1986). Discovery of a new, insecure-disorganized/disoriented attachment pattern. In T.B. Brazelton and M. Yogman (Eds.), Affective development in infancy (pp. 95-124). Norwood, N.J.: Ablex.

Marsh, H.W., Balla, J.R., & McDonald, R.P. (1988). Goodness-of-fit indexes in confirmatory factor analysis: The effect of sample size. Psychological Bulletin, 103, 391-411.

Martin, P., Rott, C., Poon, L.W., Courtenay, B., & Lehr, U. (2001). A molecular view of coping behavior in older adults. Journal of Aging and Health, 13, pp. 72-91.

Maruyama, G.M. (1997). Basics of Structural Equation Modeling. Thousand Oaks: Sage Publications.

McHorney, C.A. (1996). Measuring and monitoring general health status in elderly persons: Practical and methodological issues in using the SF-36 health survey. The Gerontologist, 36, 571-583.

Mikulincer, M., & Florian, V. (1995). Appraisal of and coping with a real-life stressful situation: The contribution of attachment styles. Personality and Social Psychology Bulletin, 21, 406-414.

Miller, S.M., (1990). To see or not to see: Cognitive informational styles in the coping process. In M. Rosenbaum (Ed.), Learned resourcefulness: On coping skills, self-regulation, and adaptive behavior. New York: Spring Press.

Nachmias, M., Gunnar, M., Mangelsdorf, S., Parritz, R.H., & Buss, K. (1996). Behavioral inhibition and stress reactivity: The moderating role of attachment security. Child Development, 67, 508-522.

Ognibene, T.C., & Collins, N.L. (1998). Adult attachment styles, perceived social support and coping strategies. Journal of Social and Personal Relationships,15, 323-345.

Parker, J.D.A., & Endler, N.S. (1996). Coping and defense: A historical overview. In M. Zeidner and N.S. Endler (Eds.) Handbook of coping (pp. 3-23). New York: John Wiley & Sons, Inc.

Patrick, M., Hobson, R.P., Castle, D., Howard, R., & Maughan, B. (1994). Personality disorder and the mental representation of early social experience. Development and Psychopathology, 6, 375-388.

Rickelman, B.L., Gallman, L., & Parra, H. (1994). Attachment and quality of life in older, community-residing men. Nursing Research, 43, 68-72.

Rosenstein, D.S., & Horowitz, H.A. (1996). Adolescent attachment and psychopathology. Journal of Consulting and Clinical Psychology, 64, 244-253.

Schaeffer, M.A., & Baum, A.B. (1984). Adrenal cortical response to stress at Three Mile Island. Psychosomatic Medicine, 46, 227-237.

Scheier, M.F., Matthews, K.A., Owens, J.F., Magovern, G.J., Lefebvre, R.C., Abbott, R.A., & Carver, C.S. (1989). Dispositional optimism and recovery from coronary artery bypass surgery: The beneficial effects on physical and psychological well-being. Journal of Personality and Social Psychology, 57, 1024-1040.

Sobel, M.E. (1982). Asymptotic confidence intervals for indirect effects in structural equations models. In S. Leinhart (Ed.), Sociological Methodology 1982 (pp. 290-312). San Francisco: Jossey-Bass.

Solomon, J., & George, C. (1999). The place of disorganization in attachment theory: Linking classic observations with contemporary findings. In J. Solomon and C. George (Eds.), Attachment Disorganization (pp. 3-22). New York: Guilford Press.

Solomon, Z., Ginzburg, K., Mikulincer, M., Neria, Y., & Ohry, A. (1998). Coping with war captivity: The role of attachment style. European Journal of Personality, 12, 271-285.

Spangler, G., & Grossmann, K.E. (1993). Biobehavioral organization in securely and insecurely attached infants. Child Development, 64, 1439-1450.

Spielberger, C., Gorsuch, R., & Lushene, R. (1970). Manual for the State-Trait Anxiety Inventory. Palo Alto: Consulting Psychologists Press.

Sroufe, L.A. (1997). Psychopathology as an outcome of development. Development and Psychopathology, 9, 251-268.

Steiner, H., Erickson, S.J., Hernandez, N.L., & Pavelski, M.A. (2001). Coping styles as correlates of health in high school students. Journal of Adolescent Health, 30, pp. 326-335.

Strack, S., & Feifel, H. (1996). Age differences, coping, and the adult life span. In M. Zeidner and N.S. Endler (Eds.), Handbook of Coping. (pp. 485-501). New York: John Wiley & Sons, Inc.

Suls, J., & Fletcher, B. (1985). The relative efficacy of avoidant and nonavoidant coping strategies: A meta-analysis. Health Psychology, 4, 249-288.

Summerfeldt, L.J., & Endler, N.S. (1996). Coping with emotion and psychopathology. In M. Zeidner and N.S. Endler (Eds.), Handbook of Coping. (pp. 602-639). New York: John Wiley & Sons, Inc.

Syme, S.L., & Berkman, L.F. (1997). Social class, susceptibility, and sickness. In P. Conrad (Ed.), The Sociology of Health and Illness: Critical Perspectives. (pp. 29-34).

Thoits, P. (1995). Stress, coping, and social support processes: Where are we? What next? Journal of Health and Social Behavior, 36, 53-79.

Tiernari, P. (1994). Psychosomatic problems in coronary bypass surgery. Psychiatria Fennica, 25, 98-106.

Torquati, J.C., & Vazsonyi, A.T. (1999). Attachment as an organizational construct for affect, appraisals, and coping of late adolescent females. Journal of Youth and Adolescence, 28, 545-562.

Urban, J., Carlson, E., Egeland, B. & Sroufe, A. (1991). Patterns of individual adaptation across childhood. Development and Psychopathology, 3, 445-460.

van IJzendoorn, M.H., & Bakermans-Kranenburg, M.J. (1996). Attachment representations in mothers, fathers, adolescents, and clinical groups: A meta-analytic search for normative data. Journal of Consulting and Clinical Psychology, 64, 8-21.

Veit, C.T., & Ware, J.E., Jr. (1983). The structure of psychological distress and well-being in general populations. Journal of Consulting and Clinical Psychology,51, 736-742.

Vetere, A., & Myers, L.B. (2000). Repressive coping style and adult romantic attachment style: Is there a relationship? Personality and Individual Differences, 32, pp. 799-807.

Vitaliano, P.P., DeWolfe, D.J., Maiuro, R.D., Russo, J., & Katon, W. (1990). Appraised changeability of a stressor as a modifier of the relationship between coping and depression: A test of the hypothesis of fit. Journal of Personality and Social Psychology, 59, 582-592.

Ware, J.E., & Sherbourne, C.D. (1992). The MOS 36-item short-form health survey (SF-36): Conceptual framework and item selection. Medical Care,30, 473-483.

Warren, S.L., Huston, L., Egeland, B., & Sroufe, A. (1997). Child and adolescent anxiety disorders and early attachment. Journal of the American Academy of Child and Adolescent Psychiatry, 36, 637-644.

Waters, E., Merrick, S., Treboux, D., Crowell, J. & Albersheim, L. (2000). Attachment security in infancy and early adulthood: A 20-year longitudinal study. Child Development,71, 684-689.

Weidner, G. (2000). Why do men get more heart disease than women? An international perspective. Journal of American College Health, 48, pp. 291-294.

West, M., Rose, S.M., Spreng, S., Verhoef, M., & Bergman, J. (1999). Anxious attachment and severity of depressive symptomatology in women. Women & Health, 29, 47-56.

West, M., Sheldon, A., & Reiffer, L. (1987). An approach to the delineation of adult attachment: Scale development and reliability. Journal of Nervous and Mental Disease, 175, 738-741.

West, M.L., & Sheldon-Keller, A.E. (1994). Patterns of Relating: An Adult Attachment Perspective. New York: Guildford Press.

Wetherell, J.L. (1998). Treatment of anxiety in older adults. Psychotherapy, 35, 444-458.

Yaretzky, A., Lif-Kimchi, O., Turani-Feldman, T., Karpin, H., Shaked-Bregman, Y., Feldman, J., Laxer, J., & Finkeltov, B. (1998). The effect of anxiety on a Clock Completion Test (CCT) in elderly patients in a geriatric rehabilitative unite preliminary study. Clinical Gerontologist, 20, 15-27.

Zeidner, M., & Saklofske, D. (1996). Adaptive and maladaptive coping. In M. Zeidner and N.S. Endler (Eds.), Handbook of coping (pp. 505-531). New York: John Wiley & Sons, Inc.