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Gender differences in stress and coping of parents with adolescent daughters undergoing treatment for anorexia nervosa

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Gender Differences in Stress and Coping of Parents with Adolescent Daughters Undergoing
Treatment for Anorexia Nervosa

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A report submitted in partial fulfillment of the requirements for the award of
Bachelor of Arts (Psychology) Honours
Faculty of Community Services, Education and Social Sciences,
Edith Cowan University.

Submitted: October 27, 2003

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Gender Differences in Stress and Coping of Parents with Adolescent Daughters Undergoing
Treatment for Anorexia Nervosa

Abstract

Anorexia nervosa (AN) is a complex condition characterised by an uncertain etiology, protracted course and an inordinately high prevalence among adolescent females. Treatment of AN requires a multifarious approach, however, among adolescents family therapy is considered a necessary component to ensure positive outcome. Interestingly, while the efficacy of these systemic interventions is reliant on parents' ability to cope with treatment demands and stress, adaptive patterns among parents remain relatively under researched. The aim of this inquiry was to address this paucity of studies focused on mothers and fathers by providing a preliminary investigation of differences in their stress and coping patterns. Participants were parents of adolescent females diagnosed with AN by the Princess Margaret Hospital Eating Disorder Team. Two self-report measures were used, the Stress Index for Parents of Adolescents and the Coping Inventory for Stressful Situations: Situation Specific Coping. Data was analysed using independent samples t-tests, correlations and multiple regression. Analyses indicate mothers experience higher stress than fathers in relation to their role as a parent. Differences in coping style were detected, with mothers employing both emotion-oriented and avoidant coping strategies more than fathers. A positive relationship between these two coping styles and higher stress was also found. Results suggest mothers' stress is related to feelings of guilt combined with a sense of isolation, lack of support and perceived inability to assist in recovery. Implications and future directions aimed at enhancing parents' support resources and feelings of efficacy toward treatment are discussed.

Author: Steven Collishaw

Supervisor: Dr Elizabeth Kaczmarek

Submitted: October 27, 2003

Declaration

I certify that this thesis does not incorporate, without acknowledgment, any material previously submitted for a degree or diploma in any institution of higher education and that, to the best of my knowledge and belief, it does not contain any material previously published or written by any other person except where due reference is made in the text

Signature: _____

Date: 20/1/04

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Gender Differences in Stress and Coping of Parents with Adolescent Daughters Undergoing
Treatment for Anorexia Nervosa

Introduction

Background

Anorexia nervosa (AN) is a complex, life-threatening disorder characterised by uncertainty and debate surrounding most aspects of the condition, in particular etiology and treatment (Blair, Freeman & Cull, 1995). The efficacy of AN interventions vary markedly and require a multifaceted approach, however, there is mounting evidence that suggests family therapy is integral to AN outcome among adolescents with the condition (Castro, Toro & Cruz, 2000; Eisler et al., 1997; Robin et al., 1999). While the association between systemic interventions and adolescent AN outcome is robust, one aspect yet to be fully understood is how to augment parental participation and the nature of their role in these processes.

Curiously, investigation of parents' response of the diagnosis and treatment of their daughter with AN in relation to anxiety, stress and coping is limited (McDonald, 2000). Parental stress is an integral factor in adaptation and outcome of childhood illness (Coyne, 1997), yet the majority of research with AN relied on clinical impressions, anecdotal evidence or the adolescent's perception of parents' involvement and reactions (Santonastaso, Sacconi & Favaro, 1997). The implications of addressing this lack of research by allowing parents to report their own experiences was encapsulated by a frustrated parent who stated, "...wouldn't a better picture emerge if parents and children were both interviewed" (McDonald, p.23).

There is little doubt that chronic illness within the family is a stressful event, during which time the family unit becomes the most important institution acting as a buffer to mediate the anxiety experienced by members (Venters, 1981). Auerbach (1989) contends the ability of parents to respond and adapt to stressors and support their family is inextricably

linked to every facet of the health care system. In order to maintain an environment conducive to recovery from AN, parents need to adapt to the stress, cope with the demands of treatment, promote adherence to treatment protocols while maintaining a functional family environment (Fornani et al., 2001; Payne, Smith & Dean, 1999). During this process parents rely on health care professionals who understand their stress and have an awareness of the support and coping resources necessary to facilitate a positive outcome for all parties (Godshall, 2003; Hentinen & Kyngas, 1998).

In relation to illness within the family, gender differences have been identified as a factor that may influence the stress-coping process for parents (Almeida & Kessler, 1998). Evidence suggests mothers experience greater stress than fathers in response to a range of chronic illnesses within the family (Little, 2002; Mastroyannopoulou, Stallard, Lewis & Lenton, 1997; Yeh, 2002). Studies investigating coping methods employed by parents in response to their child's chronic illness have also revealed differences relating to task-oriented, emotion-oriented and avoidant coping styles (Chapman & Pepler, 1998; Stroebe, Stroebe & Schut, 2001). The aim of this study is to provide a preliminary investigation within the families of an adolescent with AN. Delineation of differences in the way mothers and fathers cope with the stress associated with AN is an important early foray into this under researched area. Empirical evidence of the stress and coping strategies specific to these parents may assist clinicians focused on systemic interventions to provide support and education towards more adaptive means of coping.

Anorexia Nervosa

Early descriptions of AN emerged in 1873 (Russell, 1995), and although subject to considerable clinical and research attention since, there remains a lack of understanding and

uncertainty surrounding most facets of this disorder. This situation is epitomised by the use of the term anorexia nervosa to describe the condition. This misnomer implies a loss of appetite, however, appetite remains in all but extreme cases (Halek, 1997).

Diagnosis and Prevalence

Chronic illness is defined as a long-term, progressive disorder that can be fatal and requires intensive treatment (Mattson, 1972). As a chronic psychosomatic condition, AN incorporates both psychological and physiological elements (McDermott, Harris & Gibbon, 2002). The psychosomatic element of AN is typified by the intertwined co-existence of self-deprivation, pathological thoughts and emotions regarding body image, extreme anxiety related to weight and dysfunctional eating behaviours that combine to impact markedly on a range of physiological processes (Heebink, Sunday & Halmi, 1995).

Diagnosis of AN is characterised by; 1) refusal to maintain minimally normal body weight (e.g., 85% of expected body weight for age) or failure to make expected developmental gains; 2) intense fear of gaining weight despite being underweight; 3) denial of a problem with body weight or disturbance in their experience of their body weight or shape; and 4) amenorrhea in post-menarchal females (APA, 2000). Additional features typical of AN include preoccupation with food, excessive exercise, dry skin, hair loss, constipation, and bloating (Bulik, 1994; Halek, 1997). Physiological complications may also include disordered biochemical and neuroendocrine function (Fichter & Pirke, 1995). These elements are concomitant with the weight loss leading to emaciation as the condition progresses.

Hospitalisation occurs in extreme cases of weight loss with the major aim being weight restoration, in conjunction with strategies aimed at addressing underlying issues such as fear of weight gain, comorbid psychiatric disorders, malnutrition and physiological

complications (Anderson, Bowers & Evans, 1997). Body Mass Index [BMI= weight (kg)/height squared (m)] is often used as a framework to evaluate grades of malnutrition in AN patients (Hammer, Kraemer, Wilson, Ritter & Dornbusch, 1991). The International Classification of Diseases (ICD-10; World Health Organisation, 1992) provides a criteria for diagnosis of AN when BMI is less than 17.5. The healthy range for adolescents is considered to be a minimum of 18.5 for 14-15 years, and 20 for 16 years and older (Hammer et al.).

As with most facets of AN, prevalence rates are subject to conjecture, however, these are as high as 3-4 % with females aged between 10 and 19 years (Beumont, Russell, & Touyz, 1993). This places AN as the third most common chronic condition affecting this demographic, behind obesity and asthma, (Fisher et al., 1995; Steiner & Lock, 1998). When combined with the fact that adolescent females are ten times more likely to experience AN (Steinhausen, 2002) and mortality rates ranging from 8-20% (Herzog et al., 2000; Tiller, Schmidt & Treasure, 1993), AN emerges as a psychological condition and illness that has wide reaching implications for the adolescent females, their families and the community.

Etiology, Maintenance and Outcome

Etiology, maintenance and recovery from AN is tentatively linked to a range of biopsychosocial factors. Individual factors include perfectionism and negative self-evaluation (Fairburn, Cooper, Doll & Welch, 1999); thin-ideal internalisation, body dissatisfaction, negative affect and social support (Polivy & Herman, 2002; Stice, 2002). Research also indicates high levels of stress (Ball & Lee, 2002; Fryer, Waller & Kroese, 1997) and a reliance on emotion oriented or avoidant coping methods (Jenzen, Kelly & Saklofske, 1992; Koff & Sangani, 1997; Troop, Holbrey & Treasure, 1998) are indicative of females with AN. For example, Tozzi, Sullivan, Fear, Mckenzie and Bulik, (2002) conducted interviews with

AN patients to ascertain their subjective perceptions of the disorder, stress was cited as a contributing or maintaining factor in 20% of these people.

Numerous environmental factors have also been linked to AN. The nature of families with a member diagnosed with AN (hereafter referred to as AN families) is one factor that is persistently linked to all facets of disordered eating behaviours (Hapworth-Hoepfner, 2000; Haudek, Rorty & Henker, 1999; Mazzeo & Espelege, 2002; Strober, Freeman & Morrell, 1997). The most influential early theory of systemic environments indicative of AN postulated over-protective, highly enmeshed families characterised by dysfunctional communication, parental high concern, negating of emotional needs and rigid roles existed as predisposing and maintaining factors in adolescent AN (Minuchin, Rosman and Baker, 1978).

Subsequent research has supported much of this early theory. Studies have found AN families consistently exhibit enmeshment, overprotective relationships exhibiting strong intra-family loyalty, in particular between the mother-daughter dyad (Blair et al., 1995; Shoebridge & Gowers, 2000); poorly defined parent-adolescent boundaries (Geller, Cocknell, Hewitt, Goldner & Flett, 2000); conflict avoidance (van Furth et al., 1996); and inhibited emotional expression (Geller et al., Moulds et al. 2000). However, due to methodological difficulties with this type of investigation and the reliance on a correlational approach it is virtually impossible to isolate the influence of family as a causal factor (Polivy & Herman, 2002; Shoebridge & Gowers, 2000). Accordingly, no definitive answer to the question as to whether family processes precede or result from AN has yet been isolated and remains elusive (Ward, Ramsay, Turnbull, Benedettini & Treasure, 2000).

Nonetheless, family processes are considered an integral component of recovery in adolescent AN. Studies have linked family therapy to positive short-term and long-term outcomes and there is growing advocacy for the efficacy of this mode of treatment

adolescents (Eisler et al. 1997; Fonesca, Ireland & Resnick, 2002; North, Gowers & Byram, 1997; Robin et al. 1999). The quality of the spousal relationship, in particular conflictual or distant interactions, and the relationship between parent-adolescents are additional environmental factors significant in the maintenance of eating disorders (Wade, Bulik, & Kendler, 2000). While family therapy is not advocated as a panacea for adolescent AN, these studies linking family therapy to outcome have highlighted the importance of understanding the disorder as an issue for the entire family system (Lemmon & Josephson, 2001).

Families experience despair and helplessness as a consequence of AN (McDonald 2000). Although yet to be empirically verified, clinicians and theorists have assumed for some time that family distress is another factor in maintenance and recovery (Humphrey, Apple & Kirschenbaum, 1986). Le Grange (1999) recognised this and argued for family therapy to be effective, the nature of family stress and the parent's exasperation with their daughter's condition must be understood and addressed. Decisions on how to adapt family processes, enhance relationships and improve systemic interventions require greater knowledge pertaining to the family's characteristics (Weisz & Halwey, 2002). The difficulty lies with the tendency for AN families to maintain a public façade of perfection regardless of obvious dysfunction and distress (Humphrey, 1989). Understanding the stress, frustration and exasperation associated with the condition for both parents may provide clinicians with a means to challenge this perception of idealisation and instigate effective responses.

Stress

Stress affects all people and is conceptualised as an ongoing, interactional relationship between environmental stimuli and a person's response to these events in the course of their adaptation (Caltabiano & Sarafino, 2002; Hymovich & Hagopian, 1992). An event such as

chronic illness is perceived as stressful when a person views it as taxing or a challenge to their ability to deal with it (Lazarus & Folkman, 1984; Roesch, Weiner & Vaughan, 2002).

Subsequent coping with this stress is a continuing process of appraisal, followed by development and initiation of strategies to ameliorate this state. Future reactions evolve according to both the real and perceived changes as a corollary to these coping mechanisms.

The nature and degree to which people experience an event as stressful varies as a result of factors inherent in the person, the situation and the environment. Individual factors include gender, physiological responses, past experiences with similar events, personality variables, current mood, and cognitive appraisal of the event (Endler & Parker, 1999). Situational and environmental factors include socioeconomic status, social support, spousal support, cultural background, strength and temporal nature of the threat, the uncertainty surrounding outcomes from the event, the desirability of the situation and the degree to which the person feels they have control over the event (Baum, 1990; Caltabiano & Sarafino, 2001; Paterson & Neufeld, 1987; Ray & Ritchie, 1993). These elements, intertwined with the external factors and the effectiveness of coping strategies employed, determine the impact of stress on a person. Poor adaptation can adversely affect all aspects of behaviour, family and relationships; consequences can include declining physical health, social functioning and the development of depressive symptomatology (Parkerson, Broadhead & Tse, 1995).

Parental Stress in Response to Chronic Illness

The role of a parent involves a myriad of challenges and demands unique to dynamic interfamilial relationships and the context of their environment (Bamberg, Toumbourou, Blyth & Forer, 2001). Diagnosis and treatment of child/adolescent chronic illness represents further exigencies that impact not only on the sufferer, but the parent and entire family unit

(Cimete, 2002; Cohen, 1999). Mastroyannopoulou et al. (1997) argued chronic illness within the family is one of the most significant stressors a parent will experience. Adapting to this stress is integral to the family's well being, both individually and systemically, and depends on a range of factors. Some of these are common across a range of chronic illness, others are related particularly to certain conditions. Hymovich and Hagopian (1992) described a number of stressors related to most chronic disease. These were categorised as - condition and management stressors related to the nature of the illness, duration of the illness, and potential outcomes; resource stressors related to both internal and external resources; relationship stressors linked to family and social environments; and life-style adjustment stressors.

AN is a chronic illness that incorporates these elements. In addition, there are a number of issues that are exclusive to adolescent AN that are yet to be fully understood (McDermott et al., 1999). One area in need of investigation is stress and the nature of the burden on parents specific to this condition (Santonastaso et al. 1997). To provide a foundation for this inquiry in the absence of prior research investigating parental stress with AN, similar processes relative to alternative chronic childhood and adolescent illnesses were examined. Research indicating parents of chronically ill children experience high stress consistent across the first two years following diagnosis is well established (Lowes & Lyne, 2000; Mastroyannopoulou et al., 1997). This finding is uniform across a variety of medical conditions, including asthma (Kurnat & Moore, 1999), cancer (Chapman & Pepler, 1998; Yeh, 2002); cystic fibrosis (Gibson, 1988), diabetes (Kovacs et al. 1990), hepatitis-B (Lai & Salili, 1996); renal failure (Cimete, 2002), and spina bifida (Van Cleve, 1989). Parents experience a myriad of responses, such as anxiety, anger, despair and guilt (Marsh & Johnson, 1997; Rolland, 1990). Evidence also suggests the stress experienced by parents can be greater than that of the patients (McGrath, 2001).

Parental Stress in Response to Anorexia Nervosa

Clinical impressions of AN families indicate parents suffer a variety of negative emotions ranging from despair to hopelessness (Bulik, 1994; Fortin, 1995; McDonald, 2000). Parents feel unable to cope when trying to assist their daughter and make some impact on the condition. Using a qualitative approach, Sharkey-Orgero (1999) identified phases of adaptation for parents of an adolescent with AN. Parents experience frustration, anxiety, distress, helplessness and a constant struggle to understand their daughter's behaviour. For example, mothers' traditional care-giving role related to feeding the family is challenged by their daughter's refusal to eat. Sharkey-Orgero suggested mothers need to confront and accept the condition, adapt to the stress and manage a process of letting go of their desire for control. This is made difficult by the ambiguity related to the prognosis of AN as families must live with uncertainty and stress for extended periods. The tendency to ruminate about pessimistic and maladaptive reactions is a consistent stressor that further complicates all dimensions of family systems responding to the adolescent illness (Rolland, 1990).

Stress for mothers of adolescents with AN emerged as a common theme from a survey incorporating a semi-structured questionnaire (McDonald, 2000). Reports from 30 mothers indicated a profound impact on psychosocial functioning as a consequence of the AN. A growing ambivalence toward their child, a lack of autonomy and a sense of ineffectuality in meeting the demands were associated with caring for their daughter. General themes emerged describing strain and burden manifesting in a sense of helplessness, inability to cope, distress and anxiety. Mothers felt isolated and in need of assistance to cope with the demands of parenting and aiding their daughter's recovery. The absence of clinicians who understood their experience or who were able to provide the help they needed was a common complaint.

Mothers felt health professionals were unprepared and lacking in knowledge of both their daughter's condition and their own experience to provide effective support and interventions.

While not focused specifically on stress, Blair et al. (1995) provided a rare empirical venture into the stress experienced by family members of an AN patient. This research examined differences on a range of issues between families of an adolescent AN patient, families of an adolescent with cystic fibrosis (CF) and families with no experience of chronic illness. Both parents and the adolescent patient were included in the study. On the General Health Questionnaire component of this study (GHQ-30; Goldberg, 1987), 58% of AN families obtained a score indicative of psychological distress. This was significantly greater ($p < .002$) than the 17% of CF families and 19% of well families involved.

The importance of a greater understanding of parental stress in relation to adolescent AN is amplified by research indicating parent-adolescent distress is reciprocally related across time. Young females in early to mid adolescence are susceptible to parental distress (Ge, Lorenz, Conger, Elder & Simons, 1994) and parent depression (Jacob & Johnson, 1997). Further investigations of this trend discovered that boys under the age of 13 were found to be particularly susceptible to paternal stress. After the age of 13 years adolescent daughters became more vulnerable to this trend (Ge, Conger, Lorenz, Shanahan, & Elder, 1995). Mutual influence of father-daughter distress was most pronounced around onset of menarche which is the most significant risk period associated with the onset of adolescent AN (Bulik, 1997).

Jacob and Johnson (1997) also demonstrated the importance of the association between parental behaviour and the psychological health of their son or daughter. Decreases in parental depression and distress were associated with a decrease in child adjustment problems. Systemic interventions incorporating processes aimed at moderating parental distress in AN families may have a similar impact. In order to augment existing systemic

protocols for AN, a greater understanding of the ways in which parents experience their daughter's illness is required. In particular, the clarification of the nature and degree of mothers and fathers stress and the ways in which they cope with their feelings should inform this developing field of AN treatment.

Coping

Coping refers to the range of mechanisms employed by people subsequent to events perceived as stressful (Billings & Moos, 1981). These mechanisms are a means of alleviating the internal response to an event and/or altering the external threat. The degree to which coping styles are used and interact differs according to the nature of the stressor and a person's previous experience. Accordingly, no single method is identified as universally effective across all situations (Greenberg, 1993; Terry, 1994). As with perceptions of stress, coping patterns vary between individuals and situations, however these patterns also exhibit a degree of stability and inevitably play an important role in a person's physical and psychological well-being (Holahan & Moos, 1985; Seiffge-Krenke, 1995). According to Seiffge-Krenke, adolescence is a particularly important time in the process of acquiring individual coping patterns. As the adolescent is faced with a range of new situations and stressors they look to their environment for guidance in appropriate ways of coping.

There have been many attempts to categorise coping and operational definitions have been subject to debate as to what constitutes different coping styles. Early models differentiated coping as either active coping, aimed at directly affecting the stressor, or avoidant coping, such as withdrawing or denial (Billings & Moos, 1981). Seiffge-Krenke and Schulman (1987) described coping styles as 1) functional coping, referring to strategies aimed

at addressing the problem, reflecting on solutions and seeking support, and 2) dysfunctional coping, typified by withdrawal and avoidance.

An alternative view of coping categorised two primary styles, task-oriented and emotion-oriented (Folkman, Lazarus, Dunkel-Schetter, DeLongis & Gruen, 1986; Folkman, & Lazarus, 1988a). Endler and Parker (1999) incorporated these two styles and added a third separate category, avoidant coping. Task-oriented coping is defined as purposeful efforts and strategies with the goal of directly addressing stressors. These strategies are viewed as particularly useful when a person has a degree of control over the event. Examples of task-oriented approaches include planning and thinking about solutions, actively confronting the situation or seeking out applicable resources (Caltabiano & Sarafino, 2002).

Emotion-oriented coping refers to strategies focused on addressing the person's response to the stressor (Endler & Parker, 1999). These are tactics aimed at reducing stress by examining, reinterpreting or expressing emotions. For example, seeking social support and sharing these responses with others is one method often employed to express, clarify and alleviate distress (Folkman & Lazarus, 1988b). However, whilst the aim is to ameliorate the stress, persistent ruminating over an uncontrollable event and subsequent feelings may actually increase and perpetuate the dysfunctional emotional response (Baum, 1990). These types of approaches to alleviating stress are often relied upon when a person perceives an event is beyond their control or overwhelming and this may also contribute to this perpetuation of the stress due to the perceived lack of efficacy in dealing with a stressor like adolescent AN (Folkman & Lazarus, 1985; Lazarus, 1991).

The third category of coping style, avoidant coping, refers to methods people employ as a means of distracting their attention from the problem (Endler & Parker, 1999). The aim is to evade the stressor and/or response by distracting attention through detaching from the

situation. This is achieved through engaging in unrelated activities or thought processes, or by focusing attention only on aspects of the situation that do not precipitate a stressful response. According to Endler and Parker, avoidance may involve either social diversion or distraction. Social diversion involves seeking situations and people aimed at diverting attention from the problem. Distraction includes the use of substances such as alcohol or cigarettes, or fantasising about outcomes or components of the situation that do not encompass a realistic view of the event (Caltabiano & Sarafino, 2002). Research indicates avoidance is most effective in situations where a person feels they have little control and are often employed in for these dilemmas, however this is only useful in the short-term (Denisoff & Endler, 2000).

Parental Coping with Chronic Illness

Adapting to the burden associated with life-threatening chronic illness within the family means parents are confronted with a number of tasks including acceptance of the condition, management of daily care, addressing ongoing developmental needs, acknowledging other family members, meeting economic demands and educating others regarding the illness (Canam, 1993; Coyne, 1997). Meeting these demands is a complex process involving the use of coping styles simultaneously or alternatively to varying degrees, maintaining existing support networks and developing social support resources, particularly with clinical staff (Cimete, 1993). The irony is that while social and spousal support is crucial to parents' ability to cope, these aspects of are often the worst affected by the childhood illness (Puotiniemi, Kyngas & Nikkonen, 2001)

In addition to preferred coping style, parent's self-esteem, health and knowledge about the illness combine with family and social relationship factors to impact on their ability to cope (Mu & Tomlinson, 1997). Parents may feel guilt, loss of their own 'normal' life, their

anticipated future life, and financial impacts associated with medical costs, while spending excessive time ruminating over possible outcomes and alternatives (Rolland, 1990). Clawson (1996) argued a process of adaptation to the stress of the diagnosis of illness is necessary for the entire family unit at this time, during which the family system is both affected by and affects the course of the chronic illness.

The ability of parents to cope with the myriad of responses and challenges they experience during treatment has implications for illness outcome (Keller & Nicholls, 1990). This has been demonstrated for a number of chronic conditions. Yeh, Lin and Tsai (1999) illustrated the ramifications of avoidant coping by establishing a link between the failure of patients to comply with cancer treatments and the inability of parents to cope with associated demands. The authors argued this was connected to parental avoidance and denial of a problem. Coyne (1997) also discussed the effect of parental avoidance and denial in response to the diagnosis of a child with cystic fibrosis. Failure to adjust to treatment protocols, familial distress and marital dysfunction all seem related to an inability of parents to accept and adapt to the disease and its treatment. Conversely, in a study of cancer patients (aged 8-17 years) and their parents, Chao, Chen Wang, Wu and Yeh (2003) found adjustment, acceptance and an active focus on approaching treatment, rather than avoiding it, were related to changes in perspective and positive improvements in parent-child relationships and family adaptation to cancer.

Parental Coping with Anorexia Nervosa

Empirical investigations have yet to identify any particular preference or reliance on specific coping processes for parents of adolescents with AN. Knowledge of trends in coping styles employed by parents is important when considering the efficacy of family based

approaches to AN, the mediating nature of coping behaviours on stress and the relationship between parent-adolescent distress and coping styles (Perosa & Perosa, 1993). Health care providers need to be aware of a range of coping behaviours and adapt these to include the entire family in the treatment plan for adolescent AN.

Families of adolescent AN patients are confronted with many of the challenges and stressors related to caring for an adolescent with any chronic life-threatening illness, in addition to a range of unique burdens related to the systemic impact of the condition (Santonastaso et al., 1997). Parents must cope with adolescents' excessive anxiety, suspicion and introversion accompanied by the refusal to eat and the severely emaciated appearance of their daughter (Bulik, 1994). Adaptation of parents requires coping psychologically, physiologically and socially (Hentinen & Kyngas, 1998). Parents must also offer the emotional and practical support to the adolescent that is considered essential to recovery (Tiller et al., 1997).

Existing knowledge pertaining to how well parents of adolescents with AN cope and the nature of these responses is reliant on clinical impressions, anecdotal reports and related literature (McDonald, 2000). Generally, parents report feeling helpless and unable to assist their daughter and consequently may attempt to avoid the situation or any conflict surrounding the behaviour (Fortin, 1995). Alternatively, parents may resort to excessive rumination about negative aspects of the situation while suppressing thoughts and emotions (Rolland, 1999). Both responses are indicative of conflict avoidance, postulated as typical of many AN families (van Furth et al., 1996).

Clinical reports suggest that parents and the adolescent with AN may also attempt to deny or minimise reports of eating disordered behaviours and family dysfunction (Casper & Troiani, 2001; North, Gowers & Byram, 1995). In an attempt to downplay the seriousness of

the situation parents may over report their daughter's compliance with treatment protocols in the home environment. This proclivity for avoiding the situation or denying a problem may have serious implications for treatment. Kotchick, Forehand, Armistead, Klein and Wierson (1996) demonstrated a reciprocal link between parent-adolescent avoidance and a tendency toward poorer functioning and internalisation of problems within the adolescent. Fornani et al. (2001) discussed the effect of parental avoidance in adolescent recovery from AN. Two case studies were presented in which parental neglect and avoidance of therapeutic protocols were found to be deleterious for AN outcome. This related to parents' ability to actively cope with demands associated with adolescent AN treatment. The authors cautioned clinicians to be aware of this tendency toward under reporting, ignoring or idealising family relations and compliance in this population. They suggested support in aiding parental compliance with treatment protocols and vigilance toward parents' reports of family function and adherence.

In contrast to the detrimental effect of avoidance or denial, task-oriented approaches such as focusing on the problems associated with AN and immersing the entire family in treatment protocols have been related to positive outcome in adolescent AN (Robin, Siegel & Moye, 1995). Acceptance of illness is integral to functioning, particularly with mothers, allowing the establishment of patterns within the family and a sense of control (Canam, 1993). The ability of parents to adapt to stress, maintain a sense of normality within the family while instigating intervention protocols is demanding, but has been linked to successful outcomes. Sharkey-Orgnero (1999) studied the phases of family adaptation to AN using a qualitative approach. Families need to recognise the AN was a family problem and employ an active approach to the treatment. Planning together as a group, confronting the issue and approaching it from an objective, emotion-free perspective was found to be a turning point for many families. Often the father was relied upon to address an initial

'confrontation' of the daughter. This phase was followed by a period in which the daughter was encouraged toward professional help while the mother began to let go of her tendency for over-involvement and control of her daughter.

The ability of AN families to address problems as a unit was assessed as a component of a broad study. Blair et al. (1995) compared AN families problem-solving abilities with families who have an adolescent with CF, and well families. Patients and their parents attempted a problem-solving task necessitating family discussion, co-operation and teamwork. AN families exhibited ineffective problem solving skills and conflict avoidance when observed performing the task in relation to the other families.

Parents need to become participants in the recovery process, collaborate with health care professionals, and confront problems and challenges (Canam, 1993). As mothers are customarily the primary caregivers and typically responsible for ensuring treatment and appointments are maintained, it is important that clinicians are aware of their problem-solving capabilities and aptitude to manage the demands of existing protocols (Moyer, 1989; Turner-Hensen, Holloday and Swan, 1992). Educating people regarding the nature of coping methods they employ in response to illness, the effectiveness of these behaviours, and the efficacy of alternative methods is an important component of any systemic intervention (Keller & Nicholls, 1990). Investigation of the different ways mothers and fathers cope with adolescent AN and the efficacy of these behaviours will provide valuable insight and may assist in educating parents toward more adaptive coping with consequences for all parties.

Gender Differences in Stress and Coping

Community assessment of general stress consistently reveals females experience higher levels of daily distress and are more likely to report a stress-related affective disorder

than males (Almeida & Kessler, 1998). Gender differences in stress-related psychopathology and somatic complaints in response to stressful life events also indicate women suffer higher degrees of stress than men (Conger, Lorenz, Elder, Simons & Ge, 1993; Thoits, 1986).

Researchers investigating gender differences in parental response to child and adolescent illness have also found mothers reported higher degrees of adverse mental distress, anxiety and despair than fathers in response to a number of physical ailments. These included life threatening conditions such as cardiovascular and respiratory disorders (Mastroyannopoulou, et al.); cancer (Chapman & Pepler, 1998; Yeh, 2002), diabetes mellitus (Azar & Solomon, 2001), and hepatitis-B (Lai & Salili, 1996). Similarly, in relation to the burden associated with the developmental disorder, Asperger's syndrome, mothers reported more stress, were more likely to seek professional help and had a higher usage of antidepressants than fathers (Little, 2002).

Gender differences in coping have also been identified. Perosa and Perosa (1993) suggested a general trend existed whereby women rely on emotion-focused behaviours, such as disclosure of emotions to friends and discussing problems, while males prefer avoidant behaviours, such as drinking and engaging in tasks aimed at distraction. In response to a range of life-events appraised as stressful, Ptacek, Smith and Zanas (1992) found women report more emotion-focused strategies than males who preferred more task-oriented behaviours. These patterns have been hypothesised to be stable across development, beginning in adolescence where females are more likely to approach social support for information or assistance in coping and reducing tension while males tend to ignore problems or focus on distractions such as work or hobbies (Frydenberg & Lewis, 1999; Seiffge-Krengel, 1995).

Studies of parental coping with chronic illness provide consistent trends and some contradictions. A number of studies examining coping in response to family illness indicate

mothers employ emotive coping styles more than fathers who tend to cope with withdrawal, distancing or practical responses (Chapman & Pepler, 1998; Dashiff, 1993; Keller & Nicholls, 1990; Van Cleve, 1989). Stroebe et al's (2001) meta-analysis of studies investigating variances in coping styles between parents also found mothers were more likely to employ emotion-focused strategies than fathers. Fathers typically relied on problem-focused or avoidant strategies to a greater degree than mothers.

Mastroiannopoulou et al.'s (1997) study examined the coping strategies of parents associated with unpredictable illnesses characterised by onset under 19 years of age and the possibility of premature death. This investigation included central nervous system abnormalities and degeneration, liver disorders, respiratory and cardiovascular diseases. In terms of degree, fathers were more likely to respond through either practical or avoidant means, while mothers employed significantly more emotion-oriented strategies. This trend was also established in Knafl and Deatrick's (1990) earlier investigation of task-oriented approaches to dealing with adolescent illness. Fathers were more likely than mothers to adopt the role of acquiring knowledge about the illness and consulting health professionals involved in the treatment process.

However, there are inconsistencies. Larson, Wittrock and Sandgren (1994) found discrepancies in coping trends, particularly related to task-oriented coping. In response to childhood cancer, fathers attempted to avoid stress through increasing job-related workload or distancing themselves from their stressful cognitions by focusing on unrelated activities. Mothers in this study relied on emotion-oriented strategies aimed at positive re-appraisal of the situation, however data also indicated a greater tendency of mothers to take responsibility for practical task-oriented approaches such as obtaining knowledge of the condition and involvement in the treatment process. A recent study pertaining to the parents of children with

Diabetes Mellitus also indicated fathers were inclined to distance themselves from the situation, while mothers engaged in more planful problem-solving (Azar & Solomon, 2001). In addition, gender of the child appeared to play a role, mothers were found to employ all coping strategies more often when the child was a girl.

This supported findings of Turner-Hensen et al. (1992) who reported mothers remain the primary caregiver and in doing so generally perform the additional tasks associated with treatment, e.g. meeting doctors, keeping appointments and obtaining information. This was also postulated as one of the reasons mothers experience greater degrees of stress due to the extra burden and demands of treatment protocols. Katz (2002) attempted to clarify the lack of consistency between studies examining gender differences in task-oriented coping. In a study involving 80 mothers and 80 fathers with children diagnosed with a range of chronic illnesses such as cancer and heart disease, Katz found problem-solving behaviours were the most common coping strategies reported by both mothers and fathers. Interestingly, emotion-focused behaviours were the least used regardless of the severity of the illness. In relation to task-oriented behaviours, mothers were found to perform and report more of the tasks related to treatment and communicating with the medical team than fathers.

In summary, studies of gender differences in parent's responses to chronic illness consistently indicates mothers experience a greater degree of stress than fathers in response to chronic illness within their immediate family. It is also relatively clear from findings that mothers rely on emotion-oriented coping strategies more than fathers while fathers generally exhibit a greater tendency to avoidant coping involving outside distractions such as work or drinking. However, differences in task-oriented coping are not clear. Both mothers and fathers seem to rely on task-oriented approaches in dealing with the stress and demands of chronic illness to differing degrees, perhaps related to the nature of the illness or gender of the child.

Gender Differences Specific to Anorexia Nervosa

The study conducted by McDonald (2000), discussed previously, highlighted the difficulties in obtaining responses from fathers and may be reflective of a tendency of fathers to ignore or avoid the situation. Through an advertisement in a UK Eating Disorders Association newsletter, McDonald invited all parents of adolescent AN patients to complete a questionnaire related to the psychosocial impact of the disease. Of the 30 parents who participated, all were mothers. No fathers responded.

Indication of gender differences in anxiety, stress and coping within families in response to AN emerged from a study comparing families of adolescent's with AN with families an adolescent cystic fibrosis patient and healthy controls (Blair et al., 1995). Using the Camberwell Family Interview (Leff & Vaughan, 1985), family responses were taped and later rated to evaluate the emotional climate of the home. Mothers of AN patients were found to exhibit a significantly greater degree of emotional over-involvement with their daughters than fathers. Conflict avoidance was found to be a common method of approaching problems for all family members. While providing some insight into gender influences of coping with AN, the focus of this study was not gender, stress or coping. Due to the complex and distinct nature of these constructs, specific research is required.

Relationship between Stress and Coping Strategies

As stated previously, stress and coping are irrevocably intertwined in a continuous process of adaptation that evolves as the effect of stress is mediated by the influence of the coping and vice versa (Folkman & Lazarus, 1988b; Lazarus & Folkman, 1984). The effectiveness of coping strategies in alleviating stress is linked to numerous elements within the person and the environment, however some consistent trends between stress and particular

coping styles have been identified. In the long term, problem-focused strategies are generally considered adaptive, while emotion-oriented or avoidant coping styles have been frequently linked with higher stress and anxiety in children and adults (Causey & Dubow, 1992; Chan, 1995; Ebata & Moos, 1991; Endler, Kantor & Parker, 1994; Vollrath & Angst, 1993).

Emotion or avoidant coping, typically employed when stress is high or there is little sense of personal control, often begins a cycle between increasing stress and further reliance on these strategies (Seiffge-Krenke, 1995). Constant rumination or avoiding strong emotions does little to alleviate or alter the stressful event. Over time, rather than providing relief from the event and associated stress, these strategies create further stress. When this becomes part of a cycle of further withdrawal or increased emotional reaction, the consequences may manifest in deteriorating health and psychosocial dysfunction. Seiffge-Krenke, Weidemen, Fentner, Aegenheister and Poebblau (2001) argue that educating people toward self-efficacy and more active modes of coping can help break this cycle.

While no research was found that investigates the relationship between stress and coping with parents of an adolescent with AN, these patterns have been studied in relation to other family illnesses. In response to terminal cancer within the family, Chapman and Pepler (1998) found a reliance on emotion-oriented strategies was accompanied by greater levels of despair and somatic distress. Emotion and avoidant behaviours such as self-blame or distraction were also associated with poorer adjustment and psychological distress in parents of children aged 7-18 years who had hemophilia (Kotchick et al., 1996).

In contrast, Cimete (2002) examined the relationship between stress and coping for parents of a child being treated by hemodialysis. Emotion focused behaviours such as crying and sharing feelings with spouses and friends were found to be helpful in alleviating negative feelings. A qualitative study examining parental response to a child with CF also identified a

relationship between avoidance/denial and reduced stress, perhaps due to a temporary relief from the associated burden (Coyne, 1997). Coyne argued this type of relief can only be temporary, the most effective approach by both parents was sharing the burden of the illness and attending to the tasks related to treatment protocols. This was particularly important for mothers who were generally expected to bear the greater responsibility toward caring for the child.

The Present Study

Over the past 15 years treatment approaches to AN have moved away from hospitalisation in all but the most severe episodes (Wiseman, Sunday, Klapper, Harris & Halmi, 2001). This trend creates a greater responsibility and practical burden for parents who are also constantly reminded of the gravity of the condition through the emaciated appearance of their daughter and her accompanying problematic eating behaviours. When their own stress is combined with the denial or reluctance of the adolescent to admit they have a problem and seek treatment for their condition (Blake, Turnbull & Treasure, 1997), the implications of both parents ability to cope and adapt become increasingly meaningful. Lack of communication, maladaptive coping processes and lack of support, particularly when one parent is experiencing the majority of stress, burden and responsibility can have detrimental effect on families and recovery (Knafl & Deatrck, 1990). Emotional support, particularly from a spouse or partner, external social support and adaptive coping with emotional demands of the illness are key resources in adjusting to chronic illness within the family (Sterling, Jones, Johnson & Bowen, 1996).

Families are a system in a state of constant evolution, influenced by all members and vulnerable to stress that arises when the family unit's resources and support are inadequate to

cope (Newby, 1996). Tinlin (1996) argued with a greater knowledge of ways parents experience the diagnosis of a chronic condition, opportunities arise that may assist in turning family adaptation from a negative to positive learning experience. In order to improve systemic interventions and refine the parents' role in these strategies there is a need for a clear description of effective stress and coping strategies (Coyne, 1997). The difficulty with AN families is that most observations and theories related to parent/family function and processes surrounding eating disorders have relied on clinical impressions with the parent's side of the story seldom told (Lemmon and Josephson, 2001; McDonald, 2000). This research will provide an important step toward extending the body of knowledge in this under researched area of adolescent AN.

Anecdotal evidence, clinical impressions and literature from related fields suggests both parents experience stress in response to adolescent AN. Mothers in particular tend to experience guilt or anxiety related to a perceived inability to affect their daughters prognosis, a sense of being trapped or alienated, problems within the spousal relationship, and an overall sense of helplessness (Amico & Davidhizar, 1994; Fortin, 1995; McDonald, 2000). Research also indicates parents of chronically ill children spend a large amount of time ruminating over negative emotions and outlooks (Rolland, 1990). This study should provide useful preliminary findings regarding gender differences in both the nature and degree of stress and whether these differences are related to parents perceptions of particular domains of their parenting role. These will be discussed in terms existing models of AN families. Differences in coping styles, particularly related to cognitive processes, and the efficacy of these styles related to parental stress will be investigated.

The following questions will be addressed. Does the level and nature of reported stress differ between mothers and fathers in their role as a parent of an adolescent daughter with

AN? Do mothers and fathers differ in the degree to which they employ particular coping styles? What is the relationship between coping style and stress in parents, while considering the influence of severity of illness (measured by current BMI, number of hospitalisations) and time since diagnosis?

On the basis of previous research examining mothers and fathers responses to chronic illness in their child/adolescent it is envisaged parents will be experiencing high stress and mothers will report greater levels of stress than fathers. Differences in the way mothers experience stress related to guilt, isolation and a sense of helplessness are expected. Furthermore, it is expected mothers will use emotion-oriented coping styles to a greater degree than fathers, while fathers will employ more avoidant strategies than mothers. It is unclear whether gender differences will emerge in relation to task-oriented coping. It is anticipated there will be relationships between stress and coping styles. As task-oriented styles are generally linked to lower stress, a negative relationship between task-oriented coping and stress is expected. It is also predicted a high degree of emotion-oriented or avoidant styles will be associated with high stress scores.

Method

Prior to commencement of this study approval was obtained from the Edith Cowan University (ECU) Faculty of Community Services, Education and Social Sciences Ethics Committee, and the Department of Health, Women's and Children's Health Service (DH-WCHS) Ethics Committee responsible for studies incorporating patients from Princess Margaret Hospital (PMH) in Perth and their families. This study adopted a quasi-experimental between-subjects design in which gender was the independent variable. The dependant variables were the level of stress reported by participants specific to their role as parents and the degree of situation specific coping styles employed by participants in response to stress related to their daughter's AN. Additional data pertaining to time since assessment, daughter's BMI, age, and number of hospitalisations was obtained from PMH records by the Research Coordinator of the Eating Disorder Team (EDT) with the permission of the DH-WCHS Ethics Committee. This data was obtained as a component of selection criteria for participants and examined for any effects on stress and coping differences.

Participants

Participants were mothers and fathers of adolescent females who had been assessed and diagnosed with AN by the PMH-EDT. Participants were all performing a direct caregiving role toward the adolescent. For inclusion in the study parents needed to have a daughter between 12 and 17 years old who met DSM-IV (APA, 2000) diagnostic criteria for AN, had been diagnosed within the past 15 months and were still undergoing treatment. A total of 33 patients met criteria for inclusion of their parents in this study, relevant descriptive data are supplied in Table 1.

Table 1

Descriptive Data of Adolescent Daughter's Assessment Criteria

<i>(N=33).</i>	<i>M</i>	<i>SD</i>
Age	15.41	1.45
Assessment BMI	14.64	1.54
Current BMI	16.10	1.34
Time Since Assess (Months)	9.81	2.67
No. of Hospitalisations	2.19	2.09

A total of 61 parents of these adolescents were contacted (30 fathers, 31 mothers), 37 responded and agreed to participate in the study (18 fathers, 19 mothers). The mean age of fathers was 45.6 years ($SD=4.78$), mothers was 42.4 years ($SD=5.65$). Respondents consisted of three single-parent families, eleven nuclear families and eight blended families. Of the 19 families that included dual caregivers, on four occasions only one parent agreed to participate. All parents who participated were actively involved in the care of their daughter.

Materials

Parent's stress and coping was measured using two self-report pencil and paper measures.

Stress Index for Parents of Adolescents

Stress was measured using the self-report Stress Index for Parents of Adolescents (SIPA; Appendix A) (Sheras, Abidin & Konold, 1998). The SIPA is a 112-item self-report scale measuring parenting stress and is standardised for use with parents of adolescent's aged between 11 and 19 years. The SIPA is based on a dynamic model of parenting stress that

acknowledges the interaction of psychological, interpersonal and environmental elements in an evolving and reciprocal process between parent and adolescent. The scale was constructed to account for the role specific nature of parenting stress and provides separate scores on three domains related to common variables related to the adolescent, the parent, and transactions between these two parties.

The Adolescent Domain Scale (AD) measures the amount of stress experienced by the parent as a function of the their adolescent's behaviour and personality (Sheras et al., 1998). The parents' perception of the adolescent's emotional adjustment and conduct is often related to parent stress. This scale is divided into stress related to four subscales of adolescent characteristics; moodiness/emotional lability; social isolation; delinquency; and achievement/perseverance.

The second scale, Parent Domain (PD) measures parental stress and adjustment related to their perceptions of the effect of parenting on their life, relationships and parents own characteristics (Sheras et al., 1998). The four subscales of the PD include life restrictions (LFR), relationship with partner (REL), social alienation (SOC) and incompetence/guilt (INC). The PD subscales provide particular interest to this study relating to gender differences in the nature of parental stress. These subscales focus on the parents' stress related to the internalisation of feelings, their perception of a sense of incompetence as a parent, self-blame for family/adolescent problems, relationship problems and may indicate a means of avoiding conflict by accepting an inordinate amount of responsibility. Differences on these subscales may assist in explaining any differences in stress related to mothers and fathers of adolescents with AN related to models of AN families and clinical impressions of the nature of AN parents stress, in particular mothers (Fortin, 1995; McDonald, 2000).

The third scale is the Adolescent-Parent Relationship Domain (APRD). This measures the parent's perception of the quality of their relationship with their daughter, such as degree of communication and affection, and the contribution of this to parent stress (Sheras et al. 1998). The SIPA also provides overall score measuring Total Parenting Stress (TS).

Participants respond to the first 90 statements of the SIPA by indicating their opinion on a five point scale using the following responses, Strongly Disagree (SD), Disagree (D), Not Sure (NS), Agree (A) and Strongly Agree (A). Statements 91-112 are responded to with a Yes (Y) or No (N) answer as to whether certain events have occurred within the past twelve months and refer to a Life Stressors scale. Items are hand scored to provide a total for each sub-scale, which are then summed to provide a score for TS. Raw scores can be compared against normative data. The scale exhibits validity and reliability, with reported internal consistency on all subscales exceeding .80, with TS .97. Four-week test-retest reliability on the subscales ranged from .74 to .93, with TS test-retest of .93 (Sheras et al., 1998). The scale exhibited acceptable levels of validity with a number of related scales, including the Parenting Alliance Inventory (Abidin, 1988).

The SIPA provides normative data based on a sample of 778 parents of adolescents aged between 11 and 19 years ($M=14.94$, $SD=2.20$). The mean age of this sample was 42.58 ($SD=5.75$). Parent gender and age was examined for this data, no significant effect for parent gender, $F(1,760)=.15$, $p>.05$ or adolescent age, $F(8, 760)=.64$, $p>.05$ or gender x age interaction was found. Interpretive categories were subsequently developed based on this data and are listed in Table 2.

Table 2

*Interpretive Categories, Percentiles and Corresponding Raw Scores of the SIPA Scales**(Sheras et al. 1998)*

Category (Percentile)	AD	PD	APRD	TS
Clinically Severe (95-100)	132-200	110-170	54-80	281-450
Clinically Significant (90-94)	121-131	101-109	47-53	259-280
Borderline (85-89)	112-120	95-100	43-46	239-258
Normal (<85)	<111	<94	<42	239-258

TS = Total Stress Index, Maximum Score = 450; AD = Adolescent Domain, Maximum Score = 200; PD = Parent Domain, Maximum Score = 170; APRD = Adolescent-Parent Relationship Domain, Maximum Score = 80.

Coping Inventory for Stressful Situations: Situation Specific Coping

Coping strategies were measured using the Coping Inventory for Stressful Situations: Situation Specific Coping (CISS:SSC-Appendix B) (Endler & Parker, 1990, 1999). This is a 21-item self-report scale adapted from the 48-item Coping Inventory for Stressful Situations (CISS). Developed from the data of 537 adults, the original CISS scale measures multidimensional coping on three sub-scales relating the coping styles identified by Endler and Parker, Task-Oriented, Emotion-Oriented and Avoidant Coping, discussed previously. Each sub-scale has 16 items. The CISS:SSC was developed to identify preferred coping strategies and the patterns of these responses to the stress experienced in response to particular situations. Participants respond on a five-point scale the degree to which they engage in certain activities while reflecting on a particular situation. Response options to the

questionnaire items range on a five-point likert scale from 'Not at All' to 'Very Much'. Items for each subscale are totaled to provide a total score for each.

Created by modifying the original CISS instructions to include a reference to a specific situation the CISS:SSC was reduced from a 48-item scale to a 21-item scale by removing CISS items with the lowest item-total correlations. The shortcoming of the reduction of these items was the inability of the CISS:SSC to differentiate between social diversion and distraction on the avoidant scale due to reduction of items for each sub-scale from 16 to 7. This scale provides a concise view of coping styles, particularly on task-oriented and emotion-oriented. The task scale focuses on cognitive components, including assessing the problem and planning strategies. Emotion-oriented coping in this device focuses on rumination about causes, responses and outcomes of the situation.

Preliminary studies were conducted to compare the reliability and validity of the CISS:SSC with the CISS using samples of 201 and 272 undergraduate students (Endler, Kantor & Parker, 1994; Endler & Parker, 1994). Reliability was indicated by alpha coefficients of between .74 and .85 for females and .72 and .87 for males on the three sales. Validity was supported with high correlations between analyses of responses between the CISS:SSC 21 items and the remaining 27 of the CISS.

Hospital Data

Adolescent patients diagnosed by PMH were screened to assess if they met criteria for inclusion of their parents in this study. These demographic data pertaining to the adolescent, supplied in Table 1, were obtained from hospital medical records by the principal research co-coordinator attached to the EDT.

Procedure

This study complies with the National Health and Medical Research Council's National Statement on Ethical Conduct in Research Involving Humans. Ethical approval was sought and obtained from both ECU and PMH ethics committees prior to commencement of data collection. Potential participants were identified by the Research Co-ordinator of the EDT from records at PMH with appropriate approval. Those fitting the criteria as outlined above were forwarded an information package from the EDT. This included a letter of introduction from the supervisor and Research Coordinator of the EDT (Appendix C); an information sheet outlining the details of the study from the principal researcher (Appendix D); a participant consent form (Appendix E); and a stamped self-addressed envelope.

Participants were invited to respond and indicate their consent by completing and returning the consent form to PMH. Respondents were then contacted and subsequently administered the two self-report questionnaires by the principal researcher, either personally or by telephone, according to standardised instructions. In cases involving telephone interviews, answer sheets were mailed to the respondents who were talked through completion of the questionnaire over the telephone at a pre-arranged time. An instruction sheet was provided for participants to read prior to completing the questionnaires (Appendix F). When administered over the telephone this was read to participants. The CISS was administered prior to the SIPA on each occasion. Time to complete the tests took approximately 30 minutes. Following completion participants were thanked and debriefed.

Results

Data Screening and Descriptive Statistics

Using SPSS Version 11.0, data was screened prior to analysis for accuracy, normality and univariate outliers (SPSS printout attached-Appendix G). The Shapiro-Wilks statistic, (sample size <50), indicated the assumption of normality had not been violated on the TS, AD, PD and APRD scales of the SIPA and task, emotion and avoidant scales of the CISS. Four univariate outliers were identified on the TS, one on the AD, two on PD and three on INC domains of the SIPA. Tabachnick & Fidell (1996) suggest examination of the scores in the case of an outlier and caution manipulation of data is to be avoided unless necessary and justifiable. Deletion of extreme cases may also generate further outliers. As there was no violation of normality or skewness on these scales and because extreme scores are to be expected in a community sample it was decided to retain these cases (Hair, Anderson, Tatham & Black, 1998). Means, standard deviations and percentiles were calculated for the SIPA domains and relevant subscales, and the CISS and are presented in Tables 3, 4 and 5.

Table 3

Descriptive Data for Fathers and Mothers on SIPA Domains

	N	TS			AD			PD			APRD		
		M	SD	%	M	SD	%	M	SD	%	M	SD	%
Fathers	18	206.22	34.01	66	90.89	19.38	68	77.06	10.74	56	38.28	9.92	77
Mothers	19	222.21	34.38	77	94.32	16.78	70	92.00	17.20	82	36.42	10.26	72
Total	37	214.43	34.68	71	93.32	17.91	69	84.73	16.11	74	37.32	9.86	75

Note: Higher scores signify higher stress; %= Percentile Rank; TS = Total Stress Index, Maximum Score = 450; AD = Adolescent Domain, Maximum Score = 200; PD = Parent Domain, Maximum Score = 170; APRD = Adolescent-Parent Relationship Domain, Maximum Score = 80.

Table 4

Descriptive Data for Fathers and Mothers on Parent Domain Subscales of the SIPA

	<i>N</i>	<i>LFR</i>			<i>REL</i>			<i>SOC</i>			<i>INC</i>		
		<i>M</i>	<i>SD</i>	%	<i>M</i>	<i>SD</i>	%	<i>M</i>	<i>SD</i>	%	<i>M</i>	<i>SD</i>	%
Fathers	18	23.22	5.50	63	22.33	6.42	66	13.39	2.75	47	18.56	3.55	47
Mothers	19	27.68	8.04	79	24.37	5.79	72	16.58	4.10	78	24.00	6.07	86
Total	37	25.51	7.19	72	23.38	6.11	68	15.03	3.81	71	21.35	5.65	72

Note: Higher scores signify higher stress; %= Percentile Rank; LFR= Life Restrictions, Maximum Score= 50; REL= Relationships With Spouse/Partner, Maximum Score= 45; SOC= Social Alienation, Maximum Score= 35; INC= Incompetence/Guilt, Maximum Score= 40.

Table 5

Descriptive Data for Fathers and Mothers on the CISS: SSC

	<i>N</i>	<i>Task</i>			<i>Emotion</i>			<i>Avoidant</i>		
		<i>M</i>	<i>SD</i>	%	<i>M</i>	<i>SD</i>	%	<i>M</i>	<i>SD</i>	%
Fathers	18	26.89	4.34	31	17.06	5.99	58	11.61	3.50	35
Mothers	19	25.16	6.13	18	24.74	5.81	84	16.47	3.82	46
Total	37	26.00	5.33	50	21.00	7.00	66	14.11	4.38	21

Note: Higher score signifies higher usage of coping strategy; %= Percentile Rank Maximum Score on all Three Scales= 35.

Interpretive categories are supplied with the SIPA extending from the authors analysis and construction of the scale with the data of 778 parents of adolescents (Sheras et al. 1998).

These categories based on raw scores and percentiles range from Normal to Clinically Severe and are listed previously in Table 2. Sentient to the limitations of comparing data to normative scores, parents' scores were explored in terms of these categories. All scores for both mothers and fathers fell within the normal range specified by the authors of this scale.

Gender Differences in Parental Stress

In order to test the first hypothesis, independent samples t-tests were conducted to determine whether any differences existed between mothers and fathers on the four scales of the SIPA (Appendix H). MANOVA/MANCOVA was avoided for the primary analysis. This decision was based on a number of factors including the requirement of a minimum 20 observations in each cell for optimum power and generalisability (Hair et al., 1998). Further, high correlations between dependent variables, TS-AD ($r=.88, p=.000$), TS-PD ($r=.72, p=.000$), and TS-APRD ($r=.73, p=.000$) indicate multicollinearity is present. Finally, homogeneity of variance was violated for PD, Levene's test, $F(1,35)=7.18, p=.011 (<.05)$. Tabachnick and Fidell (1996) suggest where concerns with MANOVA exist it should be avoided and alternative techniques should be employed if available. This restriction limited the capacity of this study to account for the impact of the additional variables (BMI, time since assessment, number of hospitalisations) on gender differences. These variables were examined using correlations, discussed later.

Independent samples t-tests were considered the most robust and appropriate option for examining fathers and mothers responses on the primary assessment measures of this investigation. Bonferroni adjusted alpha was applied to reduce the probability of Type-1 errors (Grove & Andreason, 1982). Accounting for Levene's test of variance being violated for the PD scale, a significant effect was found for gender using Bonferonni adjusted alpha

($p < 0.0125$) on the PD scale, $t(35) = -3.18$, $p = .003$ ($< .05$). Females reported higher stress on the Parent Domain scale of the SIPA. No significant effect was found for gender on TS, $t(35) = -1.42$, $p = .164$; AD, $t(35) = -.58$, $p = .57$; and APRD, $t(35) = -.567$, $p = .57$, ($> .05$).

Feelings of helplessness, guilt and isolation were reported by mothers in response to AN (McDonald, 2000). These constructs form part of the four subscales of the PD. To further explicate the nature of gender differences, mothers and fathers scores on these subscales were examined. Sample size and multicollinearity were continuing concerns with significant correlations between REL-LFR ($r = .40$, $p = .13$); SOC-LFR, ($r = .46$, $p = .004$); INC-LFR, ($r = .37$, $p = .024$); and INC-SOC, ($r = .59$, $p = .000$). As a result, independent samples t-tests were used (Appendix H). Levene's test of variance indicated this assumption had been violated for LFR and INC sub-scales. Accounting for this violation, a significant effect was found for gender using Bonferonni alpha ($p < 0.0125$) on the SOC sub-scale, $t(35) = -2.76$, $p = .009$ ($< .05$); and the INC sub-scale, $t(35) = -3.35$, $p = .002$, ($< .05$). Mothers reported higher stress on both scales.

Gender Differences in Coping

Independent samples t-tests were conducted to determine whether any differences existed between mothers and fathers on the three coping styles measured by the CISS (Appendix H). While the CISS data did not violate MANOVA assumptions exhibited with the stress scales, to maintain consistency with the analysis used to examine stress differences and due to sample size issues with MANOVA, this tool was not used. Using Bonferonni adjusted alpha ($p < 0.017$) and given that Levene's test of variance was not violated, significant effects were found between fathers and mothers for Emotion-oriented coping $t(35) = -3.96$, $p = .000$ and Avoidant coping $t(35) = -4.03$, $p = .000$. Mothers showed a higher usage of both coping styles. No significant effect was found for gender on Task-oriented coping $t(35) = .986$, $p = .331$.

Relationships Between Stress and Coping

Relationships between stress and coping strategies, while considering the impact of time since diagnosis, number of hospitalisations and current BMI were investigated using Pearson product-moment correlations (Appendix I). No violation of assumptions of normality, linearity and homoscedascity were detected. Results are displayed in Table 6. Using Bonferonni adjusted alpha ($p < .006$), significant positive correlations were found between emotion and TS ($r = .49, p = .002$) and emotion and PD ($r = .63, p = .000$) This indicates that high use of emotion-oriented coping strategies is related to higher levels of total stress and as measured by the parent domain scale. Avoidant coping was also significantly correlated with higher stress on the PD scale ($r = .52, p = .001$). A significant positive correlation was also observed between emotion oriented-avoidant coping ($r = .55, p = .000$). As would be expected BMI and number of hospitalisations ($r = -.50, p = .002$) was negatively correlated.

Table 6

Pearson Product-Moment Correlations (r) for Total Sample

(N=37)	TS	AD	PD	APRD	Task	Emotion	Avoidant	Time	BMI
Task	-.26	-.22	-.10	-.35					
Emotion	.49*	.40	.63*	.13	-.12				
Avoidant	.42	.30	.52*	.05	-.13	.55*			
Time	.14	.06	.09	.24	.07	-.15	-.07		
BMI	-.30	-.32	-.17	-.16	.34	-.23	-.35	.08	
Hosp	.08	.06	.10	-.07	-.17	.10	.32	.16	-.50*

$p < .006$. TS = Total Stress Index, AD = Adolescent Domain, PD = Parent Domain, APRD = Adolescent-Parent Relationship Domain, T= Task-oriented; E= Emotion-oriented; A = Avoidant coping; Time= Time since assessment; BMI= Daughters Current BMI; Hosp= Number of hospitalization for daughter.

Gender differences in the relationship between total stress and coping was examined by conducting Pearson Product-moment correlations separately for fathers and mothers (Appendix I). These correlations were limited to total stress and the remaining variables due to the restrictions of sample size on power and generalisability of these calculations after the sample size had been split. Pearson Product-Moment Correlations are displayed in Table 7 and Table 8 respectively. No significant correlations were found for fathers or mothers between any of the variables using Bonferroni adjusted alpha ($p < 0.008$). This was reflective of the reduced power, as high correlations were obtained but failed to meet significance criteria with the reduced sample size and Bonferroni adjustment (e.g. mothers emotion-TS ($r = .58, .009$)).

Table 7
Pearson Product-Moment Correlations (r) for Fathers

<i>N=18</i>	<i>TS</i>	<i>Task</i>	<i>Emotion</i>	<i>Avoidant</i>
Task	-.29			
Emotion	.30	-.20		
Avoidant	.34	.27	.40	
Time	.06	.10	-.32	.10
BMI	-.27	.10	-.12	-.34
Hosp	-.14	-.21	-.09	.29

Note. TS = Total Stress Index, Task= Task-oriented; Emotion= Emotion-oriented; Avoidant= Avoidant coping; Time= Time since assessment; BMI= Daughters Current BMI; Hosp= Number of hospitalization for daughter.

Table 8

Pearson Product-Moment Correlations (r) for Mothers

<i>N</i> =19	<i>TS</i>	<i>Task</i>	<i>Emotion</i>	<i>Avoidant</i>
Task	-.20			
Emotion	.58	-.02		
Avoidant	.37	-.24	.32	
Time	.24	.02	.11	.11
BMI	-.32	.50	-.06	-.34
Hosp	.18	-.14	.08	.29

Note. *TS* = Total Stress Index, *Task*= Task-oriented; *Emotion*= Emotion-oriented; *Avoidant*= Avoidant coping; *Time*= Time since assessment; *BMI*= Daughters Current BMI; *Hosp*= Number of hospitalization for daughter.

Finally, multiple regression analysis was conducted to further examine the relationship between measures of coping strategies, additional variables (daughter's current BMI, time since assessment and number of hospitalisations) and stress (Appendix J). Selection of predictor variables was undertaken cautiously due to restrictions with sample size of this study ($N=37$) and the requirement of an adequate case to variable ratio for meaningful analysis. Multiple regression requires an absolute minimum ratio of 5 cases per predictor variable to ensure adequate power and generalisability (Hair et al., 1998; Tabachnick & Fidell, 1989). Hair et al. argue that selection of predictor variables is integral to multiple regression and these variables should be kept to the minimum possible to ensure the integrity of the analysis. Selection must be undertaken based on theoretical and practical support. Pascoe (2000) suggests sound predictors should be correlated with the dependant variable,

preferably above .3, while being orthogonal to each other. Selection of variables to examine the relationship between coping and stress was undertaken cognisant of these factors.

Gender and all three coping styles were used due to their importance in this analysis. Using a number of selection criteria and to keep case to predictor ratio as functional as possible, current BMI was the only additional variable included in the regression analysis. Time since assessment and number of hospitalisations were excluded from the regression analysis. Current BMI was chosen over assessment BMI as it was considered more reflective of the current status of the adolescent's condition. Additionally, using Pascoe's (2000) criteria for selection, current BMI was the only variable that exhibited an adequate correlation, BMI-TS ($r = -.30, p = .068$). Current BMI also plays an important role in assessing weight loss in terms of diagnosis, severity and hospitalisation for AN, corroborated by the significant negative correlation between BMI and hospitalisations ($r = -.50, p = .002$).

Number of hospitalisations was excluded from the equation as it correlates significantly with BMI and has a low correlation with TS ($r = .08$). Time since assessment was also excluded on the basis of a low correlation with the dependent variable ($r = .14$) and the established theoretical position that parents stress and grief responses remain stable over time, particularly during the first two years post-diagnosis (Lowes & Lyne, 2000; Mastroyannopoulou et al., 1997). Time since diagnosis for each family in this study was less than 15 months. The remaining variables provided a ratio that although small, was considered adequate due to sample size and the exploratory nature of this investigation.

Inspection of normal probability plots for the analysis of Task-oriented, Emotion-oriented coping and current BMI suggested the assumptions of normality, linearity, homoscedascity and independence of residuals were met. Mahalanobis distance (9.89) was less than the critical value for three predictors (20.52) indicating there were no multivariate

outliers ($p < .001$). Results of the Standard Multiple Regression including unstandardised regression coefficients (B), standard error of B (SE B), standardized regression coefficients (β), value for t , and significance of t are displayed in Table 9.

The regression equation incorporating task-oriented coping, emotion-oriented coping and current BMI accounts for significant amount of the variance in TS, $F(5, 31) = 3.04, p = .021$ ($< .05$). The R square value was .329 (adjusted $R = .221$) indicates these variables combined account for 32.9% (22.1% adjusted) of the variance in total stress of parents. Emotion-oriented coping was the only predictor in this analysis that contributed significantly to the variance in stress scores (TS, $p < .05$).

Table 9

Summary of Standard Multiple Regression for Variables Predicting the Level of Total Stress in Parents

<i>Predictor</i>	<i>B</i>	<i>SE B</i>	β	<i>T</i>	<i>p</i>
Gender	-10.80	13.50	-.16	-.80	.430
Task	-1.17	1.03	-.18	-1.13	.267
Emotion	2.03	.94	.41	2.16	.039*
Avoidant	1.81	1.60	.23	1.13	.266
Current BMI	-2.03	4.42	-.07	-.45	.654
					R sq = .329*
					Adj. R sq = .221
					$R = .574$

* $p < .05$

Discussion

Overview

The purpose of this study was to identify gender differences that exist in the stress and coping patterns of parents and the relationships that exist between these constructs in relation to the diagnosis and treatment of an adolescent daughter with AN. The first hypothesis that gender differences would exist for parents in the nature and degree of stress measured by the SIPA was supported. The second hypothesis that gender differences would emerge between coping styles assessed with the CISS:SSC was also supported. Significant positive relationships were observed between stress and emotion-oriented coping, and between stress and avoidant coping. The influence of daughter's weight measured by BMI, time since diagnosis and the number of hospitalisations the daughter were also considered and results suggest these variables do not play a significant role in parents' stress and coping. These gender differences in stress and coping will be examined separately for each construct, followed by an examination of the relationships between these variables. Implications of these results, limitations inherent in this investigation and directions for future research to replicate and expand conclusions are suggested.

Gender Differences in Parental Stress

Results provide support for the hypothesis that mothers of an adolescent with AN will experience stress differently than fathers. Mothers reported significantly higher stress on the parent scale-PD of the SIPA, and two subscales of this domain, stress related to social alienation-SOC and incompetence/guilt-INC. No differences were found between mothers and fathers for total stress-TS, adolescent related stress-AD, and adolescent-parent relationship related stress-APRD.

Surprisingly, scores on SIPA scales for both parents were within 'normal' ranges classified from the device's normative data. This was unexpected and as such not a focus of this study. It was assumed parents would have elevated stress compared to 'normal' parents without a chronic illness in the family. Lower reports of stress may relate to denial or ignoring of family dysfunction, a proposed characteristic of AN families (Casper & Troiani, 2001; Fornani et al., 2001). Blair et al.'s (1995) study with AN families and previous findings with parents on the majority of research with chronic illnesses, e.g. cardiovascular and respiratory disorders (Mastroyannopoulou et al., 1997); asthma (Kurnat & Moore, 1999); cancer (Chapman & Pepler, 1998); and hepatitis-B (Lai & Salili, 1996) all imply stress for AN parents would be higher than norms. In the absence of a control group, the implications are limited in terms of assessing AN parents' stress relative to 'normal' parents. Nonetheless, it needs to be acknowledged and provides direction for future research with AN parents.

The reported higher stress of mothers in comparison to fathers on the parent domain of the SIPA and the subscales of this domain (INC, SOC) relate to parents perceptions of their own functioning and characteristics (Sheras et al., 1998). According to Sheras et al., elevated scores on these scales originate from a sense of being overwhelmed by responsibilities of parenting, feelings of incompetence, guilt and a belief parents are unable to make a positive impact on the adolescent. Differences also relate to a perceived lack of support and sense of isolation from relatives and friends combined with the belief that problems within the family, in this case the daughter's AN, stem from their own inadequacies and ineffectiveness as a parent. The findings of higher PD stress for mothers over fathers supports previous literature with chronic illness (Mastroyannopoulou et al., 1997; Yeh, 2002), and is convergent with responses to McDonald's (2000) survey of mothers of a daughter with AN in which themes of helplessness, isolation, lack of understanding from others and diminished autonomy emerged.

Contrary to expectations, SIPA results suggest fathers and mothers experience no difference in the stress they feel as a function of the characteristics and behaviour of their adolescent daughter or their perception of the relationship that exists between themselves and their daughter. Most interest in the lack of difference on these scales lies in the absence of a higher score for mothers. Stress is multifaceted. Notwithstanding the influence of coping style on stress to be discussed separately, alternative explanations of these findings and the nature of mothers' comparatively higher stress related to aspects of themselves may be associated with theories describing family dynamics characteristic of AN.

These two SIPA scales, where no difference was found for gender, require the parent to accept their stress is related to the behaviour of the daughter or the parent-daughter relationship (Sheras et al., 1998). In response to AN, feelings of stress related to their daughter's conduct would seem reasonable considering the degree of dysfunction and impact of the daughters disordered eating behaviours. Sharkey-Orgenero (1999) also contends that eating disordered behaviours of adolescents are particularly stressful for mothers as they relate the traditional care-giving role. This was seen by Sharkey-Orgenero as important, and one of the most difficult areas for mothers to adapt to during the treatment phase. Yet in this study, mothers do not exhibit higher stress than fathers on these scales related to daughters' behaviour and their relationship.

In addition to the influence of coping style, these findings might be due to a tendency toward over-protectiveness and conflict-avoidance within the AN family (Shoebridge & Gowers, 2000; Van Furth et al. 1996). A sense of enmeshed loyalty toward their daughter could explain mothers' inclination for internalising the blame for the situation rather than infer their stress is a result of the daughters' AN. Remaining detached from their daughter may be seen by mothers feeling this guilt a means of protecting her from their perceived role

in creating the AN and from expressing their stress. This may also relate to their feelings of ineffectiveness and alienation. Geller et al. (2000) argued enmeshed families proclivity to suppress negative feelings, idealise other members and deny dysfunction may be part of a protective mechanism and family loyalty that inhibits expression of feelings reflecting poorly on the family unit. Mothers are experiencing higher stress than fathers as exhibited by the PD scale. Rather than report their stress as being related to their daughter or relationships within the family, mothers who are feeling this higher stress may express it through the parent domain beliefs that stressors and problems such as the AN stem from their own inadequacies.

Stress related to feelings of helplessness may also relate to the mothers' inability to take control of her daughters' eating. Mothers may feel a responsibility for their daughters' dysfunctional eating behaviour as a function of their primary care-giving role (Sharkey-Orgenero, 1999). Letting go of this desire for control over their daughter combined with an inability to effect the behaviour in the face of her refusal to eat may exacerbate stress. The sense of alienation may also stem from these factors and the mothers' propensity for higher avoidant or emotion-oriented coping strategies reported in this study. Closer inspection of coping strategies for both parents and relationships between these constructs may clarify their impact in relation to these suppositions.

Gender Differences in Coping

Task-oriented coping refers broadly to thoughts and behaviours aimed at directly addressing the nature of a stressor or changing the person's perception of the problem (Endler & Parker, 1999). The task-oriented scale of the CISS:SSC employed in this study is heavily weighted toward the cognitive component of this coping style - e.g. 'Analyse the problem before reacting' (Endler & Parker, 1999). Five of the seven items refer to cognitive strategies

and only one item refers specifically to concrete behaviour - 'Take corrective action immediately'. No significant difference was found for gender on the use of this assessment of task-oriented coping responses to the daughter's AN. This suggests mothers and fathers do not differ on the degree to which they productively analyse the AN, consider adaptive options or plan strategies to address the problem. These results support Katz's (2002) finding that mothers and fathers employ cognitive problem-focused approaches to equal degrees. However, assessment of tangible task-oriented approaches is needed, the next step for research is to examine differences between active and cognitive task related strategies.

Mothers reported a significantly higher reliance on emotion-oriented coping than fathers in response to their daughter's AN. Emotion-oriented coping incorporates a variety of positive and negative mechanisms including cognitive restructuring of thoughts and feelings; ruminating over emotions or possibilities; and expressing or sharing feelings (Baum, 1990; Folkman & Lazarus, 1988b). Inspection of items on the CISS:SSC helps to clarify the nature of findings and in doing so provides further support for differences on the SIPA subscales. The short form CISS:SSC items refer to cognitive ruminations about events typified by items focused on blame and negative thoughts about the event, e.g. "Blame myself for not knowing what to do", "Feel anxious about not being able to cope" "Focus on my general inadequacies" (Endler & Parker, 1999).

The utility of the CISS:SSC lies in this concise view it provides of the difference between mothers and fathers in their emotion-oriented cognitions and negative rumination in response to their daughter's AN. Mothers in McDonald's (2000) survey reported a range of negative thoughts and feelings relating to a sense of self-blame, guilt, hopelessness and incompetence relating to their daughter's AN. The construct reflected in CISS:SSC items, corroborates these reports and the findings discussed above regarding differences observed on

the PD subscales of the SIPA. Combined, the differences on the SIPA, this dimension of emotion-oriented negative rumination and self-blame indicate clear differences between parents in these types of thoughts and emotions.

Differences reported with emotion-oriented coping are supported by the majority of studies relating to chronic illness within the family (Chapman & Pepler, 1998; Dashiff, 1993; Stroebe et al., 2001). Higher use of emotion-oriented coping by females appears to be a robust trend across a variety of situations (Almeida & Kessler, 1998; Conger et al. 1993). Previous literature suggests people rely on emotion-oriented coping when they perceive they have little influence over a problem (Lazarus & Folkman, 1984) as was the case in this study with mothers reporting stress on the PD scale of the SIPA related to a sense of helplessness.

Contrary to expectations, mothers also reported higher use of avoidant coping compared to fathers. This is divergent from the majority of previous findings of parents with chronically ill children or adolescents that indicate fathers exhibit a greater degree of avoidance and distancing (Azar & Solomon, 2001; Chapman & Pepler, 1998; Larsen et al., 1994). Mothers' greater reliance on avoidant coping may be associated with the degree and nature of their higher stress than fathers. Ebata and Moos (1991) found that higher degrees of dysfunction and stress were associated with a tendency toward avoidant coping. As with emotion-oriented styles, avoidant coping is also often used when a person perceives they have little control over a situation (Lazarus & Folkman, 1984). Mothers' higher stress in relation to parenting originated from a sense of helplessness and ineffectiveness as a parent. This may explain their higher use of avoidance as a means of escaping this stress over which they feel little control.

An alternative explanation may lie in the type of avoidant coping measured in this study. Operational definitions of avoidant coping vary. Avoidant coping typically

encompasses behaviours and cognitions focused on alleviating stress through social diversion or engaging in unrelated tasks. Previous studies suggest fathers are more prone to withdrawal and distractions (Keller & Nicholls, 1990; Mastroyanopoulou et al., 1997). It is possible low reported use of avoidant coping by fathers in this study may have been confounded by CISS:SSC items not being reflective of behaviours typical of male avoidant coping. Hitherto research suggests fathers avoidant strategies in response to their child's chronic illness include spending more time on employment related tasks, alcohol use, cognitive distractions related to other matters, or engaging in unrelated activities or hobbies (Larsen et al. 1994; Keller & Nicholls; Perosa & Perosa, 1993). No items on the CISS:SSC were indicative of these types of activities.

Mother's higher responses on the avoidant coping scale may also be connected to the nature of some CISS:SSC items. Specifically, three of the seven avoidant items on the CISS:SSC may have confounded results: 'Spend time with a special person', 'Visit a friend' and 'Phone a friend' (Endler & Parker, 1999). The administration protocol employed in this study as a component of the situation-specific nature of the CISS:SSC required instructing participants to focus on their daughter's AN when considering each item. Participants reflecting on these CISS:SSC items as a coping mechanism to their daughter's AN may have interpreted them as a means of disclosing or sharing emotions, stress and concerns with their daughters AN. As such they are more reflective of seeking social support, rather than as a means of avoiding or distracting themselves from the situation. Seeking social support in relation to stress is argued to be more common among females than males (Seiffge-Krenke, 1995). Further more, this type of behaviour is also classified as emotion-oriented, rather than avoidant coping. Instructions to parents were not adapted to explain the nature of these items due to concerns of experimenter bias.

As a preliminary investigation of coping responses in parents of an adolescent with AN, findings of this study have implications for clinicians. Operational definitions of coping frequently vary. While the narrow focus of the CISS:SSC can be seen as problematic, the succinct scope of these task-oriented and emotion-oriented constructs allows a clear delineation of gender differences relating to specific aspects of each style. The view of emotion-oriented coping is particularly useful for demarcating mothers' tendencies toward self-focused blame and rumination about their daughter's AN. Readers are cautioned to be mindful of this concise view and the concerns with administration of avoidant items. Future studies need to replicate and expand findings with more inclusive assessments of coping.

Relationships between stress and coping

As a result of the dynamic connection between stress and coping (Lazarus & Folkman, 1984), correlations provide a helpful measure of the relationship that exists between these variables. Direction or causality cannot be established through correlational relationships. This is not a hindrance for this study because the link between stress and coping is reciprocal and evolving constantly. Inspection of intercorrelational patterns between variables found emotion-oriented coping was significantly and positively correlated with both total stress (TS) and parent related stress (PD). Avoidant coping was also correlated positively with both these measures, however, only reached significance with PD stress. A significant negative correlation between current BMI and number of hospitalisations was to be expected. As BMI decreases, the likelihood of hospitalisation increases.

The positive correlation between emotion-oriented coping and PD/TS suggests parents who employ this strategy to a large degree are also more highly stressed. This is supported by literature that found while emotion-oriented strategies are aimed at reducing stress by

allowing expression and/or clarification of feelings this is not always the outcome. Inhibiting expression of emotions while ruminating over events, negative self-evaluations and self-blame is frequently linked with higher stress (Baum, 1990; Chapman & Pepler, 1998; Folkman & Lazarus, 1988b). This was supported in this study, focusing on self-blame was the predominant feature of emotion-oriented coping measured by the CISS:SSC and the parent domain scale of the SIPA. It appears parents who spend time thinking about their daughter's AN in terms of guilt, feeling isolated and ineffectual experience higher stress.

As the process of stress is bi-directional, the relationship between emotion-oriented coping and higher stress may also reflect the tendency of people who are experiencing a higher stress to exhibit a higher reliance on this coping style. Studies have shown that when feeling overly stressed, isolated and unable to control an event people resort to emotion-oriented or avoidant coping (Folkman & Lazarus, 1985; Lazarus, 1991). This theory is also supported by the significant correlation between avoidant coping and high stress on the PD.

Furthermore, social support is crucial for parents with a chronically ill child (Cimete, 1993). Mothers in this study reported higher stress than fathers in relation to perceived alienation from support in the form of friends and family. The stress related to helplessness and alienation experienced by mothers may have motivated a higher reliance on either emotion-oriented or avoidant strategies in an attempt to address their discord based on the feelings expressed in the SOC scale that they have no available support. This is also convergent with the tendency toward conflict avoidance in AN families (van Furth et al., 1996). Emotion-oriented rumination or avoidant coping by mothers may have been seen as the preferred option rather than 'confronting' the daughter and bringing family problems out into the open, a task often left to fathers in these families (Sharkey-Orgero, 1999). Denisoff and Endler (2000) cautioned the use of denial and avoidance is only useful in the short term

and eventually manifests in higher stress. This view concurs with the observed link between emotion-oriented/ avoidant coping and high parent stress in participants' reports in this study.

It was predicted that task-oriented coping would be related to lower stress. A negative correlation was observed between task-oriented coping and total stress, however this was not significant. While it would appear from this data that cognitive approaches focusing on planning and solving problems related to AN does not have a meaningful relationship with lower stress in parents, further investigation is necessary. Inclusion of a more comprehensive measure of task-oriented behaviour to incorporate the frequency and nature of specific tasks undertaken by parents in addition to cognitive approaches may reveal relationships between task-oriented coping and stress not detected in this study.

The relationship between gender, coping styles, current BMI, and stress was also investigated using multiple regression. This was undertaken to explore how these items combine to account for variations in stress. The prediction equation including three coping styles, gender and current BMI explain a significant amount of variance in total stress. However, of these variables, emotion-oriented coping was the only significant predictor of total stress. While the term predictor would imply a causal relationship, in the case of stress and coping, the two constructs are so intertwined that assuming a causal direction from this analysis is not appropriate. This result does provide further support for the relationship between self-focused emotion-oriented coping and high stress with parents in AN families.

Finally, the relationships between variables in the data were examined separately for gender. No significant relationships were found for either males or females. This may be a consequence of the reduced power of statistical analysis due to the small sample size after the data file was split. For example, a strong positive correlation remained for mothers between emotion-oriented coping and TS but was no longer significant.

Limitations

There are several limitations of this study that need to be elucidated and considered when evaluating outcomes. The small sample size is a concern. Results and outcomes must be treated with caution due to the subsequent constraints on statistical analyses and the generalisability of findings. Sample size was particularly restrictive on correlation and regression analyses power to detect patterns of relationships between stress and coping.

The lack of a control sample is a further constraint. The need for comparison groups was highlighted by the SIPA scales that indicate participants stress levels were 'normal' on the basis of classifications supplied with this instrument (Sheras et al., 1998). Furthermore, the PMH EDT takes an active approach to family therapy and it is plausible this has some degree of effect with parents. The majority of families in this study had participated in family therapy sessions with the EDT, however parents' attendance records at these sessions were not available. Separation of AN families between those that have and have not attended family sessions would be informative as to the nature and effect of these therapies for parents. In addition, those parents who did not respond may be indicative of an avoidant subset within the population, however this is an unavoidable component of this type of research.

Limitations of the reliance on self-report assessment devices and the cross-sectional nature of this study must be recognised (Ball & Lee, 2002). The subjective nature of self-report tests, combined with the tendency within AN families to ignore, idealise or under report family processes and situations (Humphrey, 1989) impose the need for caution with interpretation. AN families may have a tendency toward 'faking good'. A combination of self-report with objective and/or observational measures of stress and coping would be optimal to clarify this. The cross-sectional design of the study is limiting by only providing a snapshot of parent's experience. This will not account for variables directly affecting stress at the time of

reporting or the pervasive nature of this stress over time. Despite this, self-report measures and a cross-sectional approach were considered appropriate for this study.

The primary aim was to delineate gender differences in the nature of stress and coping patterns of parents. Options for additional variables were restricted due to the recognised need for a greater number of available participants to satisfactorily assess the impact of these covariates. The omission of a specific assessment of family function was also considered a shortcoming of this study. Subscales of the SIPA provide insight into these processes with the APRD and relationship sub-scale of the PD, however more comprehensive assessment of these processes is required to identify connections between stress, coping and family function.

Limitations of the CISS:SSC have been discussed but should be reiterated here. Curiously, of the 14 items related to task and emotion-oriented coping, 13 items referred to thoughts or feelings about the event being considered. All 7 items of the avoidant scale refer to behaviours (Endler & Parker, 1999). The impact on findings, if any, is not clear. However, the need for an alternative coping device to corroborate the findings of this study is.

Strengths and Implications

Previous studies of stress and coping in parents dealing with chronic illness have experienced difficulties obtaining responses from fathers (Mastroyannopoulou et al. 1997; McDonald, 2000). The high response of fathers in this study was noteworthy. The direct approach with the support of the PMH EDT may have enhanced this response rate of fathers. The strong emphasis on systemic practices by the EDT provides a range of services that encourage the involvement of fathers. The impressions gained from participants implied this played a role in their willingness to participate. The majority of parents who replied expressed confidence in the EDT and a strong desire to become involved in this study.

As stated previously, parent's viewpoints of the adolescent, their response to the situation and the role they play in their family's adaptation to the extensive process of AN treatment has been largely neglected (McDonald, 2000). As the trend away from inpatient care for adolescent AN increases, the role of parents in the process is increasing (Wiseman et al., 2001). Bamberg et al. (2001) argue that failure of parents to deal with their own needs can lead to burnout and withdrawal. Parents as a resource in the rehabilitation process need to be protected. Findings from this study help provide a preliminary understanding of the ways in which parents react and adapt to the unique stressors facing parents of a daughter with AN.

Findings indicate a need for clinicians to address the tendency of parents, in particular mothers, to ruminate about guilt and their perceived inability to influence AN outcome. Interventions must focus on building parents' belief in their ability to affect AN trajectory by encouraging and implementing more active approaches. Self-blame, perceptions of ineffectiveness toward parenting roles, emotion-oriented rumination and avoidance are not useful in helping parents adapt to their daughter's AN and were linked to higher stress. Avoidance and denial have also been linked to poor adolescent outcome in previous studies. Restructuring family belief patterns, attentive to the guilt and self-blame within parents would be beneficial, particularly for mothers. This could include therapeutic endeavours focused on acceptance of the condition; education; enhancing constructive communication; and facilitating expression of feelings within the family in an open and non-judgmental manner.

Mothers reported greater stress due to a lack of support and a perceived sense of isolation from friends and relatives. As emotional and practical support between parents is crucial to illness outcome (Sterling et al., 1996) providing new social support networks, e.g. peer support groups, in conjunction with enhancing existing resources may be beneficial. Awareness of the mother's stress in relation to self-blame and alienation may also provide a

means for clinicians to direct fathers toward a re-examination of their spousal relationship and assist in addressing mother's sense of isolation. Offering support for each other, sharing tasks related to treatment and presenting a united approach to AN treatment may assist. Finally, the implications of the reciprocal nature of parent-adolescent distress (Ge et al., 1994) and the links between parent-adolescent coping patterns (Kotchick et al., 1996) cannot be ignored. Stress has been viewed as a maintaining factor in AN (Tozzi et al., 2002). Emotion-oriented and avoidant coping have also been identified as the primary coping styles indicative of females with AN (Troop et al., 1997). In light of these studies, the inference could be drawn that adapting parents stress and coping patterns may in turn impact on their daughter's behaviours and well-being. Jacob and Johnson (1997) demonstrated that decreases in parents' depression and levels of distress were positively related to a decrease in their child's adjustment problems. Further investigation is necessary and may assist to identify the impact of reducing parents stress or altering coping patterns on adolescent AN outcome.

Directions for Future Research

Parental stress and coping with adolescent AN remains in need of greater focus from researchers investigating systemic issues that influence etiology, maintenance and recovery from this condition. This study provides directions to address limitations, replicate findings and expand this knowledge. Firstly, future studies should incorporate a more comprehensive coping measure. Qualitative assessment of coping may also assist. The need for control samples was highlighted by the level of stress reported by parents when compared to normative data. Suitable controls could involve families of adolescents with chronic physiological illnesses, psychiatric conditions and "well" families. The growing incidence of AN in adolescent males provides another group of parents that may be included. Differences

in parents' stress and coping strategies as a function of the adolescent's gender may provide valuable insights regarding these families.

Concurrent studies with additional medical institutions both locally and nationally would assist sample size restrictions and strengthen the reliability and generalisability of findings. This would facilitate inclusion of a greater range of variables. These could include an assessment of family function, socioeconomic status, the nature of care-giving roles of each parent and employment status of both parents. The inclusion of siblings would further clarify family stress and dynamics in response to adolescent AN in a family member.

Finally, a longitudinal design beginning within one month of diagnosis may clarify any changes occurring as treatment progresses. Incorporating a measure of attendance and the nature of therapy received during this time may assist to show the impact of these interventions. A deeper understanding of the parent's perceptions through a qualitative component in studies would be invaluable. Ongoing self-report in the form of a daily diary over a period from time of assessment is an approach that could incorporate longitudinal, quantitative and qualitative elements. For example, quantitative data could be recorded pertaining to daily use of a predetermined set of coping behaviours, in conjunction with a qualitative component structured around thoughts and feelings over the time period.

Conclusion

This study provides preliminary findings in the under researched area of parents' experiences with an adolescent daughter undergoing treatment for AN. The focus was to examine gender differences in stress and coping, and relationships between these constructs. In response to this condition with their daughter, mothers reported greater reliance on emotion-oriented coping in terms of cognitive ruminations and negative feelings, and used

avoidant coping strategies more than fathers. No differences were observed for cognitive task-oriented coping. Mothers reported higher stress than fathers related to feelings of culpability, incompetence, ineffectiveness in their parenting role and a sense of isolation from relatives and friends. Interestingly, no effects were found for gender in terms of stress related to the adolescent's characteristics or the parent's perceptions of the relationship with their daughter. Higher use of emotion-oriented and avoidant coping was associated with elevated stress.

There are a number of plausible explanations for the gender differences in stress and coping strategies, including theories pertaining to AN families and gender roles. While causal direction is not established, the link between stress and coping is supported in relation to previous research. It is also apparent that adapting coping strategies is likely to have a degree of impact on the level of stress for parents.

Parent's well-being and input to systemic approaches for adolescent AN are integral to successful outcome. Cognisant to limitations of this study, the knowledge gained provides suggestions for clinicians focused on improving parents' welfare, in particular mothers, and subsequent contributions to these processes. Encouraging acceptance of the condition; reducing time spent on self-blame and rumination; educating parents and peers; enhancing open communication within the family; and facilitating an active mode of coping to the adolescents condition and treatment are recommended. This may help alter the cycle between emotion/avoidant coping and high stress. An active and open approach to coping, while incorporating new and existing support mechanisms may assist to enhance parents' feelings of efficacy toward daughter's recovery and improve their stress. Further research is necessary for findings to be replicated, clarified and extended.

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Peter L. Sheras, PhD, and Richard R. Abidin, EdD

Item Booklet

Instructions:

On the SIPA Answer Sheet, please write your name, gender, date of birth, ethnic group, marital status, your child's name, gender, and date of birth, and today's date. Please mark all your responses on the answer sheet. **DO NOT WRITE ON THIS BOOKLET.**

This questionnaire contains 112 statements. Read each statement carefully. Please focus on the adolescent you are currently concerned about, and circle the response which best represents your opinion.

For statements 1-90,

Circle SD if you *strongly disagree* with the statement.

Circle D if you *disagree* with the statement.

Circle NS if you are *not sure* how you feel about the statement.

Circle A if you *agree* with the statement.

Circle SA if you *strongly agree* with the statement.

For statements 91-112,

Circle Y for "Yes."

Circle N for "No."

For example, if you sometimes enjoy going to the movies, you would circle A in response to the following statement:

I enjoy going to the movies. SD D NS **(A)** SA

Although you may not find a response that exactly states your feelings, please circle the response that comes closest to describing how you feel. **YOUR FIRST REACTION TO EACH QUESTION SHOULD BE YOUR ANSWER.**

Circle only one response for each statement, and respond to all statements. **DO NOT ERASE!** If you need to change an answer, make an "X" through the incorrect answer and circle the correct response. For example:

I enjoy going to the movies. ~~(SD)~~ **(D)** NS A SA

Questions about your "spouse or partner" refer to your husband or wife, or other parenting partner (i.e., the other person who is most involved in the parenting of your child). If you do not currently have a spouse or partner, leave these items blank.

1. My child has sudden changes of feelings or moods.
2. My child has many friends.
3. My child has never been in trouble with the police.
4. My child does his or her best in school.
5. My child shows affection toward me.
6. My child becomes very upset or angry when he or she does not get his or her own way.
7. My child has little or no energy.
8. My child has become physically violent.
9. My child seems motivated to work hard.
10. My child talks to me about problems.
11. My child has a negative attitude.
12. It bothers me that my child is so quiet.
13. I think my child steals things.
14. My child does poorly in school.
15. My child tells me where he or she is going.
16. My child is grouchy and irritable.
17. My child has no close friends.
18. My child is always telling lies.
19. My child must get a great deal of attention in order to work well.
20. My child stays out too late at night.
21. My child has a bad temper.
22. My child is not liked by other children the same age.
23. My child has done serious damage to our home.
24. My child gives up easily.
25. My child has the same moral values that I have.
26. My child seems very moody.
27. My child is frequently bossed around or bullied by others.
28. My child respects the property of others.
29. My child could do better in school by trying harder.
30. I believe that my child drinks more alcohol than I would like.
31. My child gets upset over little things.
32. My child is shy with others of the same age.
33. I believe that my child skips school.
34. My child completes the tasks he or she starts.
35. My child avoids me at home.
36. My child yells at me or my spouse/partner.
37. My child gets teased a lot and it bothers me.
38. My child has threatened to hurt people.
39. My child has a short attention span.
40. My child likes to do things with the whole family.
41. My child thinks I am unfair.
42. My child never seems to do anything.
43. My child is disobedient at school.
44. I worry that my child does not do his or her school work.
45. My child does things for me that make me feel good.
46. My child argues too much.
47. I often wonder if my child is lonely.
48. My child often gets in trouble when he or she is with his or her friends.
49. My child puts forth a lot of effort to reach his or her goals.
50. My child thinks I do not love him or her.

51. Since having a teenager, I have a lot fewer chances to see my friends and to make new friends.
52. Since having a teenager, I don't seem to spend as much time with in-laws and relatives as I would like.
53. I feel alone and without friends.
54. I am usually a positive and cheerful person.
55. Since my child became a teenager, my spouse/partner and I don't spend as much time together as a couple as I had expected.
56. I find myself giving up more of my life to meet my child's needs than I ever expected.
57. I often have the feeling that other people my own age don't particularly like my company.
58. When I go to a party, I don't expect to enjoy myself.
59. Having a teenager does not leave me enough time for my own friends.
60. My spouse/partner often hurts my feelings.
61. I can't make decisions without help.
62. I often feel guilty after I get angry at my child.
63. Since my child became a teenager, my spouse/partner and I have been less physically affectionate than I would like.
64. Having a teenager has caused more problems than I expected in my relationship with my spouse/partner.
65. I often feel "left out" when I am around other people.
66. I feel that I am an excellent parent.
67. Since my child became a teenager, I feel that I am almost never able to do things that I like to do.
68. I often need to work hard to avoid conflict with my spouse/partner.
69. I am as capable as most other parents I know.
70. I often have the feeling that I cannot handle things very well.
71. Since my child became a teenager, my spouse/partner and I don't do as many things together.
72. My spouse/partner distrusts my judgment as a parent.
73. Since my child became a teenager, my spouse/partner has not given me as much help and support as I expected.
74. When I think about myself as a parent of a teenager, I believe I can handle anything that happens.
75. Since my child became a teenager, my sexual relationship(s) has (have) been less satisfying.
76. I frequently argue with my spouse/partner about how to raise my child.
77. I don't have anyone who listens to my frustrations.
78. I feel every time my child does something wrong it is really my fault.
79. I felt sadder and more depressed than I expected when my child became a teenager.
80. My spouse/partner and I disagree on the best way to discipline my child.
81. I can talk to my spouse/partner about anything.
82. When my child does things that bother me on purpose, I don't know what to do.
83. It is easy for me to understand what my child wants or needs.
84. I expected to have closer and warmer feelings for my child at this age than I do.
85. My child comes to me for help more than to other people.
86. When I think about the kind of parent I am, I often feel guilty or bad about myself.
87. I am usually successful at getting my child to do what I ask.
88. I enjoy being the parent of a teenager.
89. I cannot get my child to listen to me.
90. When my child misbehaves or gets in trouble, I feel responsible, as if I didn't do something right.

For statements 91-112, please answer Y for "Yes" or N for "No."

During the last 12 months, have any of the following events occurred in your immediate family?

- | | |
|--|---|
| 91. Divorce | 102. Alcohol or drug problem |
| 92. Marital reconciliation | 103. Death of close family friend |
| 93. Marriage | 104. Began new job |
| 94. Separation | 105. Entered new school |
| 95. Pregnancy | 106. Trouble with superiors at work |
| 96. Other relative moved into household | 107. Trouble with teachers at school |
| 97. Went deeply into debt | 108. Legal problems |
| 98. Income increased substantially (20% or more) | 109. Death of immediate family member |
| 99. Moved to new location | 110. Demands/illness of aging parent |
| 100. Promotion at work | 111. Serious injury or medical problem |
| 101. Income decreased substantially | 112. Continuing or chronic medical condition
(diabetes, heart disease, etc.) |

Additional copies available from:

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CISS:SSC

by Norman S. Endler, Ph.D., F.R.S.C. & James D. A. Parker, Ph.D.

Name or ID #: _____ Age: _____ Gender: M F Date: ____/____/____
MM DD YY

Occupation: _____ Education: _____ Marital Status: _____

Instructions: The following are ways people react to various difficult, stressful, or upsetting situations. Please circle a number from 1 to 5 for each item. Indicate how much you engaged in these types of activities **during this specific situation**.

This situation was _____
 (please complete).

	Not at All				Very Much
1. Take some time off and get away from the situation	1	2	3	4	5
2. Focus on the problem and see how I can solve it	1	2	3	4	5
3. Blame myself for having gotten into this situation	1	2	3	4	5
4. Treat myself to a favorite food or snack	1	2	3	4	5
5. Feel anxious about not being able to cope	1	2	3	4	5
6. Think about how I solved similar problems	1	2	3	4	5
7. Visit a friend	1	2	3	4	5
8. Determine a course of action and follow it	1	2	3	4	5
9. Buy myself something	1	2	3	4	5
10. Blame myself for being too emotional about the situation	1	2	3	4	5
11. Work to understand the situation	1	2	3	4	5
12. Become very upset	1	2	3	4	5
13. Take corrective action immediately	1	2	3	4	5
14. Blame myself for not knowing what to do	1	2	3	4	5
15. Spend time with a special person	1	2	3	4	5
16. Think about the event and learn from my mistakes	1	2	3	4	5
17. Wish that I could change what had happened or how I felt	1	2	3	4	5
18. Go out for a snack or meal	1	2	3	4	5
19. Analyze the problem before reacting	1	2	3	4	5
20. Focus on my general inadequacies	1	2	3	4	5
21. Phone a friend	1	2	3	4	5

Not at All Very Much

**Psychological Medicine Clinical Care Unit
Eating Disorders Team**

Dear

We are writing to ask you if you would be willing to participate in a joint study between Edith Cowan University School of Psychology and the Princess Margaret Hospital Eating Disorders Team.

The Princess Margaret Hospital Eating Disorders Team is committed to the assessment and treatment of children and adolescents with anorexia nervosa and their families. The involvement of the family in the treatment process is paramount to our philosophy.

Steven Collishaw (Psychology Honours student at ECU) is undertaking a project looking at stress and how parents cope with a daughter undergoing treatment for anorexia nervosa. We have enclosed an *information letter / disclosure statement* from Steve which outlines the nature of the investigation. If you are interested in participating, please complete the attached *consent form(s)* and return using the enclosed stamped self-addressed envelope, or personally to the PMH Eating Disorder Team. A consent form is required for each person that agrees to participate in the study.

Whether or not you participate in this study, any future care you and your child receive at Princess Margaret Hospital will not be affected in any way.

This study has been approved by the Edith Cowan University, Faculty of Community Services, Education and Social Science Ethics Committee and The King Edward Memorial and Princess Margaret Hospitals Ethics Committees. The confidentiality of all participants is assured.

Thank you for considering this request.

Kind Regards

**Julie Potts
Eating Disorder Team
Program Leader**

**Chris Harris
Eating Disorder Team
Research Coordinator**

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for Children
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Perth WA 60
Tel: (08) 9
Fax: (08) 9

INFORMATION SHEET / DISCLOSURE STATEMENT

Thankyou for taking the time to read this information.

My name is Steven Collishaw. I am a Psychology Honours student at Edith Cowan University undertaking a study focusing on understanding the ways in which parents experience and cope with stress commonly associated with caring for their adolescent child with anorexia nervosa.

If you decide to participate you will be asked to complete two questionnaires aimed at learning about any stress you are experiencing and the ways in which you cope with the stress in relation to the treatment of your daughter for anorexia nervosa. This involves reading a number of statements and marking on a standard answer sheet how relevant it is to you by selecting from a number of possible responses. Participation in this study will require approximately 45 minutes of your time.

In this study we are interested in the responses of both mothers and fathers. To better understand any differences we would ask that you complete the questionnaires independently. Results of the study will be helpful in understanding the ways in which parents differ in their responses to this illness and provide valuable information for the ongoing development of interventions that incorporate the entire family unit.

Participation in this study is voluntary. A consent form is included in this package. Your signature on this form indicates you have read this information sheet and give your voluntary consent to participate in the study. I will then contact you on the phone number you supply to arrange delivery and completion of the questionnaires at a time and location of your choosing to ensure minimum disruption to you and your family. Whether or not you participate in this study, any future care you and your child receive at Princess Margaret Hospital will not be affected in any way.

You are free to withdraw from this study at any stage. All the information in the study will be treated as confidential. Your responses will not be individually identified and data will be stored separately from the attached consent form.

Please feel free to ask any questions. I can be contacted on [REDACTED] or [REDACTED]. My supervisors Mr Chris Harris, from the PMH Eating Disorder Team, ph: 93407012 and Dr Elizabeth Kaczmarek from Edith Cowan University, ph: 94005193 can also be contacted if you wish to discuss the research. If you wish to speak to someone not involved in the study, please contact Dr Alison Garton, Edith Cowan University, ph: 63045110 or if you have any complaints contact the PMH Executive Director Medical Services, Phone: 93408221.

Kind Regards
Steven Collishaw
B A (Psychology), Honours Student, ECU.

Appendix E

FORM OF CONSENT

I have read

Given Names

Surname

the information explaining the study entitled Gender Differences in Stress and Coping of Parents with Adolescent Daughters Undergoing Treatment for Anorexia Nervosa.

I have read and understood the information given to me. Any questions I have asked have been answered to my satisfaction and I agree to participate in this activity.

I give permission for PMH to provide the principal researcher with the following unidentifiable information in these areas; age of my daughter, time since diagnosis, duration of illness, current Body Mass Index, and number of hospitalisations.

I understand I may withdraw from the study at any stage and withdrawal will not interfere with routine care.

I agree that research data gathered from the results of this study may be published, provided that names are not used and I remain unidentifiable.

I give permission for the principal researcher, Steven Collishaw, to contact me on the following phone number, during the hours oftoto arrange delivery and completion of the questionnaires at my convenience and a place of my choosing.

Dated day of 2003

Signature

Principal Investigators Signature..... Date.....

Instruction Sheet

Thankyou for agreeing to participate in this study.

As per our previous conversation, the two questionnaires you are being requested to complete are:

- 1: Coping Inventory for Stressful Situations: Situation Specific Coping (CISS: SSC),
- 2: The Stress Index for Parents of Adolescents (SIPA)

These inventories require that you read a number of statements and respond according to how each statement relates to you personally. An answer sheet with instructions on how to respond to each statement is provided. The aim of the SIPA is to assess your experience of the stress related to being a parent of an adolescent. The CISS:SSC attempts to ascertain the ways in which you respond to a certain situation by focusing on this and responding with this in mind. The experience we would like you to focus on is your daughter's diagnosis and treatment for anorexia nervosa and the way in which you have responded to this.

As stated in previous correspondence, we are interested in both parent's responses and the differing ways in which mothers and fathers experience stress and cope with the situation involving your child. While you may be drawn to confer with your partner, I would like to reiterate our request that you complete these questionnaires independently.

I would like to remind you that your participation in this study is voluntary and will have no effect on the care you or your child will receive from Princess Margaret Hospital. You are free to withdraw at any stage and the confidentiality of your responses is assured. When completing the demographic information at the top of the answer sheet we request that you DO NOT write your name to assist in maintaining your confidentiality. The answer sheet has been numbered to allow matching your answers with the demographic data (your daughters age, time since diagnosis, duration of illness, no. of hospitalisations and BMI) supplied to me by PMH with your permission.

If you have any questions regarding these questionnaires or would like to discuss any issue at any stage, please feel free to contact me on [REDACTED] or [REDACTED] or you may wish to contact Chris Harris at the PMD Eating Disorder Team, Ph: 93407012

Kind Regards

Steven Collishaw
Edith Cowan University
Principal Researcher

Appendix G

SPSS Descriptive Statistics

Descriptive Statistics

	N	Minimu	Maximum	Mean	Std. Deviation
sipa total stress score	37	122.0	289.00	214.4324	34.67992
adol domain score	37	53.0	132.00	92.6486	17.91991
parent domain score	37	46.0	121.00	84.7297	16.11702
adolparent domain scr	37	23.0	63.00	37.3243	9.86310
task-oriented score	37	12.0	34.00	26.0000	5.33333
emotion-focused score	37	7.0	32.00	21.0000	7.00000
avoidant coping score	37	7.0	25.00	14.1081	4.37660
parent age	37	32.0	54.00	44.0541	5.29647
time since assessment (months)	37	4.0	14.00	9.8108	2.67538
assessment bmi	37	11.7	17.80	14.6351	1.54258
daughter's age	37	12.1	17.50	15.4192	1.44879
no of hospitalisations	37	.0	9.00	2.1892	2.09282
current bmi	37	13.6	19.50	16.1016	1.34023
Valid N (listwise)	37				

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
sipa total stress score	.089	37	.200*	.976	37	.598
adol domain score	.074	37	.200*	.987	37	.942
parent domain score	.122	37	.178	.969	37	.388
adolparent domain scr	.075	37	.200*	.962	37	.237
task-oriented score	.096	37	.200*	.964	37	.279
emotion-focused score	.102	37	.200*	.959	37	.193
avoidant coping score	.090	37	.200*	.967	37	.344
life restrictions	.151	37	.033	.954	37	.129
spouse relationship	.157	37	.022	.939	37	.044
social alienation	.124	37	.159	.969	37	.371
incompetence/guilt	.104	37	.200*	.964	37	.278
assessment bmi	.117	37	.200*	.965	37	.293
daughter's age	.176	37	.005	.911	37	.006
no of hospitalisations	.212	37	.000	.858	37	.000
current bmi	.171	37	.008	.931	37	.023

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Descriptive Statistics

		N	Minimum	Maximum	Mean	Std. Deviation
male	sipa total stress score	18	122.00	266.00	206.2222	34.00788
	adol domain score	18	53.00	121.00	90.8889	19.37521
	parent domain score	18	46.00	93.00	77.0556	10.74010
	adolparent domain scr	18	23.00	63.00	38.2778	9.62109
	task-oriented score	18	20.00	34.00	26.8889	4.33710
	emotion-focused score	18	7.00	27.00	17.0556	5.99482
	avoidant coping score	18	7.00	18.00	11.6111	3.50023
	parent age	18	37.00	54.00	45.7222	4.65018
	time since assessment (months)	18	5.00	14.00	9.9444	2.53150
	assessment bmi	18	11.70	17.80	14.6056	1.54823
	daughter's age	18	12.10	17.00	15.3822	1.39741
	no of hospitalisations	18	.00	6.00	1.8889	1.74521
	current bmi	18	13.80	19.50	16.1922	1.32555
	Valid N (listwise)	18				
female	sipa total stress score	19	171.00	289.00	222.2105	34.37793
	adol domain score	19	73.00	132.00	94.3158	16.78310
	parent domain score	19	58.00	121.00	92.0000	17.20142
	adolparent domain scr	19	23.00	55.00	36.4211	10.26491
	task-oriented score	19	12.00	33.00	25.1579	6.13064
	emotion-focused score	19	16.00	32.00	24.7368	5.81036
	avoidant coping score	19	11.00	25.00	16.4737	3.82054
	parent age	19	32.00	51.00	42.4737	5.50120
	time since assessment (months)	19	4.00	14.00	9.6842	2.86846
	assessment bmi	19	11.70	17.80	14.6632	1.57910
	daughter's age	19	12.10	17.50	15.4542	1.53332
	no of hospitalisations	19	.00	9.00	2.4737	2.38906
	current bmi	19	13.60	19.50	16.0158	1.38454
	Valid N (listwise)	19				

Appendix H

SPSS Independent Samples t-tests for Gender Differences on SIPA, CISS and PD subscales

		Levene' Test fo Equality o Variance	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
TS	Equal variances assumed	.06	.804	-1.421	35	.164	-15.9883	11.24857
	Equal variances not assumed			-1.422	34.930	.164	-15.9883	11.24519
AD	Equal variances assumed	.88	.354	-.576	35	.568	-3.4269	5.94966
	Equal variance not assumed			-.574	33.684	.570	-3.4269	5.97330
PD	Equal variances assumed	7.18	.011	-3.149	35	.003	-14.9444	4.74599
	Equal variance not assumed			-3.188	30.410	.003	-14.9444	4.68843
APRD	Equal variances assumed	1.34	.255	.567	35	.574	1.8567	3.27517
	Equal variances not assumed			.568	34.997	.574	1.8567	3.26929
task-oriented score	Equal variances assumed	2.18	.148	.986	35	.331	1.7310	1.75489
	Equal variances not assumed			.996	32.452	.327	1.7310	1.73873
emotion-focused score	Equal variances assumed	.04	.839	-3.958	35	.000	-7.6813	1.94084
	Equal variance not assume			-3.954	34.738	.000	-7.6813	1.94253
avoidant coping score	Equal variances assumed	.06	.796	-4.030	35	.000	-4.8626	1.20662
	Equal variance not assumed			-4.040	34.964	.000	-4.8626	1.20370

Group Statistics

	gender	N	Mean	Std. Deviation	Std. Error Mean
life restrictions	male	18	23.2222	5.50460	1.29745
	female	19	27.6842	8.04192	1.84494
spouse relationship	male	18	22.3333	6.42605	1.51463
	female	19	24.3684	5.79473	1.32940
social alienation	male	18	13.3889	2.74695	.64746
	female	19	16.5789	4.10035	.94068
incompetence/guilt	male	18	18.5556	3.55167	.83714
	female	19	24.0000	6.07362	1.39338

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
life restrictions	Equal variances assumed	7.191	.011	-1.958	35	.058	-4.4620	2.27828
	Equal variances not assumed			-1.978	31.936	.057	-4.4620	2.25548
spouse relationship	Equal variances assumed	.088	.769	-1.013	35	.318	-2.0351	2.00953
	Equal variances not assumed			-1.010	34.144	.320	-2.0351	2.01530
social alienation	Equal variances assumed	5.184	.029	-2.764	35	.009	-3.1901	1.15411
	Equal variances not assumed			-2.793	31.588	.009	-3.1901	1.14197
incompetence/guilt	Equal variances assumed	2.491	.124	-3.304	35	.002	-5.4444	1.64782
	Equal variances not assumed			-3.349	29.298	.002	-5.4444	1.62552

Appendix I
SPSS Correlations

	N=37	TS	AD	PD	APRD	Task	Emotion	Avoidant	Time	No hosp	Current BMI
TS	Pearson Correlation	1	.882	.722	.731	-.261	.489	.417	.144	.078	-.303
	Sig. (2-tailed)		.000	.000	.000	.118	.002	.010	.396	.648	.068
AD	Pearson Correlation	.882	1	.378	.665	-.222	.403	.302	.065	.057	-.316
	Sig. (2-tailed)	.000		.021	.000	.187	.013	.069	.701	.736	.057
PD	Pearson Correlation	.722	.378	1	.244	-.101	.631	.521	.092	.104	-.169
	Sig. (2-tailed)	.000	.021		.145	.554	.000	.001	.587	.538	.317
APRD	Pearson Correlation	.731	.665	.244	1	-.352	.012	.045	.238	-.072	-.165
	Sig. (2-tailed)	.000	.000	.145		.033	.943	.792	.156	.673	.329
Task	Pearson Correlation	-.261	-.222	-.101	-.352	1	-.125	-.131	.068	-.169	.341
	Sig. (2-tailed)	.118	.187	.554	.033		.461	.440	.689	.317	.039
Emotion	Pearson Correlation	.489	.403	.631	.012	-.125	1	.551	-.148	.097	-.230
	Sig. (2-tailed)	.002	.013	.000	.943	.461		.000	.381	.569	.172
Avoidant	Pearson Correlation	.417	.302	.521	.045	-.131	.551	1	-.074	.316	-.353
	Sig. (2-tailed)	.010	.069	.001	.792	.440	.000		.663	.057	.032
Time	Pearson Correlation	.144	.065	.092	.238	.068	-.148	-.074	1	.165	.084
	Sig. (2-tailed)	.396	.701	.587	.156	.689	.381	.663		.328	.623
No. hosp	Pearson Correlation	.078	.057	.104	-.072	-.169	.097	.316	.165	1	-.500
	Sig. (2-tailed)	.648	.736	.538	.673	.317	.569	.057	.328		.002

AD	Pearson Correlation	.878	1	.380	.711	-.063	.420	.270	.219	.065	-.311
	Sig. (2-tailed)	.000	.	.108	.001	.799	.073	.264	.367	.790	.195
PD	Pearson Correlation	.741	.380	1	.181	-.042	.683	.374	.126	.212	-.160
	Sig. (2-tailed)	.000	.108	.	.459	.864	.001	.114	.607	.383	.513
APED	Pearson Correlation	.707	.711	.181	1	-.499	.138	.080	.299	.100	-.281
	Sig. (2-tailed)	.001	.001	.459	.	.030	.573	.746	.214	.683	.244
Task-	Pearson Correlation	-.198	-.063	-.042	-.499	1	.022	-.236	.022	-.138	.497
	Sig. (2-tailed)	.417	.799	.864	.030	.	.930	.331	.929	.573	.030
Emotion-	Pearson Correlation	.582	.420	.683	.138	.022	1	.316	-.055	.078	-.337
	Sig. (2-tailed)	.009	.073	.001	.573	.930	.	.187	.822	.752	.158
Avoidant	Pearson Correlation	.366	.270	.374	.080	-.236	.316	1	.106	.291	-.343
	Sig. (2-tailed)	.123	.264	.114	.746	.331	.187	.	.667	.228	.151
Time (months)	Pearson Correlation	.241	.219	.126	.299	.022	-.055	.106	1	.242	.050
	Sig. (2-tailed)	.321	.367	.607	.214	.929	.822	.667	.	.318	.838
No. hosp	Pearson Correlation	.178	.065	.212	.100	-.138	.078	.291	.242	1	-.553
	Sig. (2-tailed)	.466	.790	.383	.683	.573	.752	.228	.318	.	.014
BMI	Pearson Correlation	-.317	-.311	-.160	-.281	.497	-.337	-.343	.050	-.553	1
	Sig. (2-tailed)	.187	.195	.513	.244	.030	.158	.151	.838	.014	.

Note. TS = Total Stress Index, AD = Adolescent Domain, PD = Parent Domain, APRD = Adolescent-Parent Relationship Domain, T= Task-oriented; E= Emotion-oriented; A = Avoidant coping; Time= Time since assessment; BMI= Daughters Current BMI; Hosp= Number of hospitalization for daughter.

Appendix J

SPSS Multiple Regression: Gender, Task, Emotion, Avoidant, and Current BMI Prediction

Equation for Total Stress

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	current bmi, gender, task-oriented score, emotion-focused score, avoidant coping score		Enter

- a All requested variables entered.
- b Dependent Variable: sipa total stress score

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Chang Statistics	R Square Change	F Change	df1	df2	Sig. Change
1	.574	.329	.221	30.60823		.329	3.043	5	31	.024

- a Predictors: (Constant), current bmi, gender, task-oriented score, emotion-focused score, avoidant coping score
- b Dependent Variable: sipa total stress score

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14254.301	5	2850.860	3.043	.024
	Residual	29042.780	31	936.864		
	Total	43297.081	36			

- a Predictors: (Constant), current bmi, gender, task-oriented score, emotion-focused score, avoidant coping score
- b Dependent Variable: sipa total stress score

Coefficients

Model		Unstandardized Coefficients		Standardize Coefficients		t	Sig.
		B	Std. Error	Beta			
1	(Constant)	214.394	78.006			2.748	.010
	gender	-10.804	13.501	-.158		-.800	.430
	task-oriented score	-1.169	1.034	-.180		-1.130	.267
	emotion-focused score	2.033	.941	.410		2.160	.039
	emotion-focused score	2.033	.941	.410		2.160	.039
	avoidant coping score	1.810	1.599	.228		1.132	.266
	avoidant coping score	1.810	1.599	.228		1.132	.266
	current bmi	-2.003	4.424	-.077		-.453	.654
	current bmi	-2.003	4.424	-.077		-.453	.654

- a Dependent Variable: sipa total stress score

Residuals Statistics

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	174.1363	256.7258	214.4324	19.89856	37
Std. Predicted Value	-2.025	2.125	.000	1.000	37
Standard Error of Predicted Value	7.58562	16.81668	12.13936	2.16483	37
Adjusted Predicted Value	176.3736	265.1560	214.7385	20.70690	37
Residual	-67.8721	56.1535	.0000	28.40324	37
Std. Residual	-2.217	1.835	.000	.928	37
Stud. Residual	-2.438	1.894	-.005	1.025	37
Deleted Residual	-82.0326	60.4467	-.3061	34.76439	37
Stud. Deleted Residual	-2.667	1.981	-.010	1.058	37
Mahal. Distance	1.238	9.894	4.865	2.074	37
Cook's Distance	.000	.207	.039	.057	37
Centered Leverage Value	.034	.275	.135	.058	37

a Dependent Variable: sipa total stress score