Adult Sibling Relationships, Shame and Vulnerability to Depression

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Declaration

This thesis has been composed by myself and the work contained herein is my own.

Signed

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2 October 2003

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Abstract

Objectives. This research has examined adult sibling relationship factors (warmth, rivalry, conflict, sibling comparisons and shaming and put down) in relation to external shame and depression.

Design. This is based on a case control study design. A cross-sectional design was chosen in order to increase the response rate.

Methods. The sample includes 33 depressed and 49 control participants. All participants completed the following measures the Adult Sibling Relationship Questionnaire (ASRQ), Sibling Comparison scale, Others as Shamer, Sibling Put Down and Shaming questionnaire and the Beck Depression Inventory (BDI-II).

Results. This research has found that rivalry; negative sibling comparisons, put down and shaming and external shame were significantly more likely to occur in a depressed group. Warmth within a sibling relationship was significantly more likely to occur in the control group. It seems that the following dimensions were highly correlated (i) external shame and sibling comparisons (ii) external shame and rivalry (iii) depression and external shame (iv) sibling put down/shaming and external shame. Furthermore, how often siblings see each other significantly contributes to warmth and rivalry higher order dimensions. In terms of factors affecting how often siblings see each other, it seems that gender contributes to this, with females having more contact with their sibling. Sibling dyad (sister-sister, brother-brother, sister –brother) also appears to affect contact, in which sister-sister relationships have the most contact. The results found in this research have been examined in relation to current literature and clinical practice.

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1.0 Introduction

1.1 Preface

It is well known that social relationships contribute to the physical health and emotional well-being of adults (House, Umberson and Landis, 1988), however, for the purpose of this research sibling relationships will remain the focus of this literature review. The term sibling connection and relationship at times will be used interchangeably. The role of sibling relationships, although not entirely ignored in contemporary psychology, has only received study by researchers and therapists since the 1980's. For several decades, social and behavioral scientists have highlighted the lack of research on sibling relationships (Goetting, 1986; Irish, 1964 and Streib and Beck, 1980), and the science of this relationship remains atheoretical and is a relatively new area of empirical inquiry (Dunn, 2000; Irish, 1964).

Although the connection between sibling relationships and psychopathology is recognized the role of shame within this has been neglected. Recent studies have demonstrated links between quality of sibling relationships and various aspects of psychological adjustment (McHale and Gamble, 1989 and Stocker, 1993; Stocker, Lanthier and Furman, 1997). However, most studies have focused exclusively on middle childhood and early adolescence, where one might expect the most influence, with little attention to adult sibling relationships.

This literature review will concentrate on adult sibling relationships in order to understand the influences of warmth, conflict and rivalry, three dimensions that are similar to those found in childhood and adolescence research (Buhrmester and Furman, 1990). These dimensions together with sibling put-down/shaming and sibling comparisons will be examined in relation to depression and external shame.

The introduction will consist of five main sections including:

1. The role of adult sibling relationships specifically understanding warmth, conflict and rivalry dimensions and its contribution to psychopathology.
2. An introduction to shame and sibling relationships.
3. The role of sibling comparisons.
4. The role of put down and shaming in sibling relationships.
5. An outline of the prevalence of depression.

1.2 Sibling Relationships

1.2.1 Definition of a sibling relationship

A 'traditional' full sibling constellation is defined as individuals who share two biological parents. These siblings also share approximately 50% of their inheritable material and are raised in the same home with the same parents. Half siblings share one biological parent and step-siblings do not share any biological parents. Sibling relationships are unique as their relationship is ascribed rather than voluntary. Individuals share intimate knowledge, perceptions, attitudes, beliefs and feelings' regarding each other. The sibling connection involves three components (i) overt interactions (ii) covert subjective cognitions and (iii) an affective component (Cicirelli, 1994). Recent findings in developmental psychology (Stocker, 1993) have shown siblings to be very different from each other. A sibling relationship can exist even when interaction has diminished, where siblings are separated by distance. This has been defined as a 'symbolic' interaction (Hinde, 1979). A sibling connection is considered egalitarian with each sibling having equal power (Cicirelli, 1982).

1.2.2 The importance of studying adult sibling relationships

Sibling relationship research has been slow to take off in comparison to research carried out on spousal and child–parent relationships. It was initially thought that parental interactions were the most crucial in childhood, and peer relationships were the most important during adulthood. The influence of sibling relationships during adulthood was previously considered redundant, with the view that sibling contact diminished with age. However, the increased potential of a systems approach has meant that each relationship component (parent-parent, child-parent, and siblings) within the family are now equally important.

Researchers' attention was initially drawn to childhood sibling relationships. For example, issues such as, rivalry, sibling attachment, birth-order and gender have been explored (Buhrmester and Furman, 1990; Dunn and Kendrick 1981). However, as the average age of the population increases, so the focus on adult sibling relationships becomes increasingly important. It is thought that the sibling relationship can last longer than a parental relationship, with a sibling relationship lasting between sixty to eighty years (Bank and Kahn, 1997).

The number of people who have a sibling is high; 10% of children have no siblings, leaving 90% of children with at least one sibling (Cicirelli, 1982). Given the prevalence of sibling relationships and their importance in childhood, it seems equally important to study this in adulthood, however, most adult research focuses on older adults (Bedford, 1989b). There appears to be enormous power in asking people

about their sibling relationship, as this is open to abuse, put down, criticism and shame, all of which can affect psychological functioning.

1.2.3 The transition of sibling relationships

It is important to understand how sibling relationships change across the life span. A nationwide study incorporating 7,700 adults with at least one living biological sibling, showed that approximately 50 percent reported seeing or talking with their sibling at least monthly. This number rose between pairs of sisters and reduced between pairs of brothers. For brother and sister the number dropped between the other two groups (White and Riedmann, 1992). Older adult literature also supports the view that sibling relationships are maintained, with 17% of older people seeing their sibling at least weekly, 33% at least monthly and the modal contact level was several times per year, with very few participants losing contact with their sibling (Cicirelli, 1979, 1980). Furthermore, a national study carried out in America of people aged 18 years and over, found that 75% of the sample had seen their sibling in the past month (Harris and Associates, 1975)

Bedford (1990) described an 'hourglass' effect in sibling relationships, whereby ....'sibling closeness and interaction gradually decreases in early adulthood, remains low in middle adult years, and rises again in late adulthood and old age.' (p. 60). However, the hour glass phenomena has been challenged by White and Reidman (1992). In contrast, their findings revealed that the rate of contact reduces with age in early adulthood, levels off during middle adulthood, and falls sharply in later adulthood. The contradictory results within this area may be attributed to differing research measures, cross-sectional design and sampling methods, leaving the debate unresolved. However, one would expect that life events such as marriage, divorce and a career would have an impact on the stability of the sibling relationship (Brody, 1996).

Gender influences may also contribute to the transition, with female siblings generally expressing common values, a positive and enjoyable relationship through adulthood and older adulthood, but not for childhood or adolescence. Meanwhile brother relationships remained flat across all trajectories. For mixed sibling relationships arguments, competitiveness and rivalry were high during adolescence, and then declined revealing very low values between siblings (Cicirelli, 1994).

In conclusion the evidence suggests that siblings do have contact in adulthood, but how it changes across the lifespan still remains a debate, however, the sibling relationship is never static, and it evolves over time (Cicirelli, 1985).

1.2.4 Maintaining sibling relationships in adulthood

When familial relationships are ranked according to level of obligation, the sibling tie is typically less binding than marriage or a parent-child tie, but it is more binding than other familial ties (Rossi and Rossi, 1990).

It has been theorised that 'solidarity' is the main reason why sibling relationships are maintained across the life span. A parent may provide overt norms, which encourage siblings to stay together, such as, 'You should be caring, close and loving towards your brother/ sister'. Hence, it is difficult to avoid the conclusion that instilled family values in childhood reappear in adulthood as internalised personal values. This was especially true if siblings made a conscious personal commitment to their family to maintain regular contact with siblings. Attending family events such as a wedding or a funeral encourages individuals to maintain the norm of attending to their family connections (Ross and Milgram, 1982).

It is also important to highlight the internal motivation behind sibling contact. This is thought to be influenced by gender, with men carrying this out through a sense of duty and women by affection for their sibling (Adams, 1968). It seems more likely that people are motivated if they like a person and are compatible (Allan, 1977). This argument is further strengthened by research carried out by Connidis and Campbell (1995), in which 678 residents of London, Canada aged 55 years or older were interviewed. Although the sample was over represented by single, divorced and childless men and women, and widowed men, the findings do suggest that emotional closeness was powerful among siblings on confiding, telephone contact, and personal contact. This indicates that behaviour and feelings are interconnected, siblings do not contact one another just out of obligation. In conclusion, although this research could be criticised because certain groups, who may already have limited family contact are over represented, it does provide good evidence that contact is not just maintained though obligation alone.

1.3 Warmth in a Sibling Relationship

1.3.1 Origins of warmth in a sibling relationship

The most powerful contributor to feelings of closeness between siblings is the family of origin. Unsurprisingly, the sense of belonging to a family, and of being close to siblings in adulthood was permanently affected by experiences during childhood (Ross and Milgram, 1982). Furthermore, fond memories of events originating in childhood served to maintain closeness in later years (Ross and Milgram, 1982). The assumption remains that closeness rarely originates in adulthood; however, some participants whose ages were quite disparate were able to build personal relationships when circumstances brought them geographically closer (Ross and Milgram, 1982). It is considered that experiences that contribute to a close relationship include the absence of favouritism and recognition of individual talents and accomplishments.

1.3.1.1 Definition of warmth

Stocker, Lanthier and Furman, (1997) developed an adult sibling relationship questionnaire (ASRQ), where warmth has been considered a higher order factor. This has been defined as the level of similarity, intimacy, affection, admiration, emotional support, instrumental support and acceptance within the relationship.

1.3.1.2 The existence of warmth in sibling relationships

It has been recognised that closeness within adult relationships has been under researched (Floyd, 1994), but the following research appears to support the view that warmth does exist within an adult sibling relationship.

Interviews were carried out with white, married, young to middle, aged students (467 females and 332 males N=799). The results suggest that siblings view their relationship as close, even though they were not living together (Adams, 1968). Furthermore, when comparing emotional warmth between siblings, mothers and fathers, research suggests that female students perceive equal warmth between their sibling and mother, but siblings felt more emotionally close to their sibling than to their father (Cicirelli, 1980). Bedford, (1989a) carried out a study including 60 participants who were aged between 30 and 69 years, they were married, had children, participants had the same-sex sibling and the sibling closest in age was focused upon. Participants were from an upper-middle class background and were predominately Caucasian. Using the Sibling Thematic Apperception Test, participants were asked to project their attitudes and feelings about their sibling, in particular conflict and affiliation were assessed. This assessment tool has been useful in uncovering subconscious emotions, which would seem highly relevant for sibling relationships, as people can tend to repress negative emotions in order to correspond with society's view that adult sibling relationships should be close. The findings show that warmth and affection dimensions have

been observed in middle adulthood and older adult sibling relationships. Unfortunately, this research did not include brother-sister dyads, it only included the sibling who was closest in age, and the age difference between siblings was no more than three years.

Factors that contribute to warmth have included level of contact (Stocker, Lanthier and Furman, 1997), however, contact and warmth may be slightly inflated somewhat because of the shared variance. A previous study carried out by Lee, Marcini and Maxwell, (1990) examined contact patterns and motivation for contact. Their study included 400 participants and it was found that the number of siblings in a family significantly affected contact patterns and discretionary contact. Emotional closeness, sibling responsibility expectations and geographical proximity were found to be important for sibling contact, obligatory contact and discretionary contact. Further research has supported the view that contact is affected by geographical location (White and Reidman, 1992; Stocker and Lanthier and Furman, 1997 and Connidis, 1989). Ross and Dalton, (1981) found closeness among adult siblings to be related to interactive factors such as shared experiences, and to social factors, such as mutual values and religious beliefs. Others have cited propinquity, family tradition, and shared interests, as elements that draw siblings together (Bank and Khan, 1982).

In middle and late adulthood siblings report feeling close and accepting of each other and these changes can even occur when siblings do not actually interact with one another (Bedford, 1989a, Cicirelli, 1982; Gold, 1989). Gold, (1989) included a sample of 30 men and 30 women (N=60) aged 65 years and older living in Chicago and its suburbs. All participants were white, middle class and healthy. Participants who were childless and had never been married were excluded from the study, this was because it was expected that these participants are more likely to have increased sibling contact. Gold described the types of sibling relationships with the following frequency; intimate siblings were described as close

and highly devoted towards each other (14 percent). Congenial siblings were friends who are also close, but placed an increased emphasis on their marriage and parent-child relationships (34 percent). Loyal siblings, the relationship foundation is based on their general family history, characterised by regular meetings, periodic contact, participation in family gatherings and giving support in times of crisis (30 percent). Conversely, using the same methodology, a study was carried out by Scott (1990), which revealed 95 percent of participants had an intimate, loyal, or congenial relationship.

In conclusion, both adult and older adult literature supports the view that warmth is a salient factor in both adult and older adult relationships, but how this affects psychological adjustment needs to be examined.

1.3.1.3 Warmth and psychological adjustment in sibling relationships

When examining parent-child dyads it seems that parental emotional warmth is negatively associated with psychopathology (Gerlsma, Emmelkamp and Arrindell 1990). Given this finding, it is important to examine how warmth affects a sibling relationship.

Warmth within a sibling relationship has been defined as similarity between siblings, intimacy, affection, admiration, emotional support, instrumental support and acceptance, and one would naturally expect that this would be positively correlated with healthy psychological functioning. The most recent study to support this claim was based on (N=480) college students, who were predominately Caucasian and had two siblings. The mean age was 19 years; range 17 –21 years. The results suggest that participants who got on well with their sibling (harmonious) had better mental health scores and a more positive personality profile than those who got along poorly with both siblings (uninvolved), or reported mixed feelings (ambivalent) about their sibling. The results indicate that having a harmonious sibling relationship is predictive of positive mental health while having an

ambivalent relationship with siblings is associated with poorer mental health (Lanthier, Spencer and Haberstroh, 2002). However, it could be argued that this study is only based on college students, so generalisations cannot be inferred from this group, however, it is based on a large sample, providing good evidence that warmth affects psychological functioning. In contrast, a study carried out by Stocker, Lanthier and Furman (1997) suggests that warmth and mental health functioning, as measured using the Brief Symptom Inventory (Derogates and Melisaratos, 1983), is not significantly correlated. This suggests that this is not a protective factor against mental health problems.

Using a similar concept to warmth, closeness within a sibling relationship has been investigated with similar positive findings. A study of 251 college students found a significant correlation between closeness to a sibling and loneliness, such that a closer relationship with a sibling was associated with reduced loneliness (Ponzetti and James, 1997). In addition, Stocker, (1994) found a significant relationship between sibling warmth, reduced loneliness and higher levels of self-esteem.

Gender has also been investigated as a possible contributing factor to warmth and consequent psychological functioning. Brody, (1996) and Cicirelli (1989) found that the perception of a close bond with sisters by either men or women was related to well–being, as indicated by fewer symptoms of depression, whereas a close bond between brothers seems to have little relevance to well–being. It also seems that a sister-to-sister relationship is the closest and most satisfying, followed by sisters and brothers, with brothers being the least close (Wilson, Calsyn and Orlofsky, 1994). Furthermore, Cicirelli (1977) found that elderly men who had sisters were more likely to be emotionally secure than those without sisters, while women with sisters appeared to be confident in their social roles. The mere existence and potential availability of a sister was also connected to increased life satisfaction, high

morale, social stimulation, and sense of security, and less depressive symtomology. This finding may, in part, be due to the ideology that women are more emotionally expressive and are normally viewed as nurturers (Cicirelli, 1989).

As mentioned previously, the level of contact between siblings has been highly correlated with warmth, so one would expect contact to be highly correlated with subsequent well-being, but this does not seem to be the case with older adults (McGhee, 1985; Lee and Ihinger – Tallman, 1980; Stocker, Lanthier and Furman, 1997), except in the specific case of widows' contact with married sisters (O'Bryant, 1988). This, in part, may be attributed to the decline in physical health of older people, the individual may not be mobile and thus able to choose whom they have contact with (Cicirelli, 1985).

Reminiscing about past experience was found to take place more often with older adults. This life review process can be beneficial for some individuals as it allows them to place life-long conflicts in order, contributing to greater psychological adjustment (Butler 1963; Gold, 1986). However, it could be argued that a relationship based on memories alone may occur because reconstructed memories may be easier to discuss than their current relationship.

In conclusion the literature supports the view that warmth, closeness and increased sibling contact are positively correlated with psychological functioning in adult sibling relationship literature.

1.4 Conflict and Rivalry in the Sibling Relationship

In general, scientific literature conforms to society's impression that sibling relations are negative, hostile and aggressive in childhood. Numerous studies with children examine the negative aspects of this relationship, such as sibling rivalry (Patterson, 1986; Stocker and Dunn, 1990) sibling conflict and aggression (Cicirelli, 1995; Garcia, Shaw, Winslow and Yaggi, 2000) and the negative consequences of parental favouritism (Boer, 1990).

However, it is less clear whether dimensions such as rivalry and conflict are characteristic of adult sibling relationships. Previous research in this area has mainly relied on open-ended and structured interview, providing little psychometric information concerning these dimensions (Bedford, 1989a; Cicirelli, 1982; Gold 1989; Ross and Milgram, 1982).

1.4.1 Definition of conflict

Using the adult sibling relationship questionnaire (Stocker Lanthier and Furman, 1997), conflict has been defined as quarrelling, antagonism; competition and dominance. Conflict can occur at two levels (i) intrapersonal and (ii) interpersonal, however, the aim of this review is to focus on the latter. Conflict has been defined as: '...marked behavioural actions such as quarrelling, fighting, resisting, opposing, refusing, denying, objecting, and protesting; whenever two or more people engage in oppositional behaviour.' (Vandell and Bailey, 1992, p151).

1.4.2 The existence of conflict in sibling relationships

At times a sibling relationship can be highly emotional and largely irrational (Bank and Khan, 1982) and siblings are often unaware of the rivalry and hostility that can underlie the surface friendliness of warm sibling alliances (White, 1976).

In childhood it is thought that closely spaced siblings are more likely to use physical aggression, whereas verbal aggression is common between widely spaced siblings (Vandell and Bailey, 1992). However, in adulthood, developmental differences between siblings are less salient and adult siblings may have egalitarian relationships. Siblings who were further apart in age perceived less conflict in their relationship than siblings who were close in age (Stocker, Lanthier and Furman, 1997).

When examining warmth, gender was thought to contribute to the findings, so one would expect this to occur for conflict. Siblings of different genders reported less conflict in their relationship than siblings of the same gender (Stocker, Lanthier and Furman, 1997). Furthermore, siblings who have a close relationship with one another are most likely to experience conflict (Ross and Milgram, 1982).

It is also important to return to the work of Gold (1989) and note the frequency of hostile relationships, with this occurring for 11 percent of their sample. Hostile sibling relationships are often characterised by resentment, anger and negative feelings. It was also found that nearly half of her sample showed envy and resentment. However, an identical study was carried out by Scott (1990), which discovered that hostile sibling relationships did not take place. Furthermore, the differing results may be attributed to the different sample used. As with all typologies there can be difficulty trying to classify all cases using a nominal measure, as it does not allow for individual differences. A study by Cicirelli (1981) revealed that 88 % of siblings argue 'rarely' or 'never', and only 3% argued 'frequently' or 'more often'. The number of participants used in these studies was low, so their findings should be interpreted with some caution.

Alternatively, research by Stocker, Lanthier and Furman, (1997), used a larger sample (N=383) and a psychometric questionnaire, which shows high reliability and validity it was

found that sibling pairs continue to have periodic conflict or at least perceive that they did. It might be expected that siblings who have a more affectionate relationship and reduced conflict are likely to maintain further contact, and those with higher conflict will have reduced contact. However it may be that individuals feel that they have to remain in contact with their sibling even though conflict and rivalry exists. In conclusion, this research is very useful, suggesting that conflict can occur in sibling relationships (Stocker, Lanthier and Furman, 1997). Furthermore, reduced contact contributes to less overt quarrelling (Adams, 1968).

1.4.3 Conflict and psychological functioning

Bedford, Volling and Avioli (2000) studied the fourth wave (12th year) of a longitudinal study of adult sibling relationships. Participants consisted of 40 survivors of the original 66. Ages ranged from 45 years–81years. Two open-ended questions were used to understand the possible benefits of sibling conflict. Their findings revealed that 22.5% perceived no benefits from sibling troubles in either adulthood or childhood, or their responses did not meet the coding criteria. About 35% named one or two benefits. 44.5% named three or more benefits. Whereas most participants 72.5% named benefits of childhood troubles with siblings, a minority 37.5% named benefits of adult sibling troubles. This is partly accounted for by the fact that few adults perceived troubles in their current sibling relationship (Bedford, 1998). Adults were explicit about how their negative sibling relationship contributed to their current parenting style. Participants discussed the social skills they had learned through their troubles with their sibling. Those siblings who were mistreated were able to empathise with others. Finally participants learned about their strengths and limitations, differences from and similarities to their siblings. Various participants described qualities in themselves they ascribed to sibling adversity. Others named qualities such as 'independence', 'not being too timid', 'self-confidence', 'my open mind and ability to overlook,' and 'being tough' as a

result of sibling conflict (p.64-65). Many of the participants were highly accomplished. They propose that adults continue to appraise and reappraise sibling stresses from childhood in a positive light, even when in conjunction with negative appraisals. Although this study provides evidence to suggest that positive outcomes may arise following conflict, the research only asked respondents to name positive aspects of conflict. Furthermore, the sample is representative only of a well-educated and high family income bracket, but generalisations cannot be made beyond this group.

So, conflict can be a positive experience, but it would be unrealistic to presume this in isolation. Research carried out by Stocker, Lanthier and Furman (1997) indicates that adults who had high positive scores on psychological functioning reported lower levels of conflict in their sibling relationship than adults with worse mental health scores. Adults with poor psychological functioning may perceive their relationship as more conflicting, or they may also behave in a manner that leads to conflicts between them and their siblings. Another possibility is that conflict within the sibling relationships can contribute to poor psychological functioning if it raises individuals' stress levels. With correlational analyses, it is impossible to determine the direction of these effects (Stocker, Lanthier and Furman, 1997). Unfortunately, this research needs to be carried out on ethnic and socio-economic different groups, as well as on young adults who do not attend college. As only a self-report measure was used, more observations of behaviour need to be conducted in this area.

Another recent study, which supports the relationship between conflict and psychological functioning, comes from Sade (1999) who examined the long-term effects of sibling emotional and physical abuse on adult self-concept and associated guilt and shame. This included a number of volunteers who defined themselves as experiencing physical and emotional abuse as a child from their sibling. The sample (N=186, Males=55 and females=131) were aged between 25 and 81 years. Again, this study used a correlational

analysis so it is difficult to know the direction of causality, but the results suggest that adults who experienced emotional and physical abuse by a sibling had lower levels of self-concept compared to the normative population. Furthermore it has been proposed that the long-range effects of conflict can mean that siblings may become depressed or anxious (Cicirelli, 1995). This is a very useful study, based on an adequate sample size, but unfortunately it does not incorporate a control group.

In conclusion, the tensions within adult sibling relationships may continue to promote growth in social competence, personal development and integrational relationships as in childhood. This suggestion is predicted on the assumption that social skills require periodic exercise and renewal in order to be maintained, and sibling conflict continues to provide such a learning experience. Although adult siblings do not engage in many disputes, the nature of the conflict between siblings is probably distinctly different than conflict seen in adult friendships. Yet conflict and hostility seen between adult siblings are known to increase when prolonged interaction are related to parental care, or death of a parent (Allen, 1977; Brody, 1990; Suitor and Pillemer, 1993). The research at present appears to suggest that there is a link between conflict and psychological functioning, however, it would be unwise to believe that positive effects cannot emerge as a result of conflict.

1.4.4 Definition of rivalry

Rivalis is a Latin word meaning having rights to the same stream. Using the Adult Sibling relationship Questionnaire (ASRQ) rivalry refers to how much support a sibling perceives they have from their parents in relation to their sibling, and whether or not they perceive themselves or their sibling being favoured or closer to their parents. Competition for recognition, approval, acceptance and love are assumed to underlie expressions of sibling rivalry (Adler, 1979). Sibling rivalry is a type of competition for parental reward (Lee and

Marcini, 1990) The dimensions on which sibling rivalries are expressed clearly demonstrate the values of our society and they differ in terms of their frequency, intensity and duration. By far the most frequently mentioned dimensions for rivalry to occur centres on achievement, intelligence, physical attractiveness, social competence, and maturity. From childhood to old age, achievement is the predominant dimension of rivalry, as this is valued by our society and many people do not perceive themselves as being valued without it (Beery, 1975).

1.4.5 The existence of rivalry in sibling relationships

It has been argued that rivalry occurs in all families, but in well-functioning families, children are favoured for different characteristics or they are favoured on different days (Bank and Khan, 1982). Whether favouritism is real or perceived it can cause conflict between siblings. Child research supports the notion that maternal responsiveness and affection was associated with sibling conflict (Bryant and Crockenberg, 1980).

If rivalry occurs in childhood one would expect this to occur in later life and this view has been supported, even when participants do not live with their parents (Bedford, 1989a; Gold, 1989). A useful study by Ross and Milgram, (1982) incorporated 75 volunteer participants-aged between 22 - 93 years of age, recruited from a large university population, two urban senior citizen centres and a suburban retirement home. Participants met in 13 small groups, each consisting of four to six individuals. Each session focused on sibling's sense of closeness, feelings of rivalry, favouritism, critical incidents and their consequences and changes of feelings and perceptions over time. Their findings indicate that most rivalrous siblings seek to repair their relationship in later adulthood and old age. Furthermore, 71 per cent of 55 participants experienced rivalrous feelings towards their brothers and sisters and

when a negative sibling relationship in childhood was reported this was often attributed to favouritism by parents.

In contrast to the argument that rivalry does exist in adult sibling relationships, but using a similar concept, a study by Cicirelli, (1982; 1995) asked participants about the extent to which they felt they were in competition with their siblings regarding their accomplishments. Only 2% reported such feelings 'frequently' or 'more often', whereas 93% felt such competition 'rarely' or 'never' existed, however, a clinical sample was used as part of these studies. The Lifespan Sibling Relationship Scale (LSRS) excluded items measuring rivalry and instead the actual effects of rivalry on emotions and beliefs were studied instead. This decision was taken because it was thought that rivalry is less likely to be actively occurring in adult sibling relationships (Riggio, 2000).

It also seems likely that age and gender may be important factors in rivalry, with it diminishing in intensity as people get older. Such rivalry is traditionally greatest between brothers and least likely between sisters and bothers (Cicirelli, 1980; 1985 and Gold, 1986). Greater maturity in outlook and limited frequencies of contact both play a part in allaying such feelings (Stocker, Lanthier and Furman, 1997). However, there is evidence that rivalry may be dormant and can be reactivated in adulthood when caring for aging parents and dealing with issues of inheritance (Cicirelli, 1982).

When examining the number of siblings in a family and its impact on rivalry within the relationship it has been found that this was positively associated with rivalry (Stocker, Lanthier and Furman, (1997). This means that with the increased number of siblings the more likely it is that rivalry will occur. However, this correlation was very small and explained little of the variance.

In conclusion, particular attention should be paid to the research of Ross and Milgram, (1982), as they used informal group discussion to elicit individuals' thoughts regarding rivalry. They found this approach allowed participants to be comfortable in expressing their thoughts and reduced the shame of discussing rivalry, making it less of a taboo issue. Revealing feelings of rivalry to a brother or sister who is perceived as being stronger or as having the upper hand increases one's vulnerability in an already unsafe environment. The more intense these feelings, the less safe it is. If a sibling experiences rivalrous feelings, but essentially likes the rival and needs to be accepted by him/her, he or she may feel that self-disclosure could permanently damage their relationship (Barrell and Jourard, 1979).

1.4.6 Rivalry and psychological adjustment

A key aspect bearing on a sense of inferiority within family relationships is perceived parental favouritism (Brewin, 1988). If siblings are devalued, because they are less intelligent, less attractive or male or female, they may fall short on a dimension, in which control is limited and this can lead to destructive rivalry.

A number of studies linking severe sibling rivalry to various problems in mental health have been established (Cavenar and Butts, 1977; Frank, 1979; Robbins, 1964; Steele and Pollock, 1968). In a study of older adults feelings towards dead siblings, Brody (1996) discovered that not only do feelings of closeness and rivalry persist, but also these persisting rivalrous feelings were related to greater symptoms of depression among women with dead sisters. A recent study carried out by Gilbert and Gerlsma, (1999) found that sibling favouritism was higher in a clinical sample versus a healthy sample. Their findings also suggest that in families with low warmth there is also significant shaming and favouring. In particular, remembering one's sibling as more favoured compared to ones self was strongly related to recall of being shamed and lack of warmth. Their sample was based on (N=638) healthy

participants and (N=213) clinical participants. It was essentially a retrospective analysis of childhood favouritism, but as with all retrospective analysis it relies on memory, which is open to bias and mood state. The research is also based on correlational analysis, so the direction of causality is once again debateable. However, a large sample and comparative groups offset this.

1.4.7 Conclusion to Adult Sibling Relationships

The research examining adult sibling relationships shows that warmth, conflict and rivalry are salient dimensions occurring in this relationship. However, it remains debateable whether conflict affects psychological functioning, but warmth has been shown to be a protective factor. Rivalry has also been shown to contribute to mental health problems, but this has not been based on adult sibling relationships, only retrospective analysis and child research.

1.5 Introduction to shame

Shame is generally measured using one of the following broad categories. The first focuses on emotional states (e.g. feelings of shame at the moment); and the second accesses emotional traits or dispositions (e.g. shame-proneness), more research has examined dispositional measures.

Unfortunately shame does not have a distinct facial expression, for example, when one is happy he or she may smile, however, for shame this internal state cannot be easily coded (Izard, 1977). Shame is a powerful, painful and potentially destructive experience (Kaufman, 1989). The word shame comes from the word 'skam' meaning to hide because of fear of exposure.

Shame, embarrassment and humiliation are emotions relating to social interaction, and attractiveness remains the most dominant feature (Gilbert and Miles, 2002). The term attractiveness refers to being: '....loved, approved, chosen, wanted, desired.....' (Gilbert and Miles, 2000, p.7). Wanting to be perceived as attractive to others is a major interpersonal regulator (Ectoff, 1999). However, with shame the loss of attractiveness is an expected perception for the individual, feeling that they can only create contempt, ridicule, disgust, and withdrawal or rejection in others.

There are a number of diverse conceptualisations and debates concerning the shame experience. Tangney (1995) argues that the shame experience is mainly emotion, and while some events are more likely to trigger shame than others Tangney states that shame comes from the meaning that is ascribed to the situation rather than the situation itself (Gilbert and Miles, 2002).

The connection between self-esteem and shame-proneness has never been clear (Cook, 1993). The concept of self-esteem in literature seems to be very close to shame-proneness (Gilbert and Andrews, 1998). However it has been proposed by Leary, Tambor, Terdal and Downs (1995) that low self-esteem is likely to increase ones sensitivity to many social emotions such as shame.

1.5.1 Healthy shame

In its healthy manifestation, shame guards the boundary of the self and promotes a realistic self–appraisal of our capacities and our limitations. The healthy function of shame is to protect us from narcissism (using this term to refer to unwanted opinions of the self), and thus to promote a realistic sense of self. However, too much shame results in a sense of the self as fundamentally flawed, and can lead to lifelong problems in living. A moderate level

of shame is very likely to serve as an adaptive function in a healthy individual. Although moderate levels of shame have adaptive functions there is reason to suspect that more extreme patterns of self-conscious affect may result in psychopathology.

1.5.2 Evolutionary theory and shame

From an evolutionary perspective animals have evaluated the likelihood of being able to attack another animal i.e. if the animal is comparatively weaker then an attack is likely to occur. The basic animal instinct requires the ability to compare ones strength with another animal and is based on the basic rule, 'challenge those weaker and submit to those stronger' (Hinde, 1989); this is called the social rank dimension.

For humans, this evolutionary process is more advanced, but power and status (social rank) remain important. Using the idea of subordinate-dominant, weaker-stronger and inferior-superior judgements, it is expected that shame relates to this type of social rank, with inferiority accounting for the largest part of the variance for shame (Gilbert, 1992).

Evolution has ensured that most children enter the world craving social interaction from others, so basic survival and social needs are assured. The response a child receives from its siblings, peers and parents will have a major effect on how the child responds to others in return. Disenchanted efforts to be recognised as good and able, pressure to conform, and direct attacks and put-downs will result in shame (Kaufman, 1989). Ewan (1988) stated that self–worth is the most basic need of a human; we need to present ourselves as attractive to others and seek reassurance and acceptance, this is called the social attractiveness dimension.

Humans fight to be seen as attractive by others as this results in access to social wealth such as having a partner, emotional and practical support, which consequently improves expected

survival potential. Human competencies such as theory of mind and social understanding, which have been thought to occur from the age of two years, are essential skills that enable us to interact with each other and ensure acceptance and investment from others in ourselves.

For humans it is essential that rank and status are visible to others, so that we are seen as attractive to others. Humans try to demonstrate this in various ways for example through sporting activities and artistic talents etc. Leary and Kowalski, (1995) stated that people are impression managers, trying to ensure their best image is portrayed to others. This can work in two ways (i) through damage limitation (ii) through status and reputation enhancement. Essentially humans want to be liked, and they work hard to achieve approval and value (Barkow, 1989). When an individuals' image is under threat then the basic survival instincts of flight and fight come into play, which is part of the fear response process that exists in shame.

1.5.3 Model of shame (Gilbert and Miles, 2002)

The looking glass self model, described by Charles Cooley at the turn of the last century, takes into account how we feel and view ourselves, and how we think others feel and judge us. This assertion formed the basis of Gilbert and Miles's model. The author will discuss the complexities of this model; however, particular attention will be paid to external shame. The reason for not focusing on internal shame is because various shame theorists (Lewis, 1987; Gilbert, 1992) suggest that 'self evaluation' and 'evaluation of the self by others' are linked. Hence, it is thought that individuals who score highly on scales measuring negative beliefs about ones self, will also score highly on scales measuring negative beliefs of how others see the self e.g. high correlation between items such as 'I see myself as inadequate' and 'others see me as inadequate'.

Shame is a complex experience which includes five key elements:

i) Internal self-evaluative

Many of our self-attacking thoughts such as 'I am useless, no good, a bad person, a failure' are essentially shaming thoughts and evaluations. These beliefs and feelings centre on the ideology that one is inferior, inadequate or flawed (Gilbert and Miles, 2002).

Negative self–evaluations relate to the subjective sense of self (Lewis, 1992). This is normally referred to as internal or internalised shame (Cook, 1996) because it is derived from how the self judges the self. Thus one sees oneself as flawed, worthless and unattractive. Many theorists state that inferiority is central to self-evaluation. Kaufman (1989) called shame the 'affect of inferiority'.

ii) Social or external cognition

This refers to an individual who feels that they are being scrutinized and negatively evaluated by other people. In shame the self is split into a 'focal object' and an observing other. Beliefs are held that others see the self as inferior, bad, inadequate and flawed; that is, others are looking down on the self with a condemning or contemptuous view (Gilbert and Miles, 2002). Thus shame is a response to a genuine or fictitious audience, who negatively evaluate the self (Gilbert, 1992; Gilbert, Phel and Allan, 1994).

Shame is often described as an immense fear of being exposed, scrutinized and judged negatively by others (Fischer and Tangney, 1995; Gilbert and Trower, 1990). We seek to live positively in the minds of others, to gain their investment in us and to have them bestow on us a sense of our own value and worth. This sense of value promotes exploration of our environment and a positive affect. Essentially, this refers to evaluations and feelings that are

focused on the 'self-as-seen-and-judged-by-others', or 'self-as-object', and 'self-as-judged-by-self' (Gilbert and Miles, 2002, p.15). Feelings of shame may be triggered when one feels that the other has seen an element of the self that should be kept hidden, and is likely to evoke contempt and disgust in the observer.

iii) Emotion

When attention is drawn to specific episodes of shame, there remains considerable debate concerning exactly what kind of emotion shame must be (Gilbert and Andrews, 1998). Tangney, (1990, 1996) views shame as an unwanted primary emotion occurring at specific points in time, but this has been challenged by others. It has also been argued that this emotion is distinct from self-esteem, which is an antecedent for shame (Tangney, 1990, 1996)

Research suggests that emotions such as happiness, anger, fear and anxiety are basic primary emotions (Panskepp, 1998), and form the basis of our complex affect system (Clark, 2001). These basic emotions have evolved in order to protect us from harmful stimuli, (Nesse, 1998) and have contributed to our evolutionary understanding. Our understanding of the neurophysiological processes, although limited at this stage has received attention (Schore, 1994). Higher order emotions, or self-conscious emotions such as guilt, embarrassment and disgust have been identified (Lewis, 1995; Tangney, 1995). It is thought that these emotions are distinct only to humans and they occur from the age of two years. At this time a child begins to understand social cues, theory of mind and responds to reinforcement from its environment. This theory of mind skill combines with primary emotions, which gives rise to higher order emotions such as shame and guilt (Gilbert and Miles, 2002). However, how shame combines with primary emotions is complex and is still not well understood, (Gilbert and Miles, 2002).

It is thought that emotions and feelings recruited in shame are various but include anxiety, anger and disgust in the self and self-contempt (Gilbert and Miles, 2002). However, research carried out by Johnson–Laird and Oatley (1989) and Power and Dalgleish (1997) consider emotions such as guilt, shame, loathing and contempt as originating from the emotion of disgust. To be seen as an object of disgust is to be seen as unattractive and undesirable.

iv) Behavioural

When the experience of shame occurs there is a strong urge to hide, run away and avoid exposure. However, when anger is the emotion the individual may retaliate against the one who is 'exposing' the self as inferior, weak or bad. Shame is a powerful emotion associated with exposure of any aspect of the self that we wish to keep hidden from others. With this painful scrutiny of the self, there is a corresponding sense of shrinking, of being small, of being worthless and powerless. Whereas guilt motivates a desire to repair, shame motivates a desire to hide–to shrink into the floor and disappear (Gilbert and Miles, 2002).

v) Physiological

Little is understood about the connection between shame and neurophysiology, (Gilbert and Miles, 2002). However, more is understood about emotions such as anger and anxiety and how this affects physiology, and if these emotions are activated in shame then similar physiological activity will occur.

1.5.3.1 Summary of Gilbert and Miles' model (2002)

A distinction has been made between internal and external shame (Gilbert, 1997). External shame refers to things that others would find bad, weak, inadequate or disgusting and could or would result in attack or rejection. Here the self is considered an object of evaluation, as

one imagines how one looks to another. Shame focuses on (i) the social world, beliefs about how others see the self, which is the focus of this study (ii) the internal world, how one sees oneself, or (iii) both, how one sees oneself as a consequence of how one thinks others see the self (Gilbert and Andrew, 1998). This has been a major theoretical concept of shame (Lewis, 1981) not previously investigated.

Shame is also a complex set of feelings, cognitions and actions whose exact features vary from person to person. It is an experience that is self-focused, and dependent on the competencies to construct the self as a social agent thus it is called a self-conscious emotion (Fischer & Tangney, 1995).

The self-conscious emotion of shame is dependent on specific competencies being achieved, for example theory of mind, which arise from about two years of age (Zahn-Waxler, 2000). In fact the connection between 'what I think others think about me' and 'what I think about me given what I think others think about me' have been essential to the understanding of social behaviour (Retzinger, 1991, p15).

1.5.4 Shame and psychopathology

There is growing interest in the role of shame in the development and maintenance of psychopathology (Kaufman, 1989; Mollon, 1984; Morrison, 1984). Feeling inferior, bad or worthless in the eyes of others are captured by the concept of shame-proneness, now recognised to be a major vulnerability factor for psychopathology. Shame, but not guilt was found to be a predictor of depression and anxiety in a student population (Gillbert, 1992, Mollon and Parry, 1984). Shame-proneness increased anger-proneness in interpersonal interactions, (Tangney, 1992) and was highly associated with feelings of self–consciousness, inferiority, helplessness, anger at self, and fear of negative evaluation (Gilbert, 1992).

Shame has been associated with a number of phenomena such as anger arousal, suspicion, inferiority, helplessness, and self–consciousness (Lewis, 1986, Gilbert, Pehl and Allan, 1994;Tangney, Wagner, Fletcher and Gramzow, 1992). Shame-proneness is connected to psychopathology rather than guilt-proneness, (Niedenthal, Tangney and Gavanski (1994). Shame has also been shown to be associated with depression more than guilt (Harder, Cuter and Rockart, (1992). However, their study was based on a student population, where symptom severity is likely to be lower, perhaps using a clinical sample would have been more useful.

Although the origins of shame can be viewed differently, it is thought that shame is the key emotion in depression. In essence, Power and Dalgleish, (1997) define shame as disgust directed towards the self, in which we judge ourselves to have fallen short of the standards set by real or imaginary others. Although shame and guilt are considered to derive from the basic emotion of disgust, in shame it is the self rather than an act carried out by the self that becomes the object of disgust (Power and Dalgleish, 1997). To be seen as an object of disgust is to be seen as unattractive and undesirable.

It has been argued that disgust is not an affect that is associated with social anxiety and depression, but shame is associated with both, (Tangney, Wagner and Gramzow, 1992). As correlational analysis was used the direction of this association was not defined. However, their research was based on a very large sample of undergraduates and it included people from diverse cultures, making it a representative sample.

Scheff, (1995) hypothesized that conflict is caused by hidden shame and that it is both a cause and effect of protracted conflict. Using a mixture of both qualitative and quantitative analysis this hypothesis was supported. Her research was based on students' re-enacting

conflicts that they had previously had with their parents. This was carried out as it was thought that the context in which conflict occurs is central to the analysis of this concept. Her theory concentrated on specific interaction patterns between family members, the emotion of shame and the relationship between the two. Specifically her work was based on the ideology that interminable conflict is generated by dysfunctional communication patterns and by unacknowledged shame. Family members seemed ashamed of their thoughts and feelings, especially shame and anger, which are inevitable in close relationships. Continued shame in families is thought to emerge through a cycle of disrespectful words, gestures, shame and anger, which perpetuates disrespectful gestures, and so the cycle continues.

1.5.5 Summary of shame

It is theorised that shame can be purely internal or external. It is considered that, '...self-blame, self-consciousness, failing to meet standards, and negative social comparisons are common correlates of shame, but they are not central to it. Rather it is an inner experience of the self as unattractive, under pressure to limit possible damage of self via escape or appeasement, which captures shame most closely.' (Gilbert and Andrews, 1998, p22). The essential component is the sense of personal unattractiveness and of feeling undesired. Shame is an automatic response to awareness that one has lost status and is devalued (Gilbert and Andrews, 1998).

1.6 Social comparisons and shame

Social comparisons are considered to be the key variable in social relating (Festinger, 1954). In order to define oneself, one must distinguish oneself from others which is done by evaluating ones distinctive features compared to another. Social comparisons are carried out in order to reduce stress concerning oneself, acquiring information regarding the ability of others and enhancing ones self esteem compared to another. It has been argued that social comparisons are

based on three dimensions of rank (i) comparison of relative strength and power (inferior-superior and weak - strong) (ii) social attractiveness and talent and (iii) the degree of 'fit'-is the person able to join groups, (Allan and Gilbert, 1995).

To understand ones level of attractiveness to another, an individual must monitor not only how others react to the self, but also what one's current support networks are. This process incorporates social comparison (Gilbert, Price & Allan, 1995), and abilities to monitor and evaluate what one thinks others think about the self, which is called 'reputation tracking' (Gilbert and Miles, 2002, p8). Individual members of a group will usually try to conform to standards that increase rather than decrease their social attractiveness. Shame can take place when we sense that we are failing to elicit positive affects in another, and instead we are stimulating their anger or contempt (Gilbert and Miles, 2002).

Lewis (1971, 1986, 1987) proposed that self other comparisons are central to shame. Shame is perceived as a power relationship derived from negative self-other comparisons. Our standards and ideals are often taken from other people (Suls and Willis, 1991), making social comparison a possible salient cognition in shame (Gilbert and Andrews, 1998). Two central dimensions to this are 'inferior–superior' and 'same–different' (Allan and Gilbert, 1995, p.294), suggesting that measures of unfavourable social comparison are highly correlated with shame measures. Furthermore, using the other shamer scale (OAS), which examines external shame-proneness (Goss, Gilbert, and Allan 1994) social comparison correlated at .57 with the (OAS) in a student population (Gilbert, Allan, Ball and Bradshaw, 1996).

1.6.1 Social comparisons and psychopathology

There is considerable research to suggest that social comparisons are an important variable mediating many aspects of our emotional and social lives (Suls and Willis, 1991) and this can act as a confidence and self-esteem modulator (Gilbert, 1992). It was found that unfavourable social comparisons are salient factors in depression (Swallow and Kuiper 1988; Furman and Brewin 1987 and Allan and Gilbert, 1995). Gilbert, Allan and Trent (1995) found that depressives saw themselves as inferior, less competent, less likeable, more reserved and more left out. Clinical observations suggest that depressed people make social comparisons such as feeling an outsider, not like others and not fitting in (Brewin and Furman, 1986). The dimensions of social comparison appear to be 'same-different' rather than 'inferior- superior'. Research by Allan and Gilbert, (2002) indicates that rank and social 'fitting in' are salient dimensions for social comparisons.

People with high self-esteem compare themselves with others to draw attention to their talents and abilities, while people with low self–esteem opt for damage limitation, self-protection and minimizing exposure, to their weak points (Baumeister, Tice, and Hutton, 1989). However, people with low self–esteem seem to enjoy comparing themselves with inferior others when they succeed, as it offers a safe opportunity to reveal their success, (Wood, Giordano-Beechj, Taylor, Michela, and Gaus, 1994). There have been many therapeutic observations suggesting that a tendency to compare ones self unfavourably with others, is associated with a variety of psychological difficulties including depression (Beck, Rush Shaw, and Emery, 1979). In a review of the major studies Taylor and Brown, (1988) found that people generally rate themselves above average on various traits, but not everybody can be above average and much depends upon the comparison group one has in mind. So, rather than allowing participants to identify their own comparison group, siblings will be used instead in the present study.

1.6.2 Sibling comparisons

Using social comparisons research, this will form the basis of understanding sibling comparisons. Sibling conflicts can occur surrounding resources such as care, affection, approval and prestige from parents (Gilbert, 1989) and this can affect a child's self-perception (Dunn, 1992). Preferential treatment given to siblings can lead to a sense of inferiority as it sends a negative message about the childs' relative attractiveness to others. Typical perceptions of favouritism of a sibling can be due to: gender, e.g. 'my brother was the favourite because my parents preferred a boy'; age, e.g. 'I had it more difficult because I was the oldest' and personality, e.g. 'my parents preferred my sister because her values fitted into the family more'. In a free interview with sisters, McConville (1985) found that these kinds of comparisons were common and parents can use direct comparisons with children.

Perceived differences between the self and a sibling(s) in eliciting parental affect and responsiveness is associated with increased sibling conflict (Stocker, Dunn and Plomin, 1989) and a variety of emotional difficulties (Boer and Dunn, 1992), but this is based on child research. Gilbert, Allan and Goss (1996) found that a group of female students who felt that siblings were more favoured than them had associated vulnerability to psychopathology, negative social comparison, shame and interpersonal problems. However, this study can be criticised because males were only excluded and it was based on a student sample,

A child, who doubts their attractiveness, expects to be criticised, or to lose out in competing for attention, may enter their peer group lacking in confidence to form relationships and may adopt submissive or aggressive behaviours. These in turn may affect forms of social relating and the types of signals and behaviour elicited from others e.g. eliciting criticism,

disapproval, rejection or disinterest (Gilbert, Allan and Goss, 1996), increasing susceptibility to psychopathology.

The evidence suggests that children are extremely sensitive to social comparison processes within the family from the pre-school period onward (Dunn, 1988). The potential for such comparisons can affect a child's own self–worth and competence. It is important to recognise that this process could continue into adulthood within sibling relationships, something that has not been investigated using quantitative analysis. Even if direct comparisons are not made in adulthood by an outsider an adult may still compare oneself to their sibling.

Although most of these sibling comparisons were referred to in childhood, they were not limited to that period. Returning to previous research, one participant presented a case in which a parent used overt comparisons in later life (Ross and Milgram, 1982). However, the low number of people reporting negative sibling comparisons, either internally, 'I feel inferior compared to my sibling' or externally, 'My mother states that I have achieved more than my sibling', may be partly attributed to the fact that this was not an area that was focused on directly, so this may account for the low frequency of current sibling comparisons.

Direct comparisons between siblings' physical and psychological dimensions or achievements can lead to rivalry. Many of these dimensions may be extensions of early-learned interaction patterns, which continue into adulthood. Competition and comparisons are considered by many to be typical of sibling relationships in adulthood (Adams 1968). Siblings are used as 'yardsticks' by which success and failure is measured (Troll, 1971; Adams, 1968).

Feeling inadequate compared to a sibling is strongly associated with external shame and social comparisons. This provides evidence that sibling relationships can instil a sense of inferiority. As siblings can be, 'cruel, competitive and shaming' (Gilbert, Allan and Goss, 1996, p29) this relationship may be dominant in the development of shame. This might be the case if the family dynamic is competitive.

In conclusion, although the concept of making caparisons has not been entirely neglected, it has focused on child literature, or a retrospective analysis of sibling relationships in childhood, with little attention towards adults.

1.7 The Importance Of Put Down and Shaming in Sibling Relationships

To understand the importance of put down and shaming in association with shame and depression, it is necessary to draw upon the parent-child dyad and marital research to examine this, as research does not exist in terms of adult sibling relationships.

1.7.1 Put down and shaming associated with psychopathology

The word depression is derived from the Latin 'deprimere' meaning pressing down and being brought down in status and fortune (Jackson, 1986). Literature dating back to Alfred Adler (1870 – 1937) suggests that psychopathology is related to being forced down in social status, feeling inferior and behaving submissively. This sense of inferiority can arise from being treated as weak and incapable, and also from being shamed and devalued. If this feeling of inferiority is carried into adulthood it can contribute to how conflicts are understood, resolved and avoided (Gilbert, 1992)

The concept of social put-down takes into account situations and 'attacks' on the person, which offers information about the relative poor social understanding, acceptance and attractiveness of the recipient in relation to the person putting them down. This would comprise of being criticised, being told one is inadequate and being talked about negatively behind one's back. Being shamed is one factor that can lead individuals to perceive themselves as inferior and subordinate. These critical communications often involve nonverbal components (e.g. anger, contempt, disgust, Lewis, 1992) and are commonly accompanied by verbal statements that indicate a loss of attractiveness (e.g. you are stupid).

Shame arises from early parent–child interactions in which a child experiences a failure in parental attunement. Instead of finding shared joy in the experience of achievement, the child experiences the parent as a deflating stimulus i.e. the parent ignores, does not reflect the child's joy or puts the child down (Schore, 1991). These early shaming and devaluing experiences can have major effects on brain maturation (Schore, 1994). Consistent verbal attacks from a parent; such as he/she is bad, stupid, inadequate and useless locate the child as in low status position, (Bergner, 1988). A lack of mirroring, approval and acceptance, especially if carried out on a regular basis, with direct attacks, put-downs and criticisms from parents may lead to the internalisation of sense of self as unattractive, worthless and with little value as a person. These internal experiences of self as worthless, bad, inadequate and inferior are commonly associated with shame (Barrett, 1995; Gilbert, 1992).

Proneness to feel shame is an innate capacity Gilbert and McGuire, (1998), but excessive shame-proneness is believed to arise from internal negative representations of the self derived from previous experiences of being shamed (Lewis, 1987). Andrews (1995) found a link between abusive childhood experiences and shame-proneness, and demonstrated a mediating role between shame and psychopathology in chronic depression.

Returning to the work of Gilbert and Gerlsmas, (1999), further evidence supports the view that shaming and put down can contribute to psychopathology. Early shaming experiences and favouritism were found to be higher in the clinical group compared to the community population. Parental shaming and favouring siblings was highly associated with recalled lack of parental warmth. This study highlights the point that not only lack of affection, but the damaging effects of being shamed and being less favoured than a sibling can contribute to psychopathology. The main criticism of this study is that it is based on a retrospective study and it gives no indications as to the causal direction of this link. With retrospective studies there is a danger that autobiographical memory may be influenced by mood state (Lewinsohn and Rosenbaum, 1987). If an individual is depressed then it is likely that there may be a reduction in the number of positive memories recalled.

Gilbert, Allan and Goss, (1996) reported that a group of students who had early experiences of being shamed by parents and of being a non-favourite child later experienced interpersonal problems and psychopathology. Furthermore, Gilbert, Allan and Goss, (1996) discovered that parental put-down/shaming, and favouritism existed in relation to sensitivity to shame, interpersonal problems and psychopathology.

The detrimental effects of criticism on mental health are well known (Falloon, 1988; Jenkins and Karno, 1992). For depression, fears of refusal and rejection have long been connected (Beck, Rush, Shaw and Emery, 1979). A critical spouse can increase relapse rates compared to depressed people living with a supportive spouse (Belsher and Costello, 1988). Vinkur and van Ryan (1993) found that social undermining (defined as social hindrance, negative social support and social conflict) had a stronger, though more volatile, impact on mental health than social support over two time periods. Moreover spouse criticism (put-down) has been found to be a major predictor of relapse (Hooley and Teasdale, 1989).

Given the number of negative consequences of shaming and put down, it seems surprising that this area has not been researched in terms of adult sibling relationships.

1.8 Depression

Research suggests that depression occurs in approximately 6% of the population, with this being characterised as major depressive disorder or dysthymia (Roth and Fonagy, 1996). This finding has also been supported by the National Institute of Mental Health (NIMH) Epidemiological Catchment Area (ECA) survey, in which it has been estimated that 6% of the population have depression, meeting the diagnostic criteria from the DSM-III R for affective disorders within a six-month period (Robins and Reiger, 1991). When examining life time prevalence rates of depression research suggests that 17.1 per cent have had an episode of depression (Blazer, Kessler, McGonagle and Swartz, 1994).

1.9 Conclusion to Literature Review

It is necessary to study adult sibling relationship independently of childhood sibling relationships, as this relationship is not static, but changes over time. This literature review supports the perception that warmth, conflict and rivalry are salient dimensions that occur in an adult sibling relationship. Warmth has been shown to be a protective factor against mental health problems (Brody, 1996; Cicirelli, 1989). Furthermore, conflict and rivalry dimensions have been positively correlated with mental health problems (Stocker, Lanthier and Furman, 1997; Cavenar and Butts, 1977 and Frank, 1979). Unfortunately, with correlational analysis it is difficult to determine if mental health problems cause one to perceive their sibling relationship negatively, or if the actual relationship itself is contributing to mental health problems, however, there still remains a link.

1.10 Aim of the Study

This literature review has demonstrated that gender, sibling dyad (sister-sister, brother-brother or sister-brother) and geographical location can affect warmth and conflict, but this will also be examined in terms of rivalry.

Shame-proneness is a vulnerability factor for psychopathology (Gilbert, 1992; Mollon and Parry, 1984) and social comparisons are central to shame (Lewis, 1971, 1986 and 1987). It seems surprising that the process of comparison making has not been investigated in relation to siblings, when siblings are often used as 'yardsticks' by which success and failure is measured (Troll, 1971 and Adams, 1968). There seems to be a gap in the literature concerning specific dimensions of an adult sibling relationship (warmth, conflict, rivalry and put down) and their association with shame, when depression has been examined.

There also appears to be a gap in the sibling relationship literature concerning the process of sibling put down and shaming, as evidence shows that put down and shaming, in general, influences psychopathology between the parent-child dyad (Gilbert and Gerlsma, 1999). There have been many indirect studies that have noted emotional sensitivity to criticism and put down and this may be involved in a number of psychological difficulties and disorders (Gilbert, 1992; Allan and Gilbert, 1997). The current study will focus on depression, as this is the most common mental disorder.

This study aims to discover if dimensions of warmth, conflict, rivalry, put down and shaming in the sibling relationship and sibling comparisons are associated with external shame and depression. In order to explore this, a depressed and control sample will be used as this has not been undertaken in this area of adult sibling relationships.

1.11 Hypotheses

1) A significant difference will exist between (i) control sample and (ii) depressed clinical sample on the following dimensions:

   i. Warmth scores will be higher in the control sample
   ii. Conflict scores will be higher in the depressed clinical sample
   iii. Rivalry scores will be higher in the depressed clinical sample
   iv. Sibling putdown and shaming scores will be higher in the depressed clinical sample
   v. Negative sibling comparisons scores will be higher in the depressed clinical sample
   vi. External shame scores will be higher in the depressed clinical sample
   vii. Depression scores will be higher in the depressed clinical sample

2a) The following factors will significantly contribute to the higher order dimension of warmth as measured using the ASRQ:

   i. How often siblings see each other
   ii. Sibling dyad
   iii. Geographical distance between siblings

2b) The following factors will significantly contribute to the higher order dimension of conflict as measured using the ASRQ:

   i. How often siblings see each other
   ii. Sibling dyad
   iii. Geographical distance between siblings

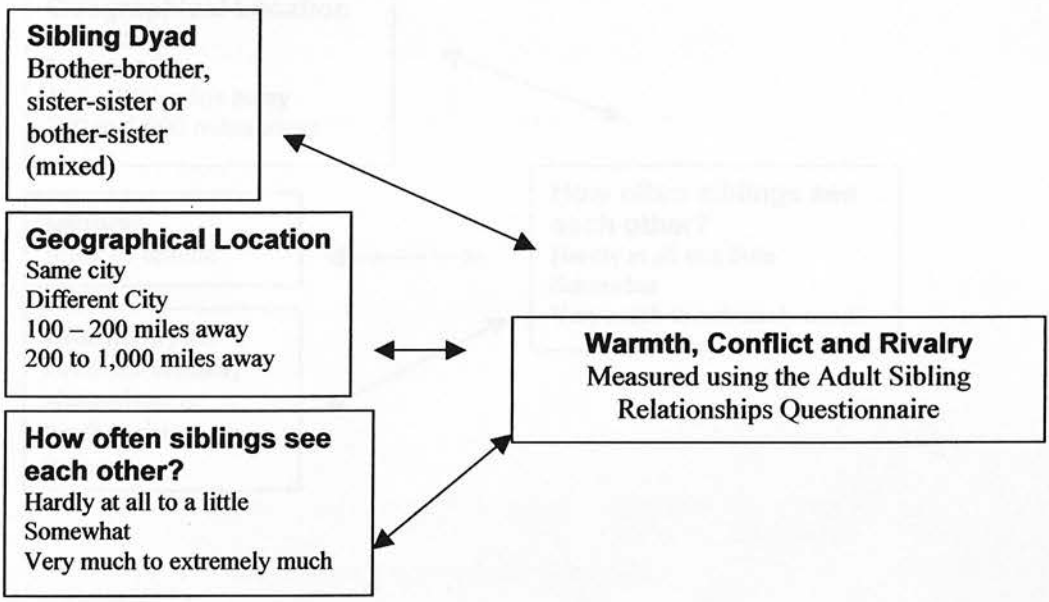
2c) The following factors will significantly contribute to the higher order dimension of rivalry as measured using the ASRQ:

i. How often siblings see each other

ii. Sibling dyad

iii. Geographical distance between siblings

Figure 1: Hypotheses 2a, 2b and 2c.



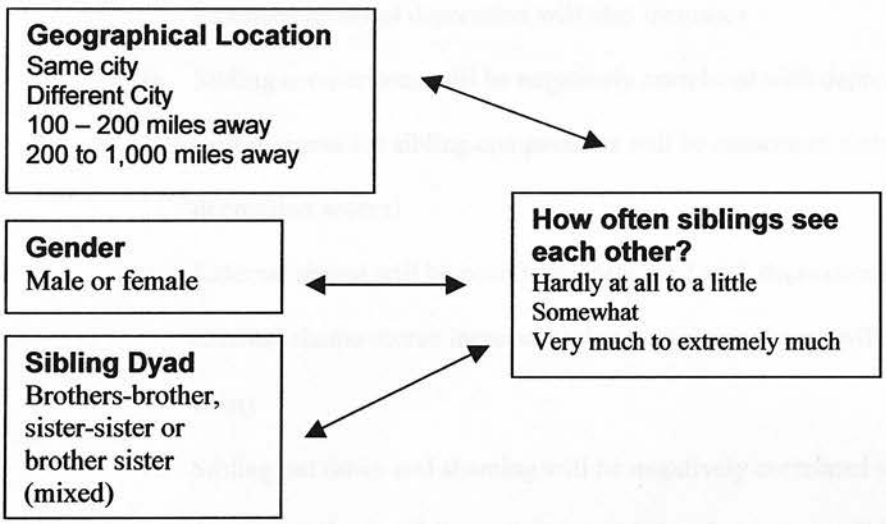
3) The following factors will significantly contribute to how often siblings see each other:

i. Geographical location

ii. Gender

iii. Sibling dyad.

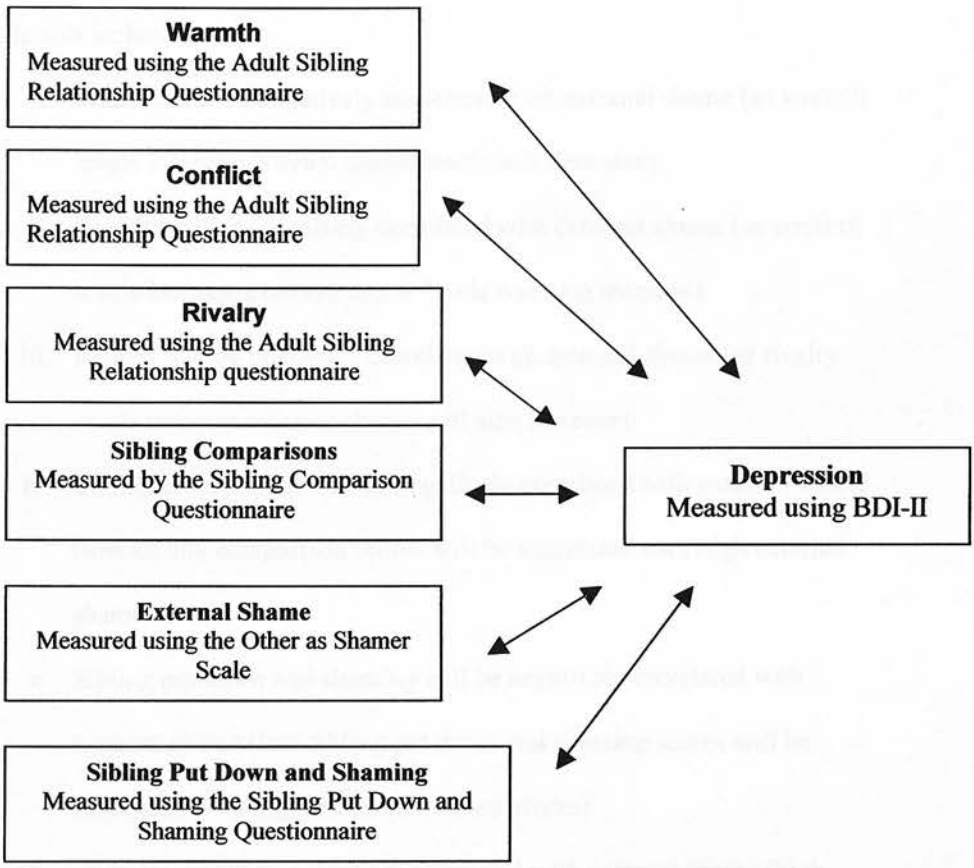
Figure 2: Hypothesis 3



4a) Factors significantly associated with depression as measured using the BDI-II will include:

i. Warmth with be negatively correlated with depression (as warmth increases levels of depression will decrease).
ii. Conflict will be positively correlated with depression (as conflict increases levels of depression will increase)
iii. Rivalry will be positively correlated with depression (as rivalry increases levels of depression will also increase)
iv. Sibling comparisons will be negatively correlated with depression (lower scores for sibling comparisons will be associated with higher depression scores)
v. External shame will be positively correlated with depression (as external shame scores increase higher depression scores will also exist)
vi. Sibling put down and shaming will be negatively correlated with depression (lower sibling put down and shaming scores will be associated with higher depression scores.

Figure 3: Hypothesis 4a



4b) Factors significantly associated with external shame as measured using the Other as Shamer scale will include:

i. Warmth will be negatively associated with external shame (as warmth levels increase external shame levels will decrease)

ii. Conflict will be positively correlated with external shame (as conflict levels increase external shame levels will also increase)

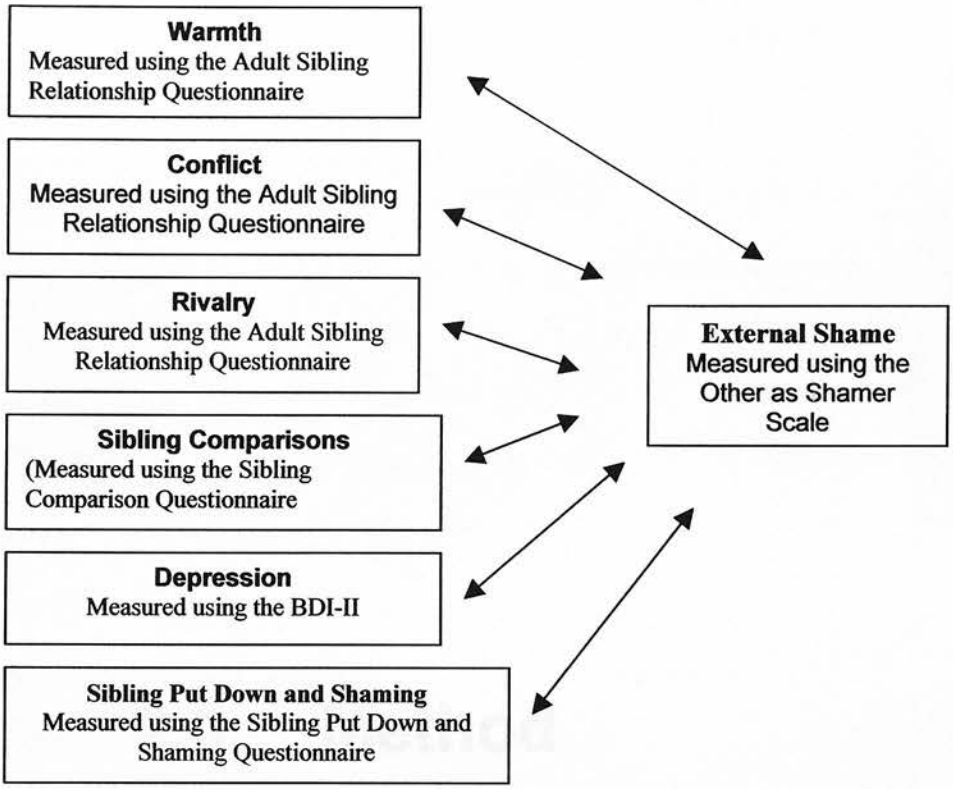
iii. Rivalry will be positively correlated with external shame (as rivalry levels increase external shame will also increase)

iv. Sibling comparisons will be negatively correlated with external shame (low sibling comparison scores will be associated with high external shame scores)

v. Sibling put down and shaming will be negatively correlated with external shame (low sibling put down and shaming scores will be associated with higher external shame scores)

vi. Depression will be positively correlated with external shame (high scores for depression will be associated with high scores for external shame)

Figure 4: Hypothesis 4b



2.0 Method

2.1 Design

This is based on a case control study design. A cross-sectional design was used in order to increase the response rate.

2.2 Ethical Approval

Ethical approval to carry out this study was granted by Grampian Research Ethics Committee and this was gained on 15 January 2003. (See letters from ethics committee appendices A and B).

2.3 Procedure

2.3.1 Materials

i) Patient information sheet (see appendix C)

ii) Consent form (see appendix D)

iii) Five questionnaires

iv) A stamped addressed envelope was also included with each questionnaire to increase the response rate and maintain confidentiality.

2.3.2 Identification of participants

Participants were recruited through a number of different sources. The depressed group were identified through psychologists, psychiatrists, community psychiatric nurses and ward staff. To protect the identity of participants the questionnaires were made anonymous as a result. The researcher is aware of the number of questionnaires given to health care professions in order to be distributed to participants, but it is unknown who actually completed the questionnaires. The control group was identified though various departments at two hospitals within the area. The questionnaires completed by the control group had a 'C' to identify this

group and the depressed group had a 'D' for identification purposes. Both the control and depressed group were recruited concurrently. It was initially recommended that participants should only have one sibling and this criterion was fulfilled for the control group. However, for the depressed group this was difficult to achieve. Therefore, it was altered to any number of siblings, but the sibling closest in age had to be used in order to answer the questionnaires.

2.3.3 Inclusion and exclusion criteria

Group	Inclusion	Exclusion
Depressed	Participants aged between 18 and 65 years Participant must have had a primary diagnosis of depression within the last year. This diagnosis should be in line with the ICD10 classification for depression. Must have biological siblings i.e. siblings must share the same parents closet in age. Must be able to consent to participation in research.	Substance misuse Psychotic depression Manic depression Step or half siblings
Control	Participants must be aged between 18 to 65 years BDI-II score of ≤ 14 Must have biological siblings i.e. siblings must share the same parents Must be able to consent to participation in research.	Substance misuse History of mental health problems Step or half siblings

2.3.4 Pathways to Participation

2.3.4.1 Recruiting Depressed Group

2.3.4.1.1 Psychologists

At the clinical psychology departmental meeting the researcher discussed the nature of the study together with inclusion and exclusion criteria for recruiting participants. At the meeting ten psychologists took an average of seven questionnaires to give to clients. The clinical psychologist explained the nature of the research to suitable participants and he or she was given a pack containing a patient information sheet, consent form and questionnaires. Participants were given the option of refraining from the research at any

point, returning the completed questionnaire to the psychologist, or to the researcher in the pre-paid envelope provided. One participant requested that the researcher should be present whilst the questionnaire was completed. Four clinical psychologists also discussed this research at their community mental health team. All participants were given the option of asking the researcher any questions.

2.3.4.1.2 Psychiatrists

Letters were written to each of the psychiatrists in the adult mental health service (see appendix E). Following this, four psychiatrists contacted the researcher, asking for further clarification regarding the research. Once this information was provided, the psychiatrists identified fifteen patients in total, giving names and addresses of these patients to allow questionnaire packs including consent form to be sent out, however, verbal consent was given to the psychiatrist by participants before a pack was sent. A joint covering letter from the psychiatrist and the researcher was also included (See appendix F).

Follow-up telephone calls were carried out to the remaining psychiatrists. Following this, with the permission of two psychiatrists the researcher attended two CMHT meetings. At both meetings an outline of the research was given. Ten packs, including consent form, patient information sheet and questionnaires were given out at the first meeting. For the second CMHT meeting, health care professionals could not identify any participants who met the inclusion criteria.

2.3.4.1.3 Community Psychiatric Nurses (CPNs)

The researcher attended the CPNs monthly meeting. The aim of the research was presented together with the inclusion and exclusion criteria for recruiting participants. At the meeting twenty packs, were distributed which included a consent form, patient information sheet, and questionnaires were given to CPN's who could identify patients. Again, CPN's explained the nature of the research to the participant. Participants were informed that they could withdraw from the research at any time, or give the completed questionnaires back to the CPN, or return it in the pre-paid envelope provided.

2.3.4.1.4 Nursing staff from Wards

Separate meetings were held with four nurse managers. During the meetings, the aim of the research was discussed and the inclusion and exclusion criteria were outlined. Using this approach three participants were identified by the nurse manager and consequently their psychiatrists were contacted, in order to establish if the patient was able to give consent to take part in the research. The participant's psychiatrist gained consent from the participant before the researcher made contact. All participants chose to be assisted in completing the questionnaire.

2.3.4.2 Recruiting Control Group

Opportunity samples of managers from different departments located at two separate hospitals in Aberdeen were contacted to inform them about the nature of the research. Following this, with the permission of the manager a poster was displayed in each department, on notice boards, (see appendix G), inviting staff members to participate in the study. The poster described the nature of the study, number of questionnaires to be completed, inclusion criteria and length of time for questionnaire completion. If staff wanted to participate in the research or ask further questions a telephone number was made available

on each poster in order to do this. Once a staff member made contact with the researcher he/she was given two options (i) completing the questionnaire independently (ii) arranging a separate meeting time with the researcher to help them compete the questionnaire. However, each of the staff members declined the second option, preferring to do this independently. Following this contact the questionnaires were sent to the department together with a stamped addressed envelope to return the form. In total, 65 people contacted the researcher. None of the participants scored above 14 on the BDI-II. If a participant had scored above this number, then their data set would have been removed from the study. The participant would not have been contacted as the questionnaire was made anonymous.

2.4 The final sample

In total 82 participants took part in this research. 49 participants were in the control group (not depressed) and 33 were in the depressed group. Participants were asked to base their answers to the questions on their sibling who was closest in age. This has its advantages as these siblings should have had the most contact to one another whilst growing up. This is also useful because it means that the siblings are more likely to remain in contact with one another in adulthood (Hinde, 1979).

2.5 Measures

Five structured questionnaires were disseminated to participants in both the depressed and control group.

2.5.1 Adult Sibling Relationships Questionnaire

There are three measures that are commonly used to examine adult sibling relationships, these include; (i) The Adult Sibling Relationship Scale (ASRQ) (ii) Lifespan Sibling Relationship Scale (LSRQ), (iii) and the Sibling Type Questionnaire (STQ). The ASRQ was chosen in favour of the LSRQ because it has been used to examine the quality of sibling

relationships and also the effects of this relationship on mental health. The ASRQ examines ones perception of their sibling and also asks the participant to think how their sibling perceives them. It was also chosen because it examines the current sibling relationship rather than a retrospective analysis of childhood sibling relationships. The LSRQ was rejected because it excludes items that directly assess rivalry and conflict, instead has a more general approach to sibling relationships. The STQ has developed five typologies (supportive, longing, competitive, apathetic and hostile), but it does not directly measure warmth, conflict and rivalry, which this research aims to examine.

The Adult Sibling Relationship Questionnaire (ASRQ) focuses on adults' perceptions of their sibling relationship. This scale was developed as an age appropriate extension of the sibling relationship questionnaire for children (Furman and Buhrmester, 1985) and includes additional subscales such as emotional support, instrumental support, knowledge and acceptance of their sibling's lifestyle, which shall be used.

The ASRQ is an 81-item scale, in the form of a Likert scale, which measures 14 subscales and three high order Factors (warmth, conflict, and rivalry). In addition, the front sheet requests demographic information, geographic distance between siblings' residence and frequency of contact. 12 of the 14 items are scored on a 5-point continuum, with items beginning 'how much……' and responses ranging from hardly at all to extremely much. The other two subscales use a different 5-point format, with each containing six items related to maternal and paternal favoritism, support and emotional closeness. Subscales evaluating similarity and quarrelling contain four and five items, respectively, with other subscales each containing six items. All the maternal and paternal rivalry subscales are scored by averaging response scores. Rivalry subscales are scored according to deviation from scale midpoints, with scores ranging from 0-2. Low scores indicate an absence of rivalry, and high scores indicate perceptions of relatively high sibling rivalries.

Scale and factor scores have shown high levels of internal consistency, test-retest reliability, and low correlations with measures of socially desirable responding. The questionnaire also has face validity (Lanthier, Stocker, & Furman, 2001a; 2001b; Stocker, Lanthier, & Furman, 1997). (See appendix H)

2.5.2 Sibling Comparison Scale

As there was no other available scale that measures how a sibling perceives themselves in relation to their sibling, it was necessary to adapt the social comparison scale. Professor Gilbert verbally granted permission in order to make this alteration to his scale. Rather than asking respondents to rate themselves in comparison to 'others', instead, the scale asks for this to be done in relation to 'siblings'. This is a one-word alteration to the original scale. Using the alpha reliability coefficient (Cronbach, 1951) on this adapted scale for the depressed and control groups, a score of 0.88 was achieved, which means that this scale has good internal reliability. The questionnaire also has face validity. This original scale was chosen because it has been used in a number of studies (Allan and Gilbert 1997; Gilbert and Allan, 1998).

The modified scale asks participants to make a sibling comparison with a series of eleven bipolar constructs rated 1-10. For example, the scale asks, 'in relation to my sibling I feel'.

Inferior 1 2 3 4 5 6 7 8 9 10 superior

The original social comparison scale gives a total score for social comparisons, followed by three sub-scale factors:

1. Social rank, (unlikeable-likeable, undesirable-more desirable, unattractive-more attractive).
2. Rank, (inferior-superior, incompetent-competent, untalented-more talented and weaker-stronger).
3. Group-fit, (left out-accepted, different-same, unconfident-more confident, outsider-insider). (See appendix I)

2.5.3 Other as Shamer Scale

There are a number of scales that measure shame using different approaches. Shame is measured is currently measured in two ways. Some scales present a range of scenarios; here a person is asked to anticipate their level of distress in those situations, which taps into state shame. This is a useful approach to the study of shame; however, shame-proneness is more beneficial for the purposes of this study. Cook, (1993) examined internalised shame and asked respondents to rate the frequency with which they experience different thoughts and feelings, which taps into trait shame and is focused on global self evaluations. Although, this is also a useful measure tool it has 30 items present, which is far lengthier to complete than the OAS. Furthermore, the reason for not focusing exclusively on internal shame is because various shame theorists (Lewis, 1987; Gilbert, 1992) suggest that self evaluation and evaluation of the self by others are closely linked. Lewis, (1971, 1986, 1987) argued that shame involves a sense of scrutiny and negative self-evaluation by a more powerful other(s).

The other as shamer scale (OAS) was developed from Cook's (1993) internalised shame scale (ISS) by Goss and Allan (1994). It examines external shame, which refers to global judgements of how other people think others see them (i.e. I think other people see me as inadequate). The scale consists of 18 descriptions of feelings or experiences. Participants respond on a five-point scale indicating how often they feel this way (ranging from 0=never, to 4=almost always). The value of alpha for this scale was 0.92, which indicates good internal reliability (Goss 1994). This questionnaire has face validity. This scale is designed to

measure external shame, that is how one thinks one appears to others rather than internal self –judgements (Gilbert, 1998). (See appendix J)

2.5.4 Put down and shaming questionnaire

The sensitivity to put-down scale could have been adapted Gilbert and Miles, (2000), which is a twenty-item questionnaire, which identifies certain situation where individuals may feel putdown. Here the participant rates how anxious and distressed they feel in relation to a situation. This scale looks at the level of self-blame, criticism or social put-down and how much they blame others. Although this is a useful tool, it does not concentrate on siblings, and as an initial area of enquiry, the aim of this research is to firstly understand if put-down and shaming occurs in adult sibling relationships. It was also felt that it was too long to be used in association with the other questionnaires used.

The put down and shaming self-report questionnaire, which was adapted from the work of Gilbert, Allan and Goss (1996), it was originally used to examine parental shaming and put down, but the author has adapted it for sibling relationships. The questionnaire has been minimally altered; the word parent has been substituted for siblings. Professor Gilbert verbally granted permission to make this alteration for the present research. The questionnaire consists of four items, scored 1 – 4. The Cronbach alpha coefficient in the study by Gilbert et al (1996) was 0.94 for maternal put-down and 0.94 for the father. The retest interval was 5 weeks and the Pearson's correlation was 0.85 ($P<0.001$) between the mother put-down total scores and 0.77 (P 0.001). However, the adapted scale used in this research achieved a Cronbach alpha score of 0.90, which shows that this scale has very good internal reliability. This scale also has face validity. (See appendix K)

2.5.5 Beck Depression Inventory

The BDI-II (Beck, Steer and Brown, 1996) (Appendix K) is the most recent version of the BDI, originally developed by Beck, Ward, Mendelson, Mock and Erbaugh (1961) and subsequently revised by Beck, Rush, Shaw and Emery (1979). Unlike the previous revision, substantial changes have been made in the BDI-II. Four items have been dropped and replaced by new ones and many of the possible options for each item have been reworded. Cut-off scores categorising the severity of depression symptoms have also been revised.

The BDI-II is a 21-item, self-report measure of depression severity suitable for use with individuals' aged 13 and over. Each item is scored on a four point scale from 0-3 with cut-offs set at 0-13 for 'minimal', 14 –19 for 'mild', 20 –28 for 'moderate', and 29-63 for 'severe' depression. The cut-off scores are based on a depressed sample that had received a single or recurrent diagnosis of depression. Beck et al (1996) reported internal consistency for the BDI-II with alpha coefficients of 0.92 over approximately one week. Construct validity was also found to be robust with significant positive Pearson correlations with other measures of depression. (See appendix L)

2.6 Statistics

Non-parametric statistics were chosen for several reasons (a) the data was not normally distributed (b) it is also clearer for the reader to understand median values rather than logged data (c) there were also relatively small numbers in the two groups (depressed and control).

2.6.1 Sample Characteristics

The Mann Whitney test will be used to assess differences in median age difference and age of subjects between the healthy and control group. The Chi-squared test was used to investigate the associations between ranking (oldest/youngest), geographical distance

between siblings, how often siblings see each other and attendance at family gatherings between the depressed and control group. Fisher's Exact test was used to assess the association between the number of siblings between the control and depressed group.

2.6.2 Hypotheses

1) A significant difference will exist between (i) control sample and (ii) clinical sample on the following dimensions:

   i. Warmth scores will be higher in the control sample
   ii. Conflict scores will be higher in the depressed clinical sample
   iii. Rivalry scores will be higher in the depressed clinical sample
   iv. Sibling putdown and shaming scores will be higher in the depressed clinical sample
   v. Negative sibling comparisons scores will be higher in the depressed clinical sample
   vi. External shame scores will be higher in the depressed clinical sample
   vii. Depression scores will be higher in the depressed clinical sample

The Mann-Whitney test was used to assess differences in the median values of continuous variables between the depressed and control group. This was carried out for warmth, conflict, rivalry, depression, sibling comparisons, external shame and put down and shaming.

2a) The following factors will significantly contribute to the higher order dimension of warmth as measured using the ASRQ:

   i. How often siblings sees each other
   ii. Sibling dyad
   iii. Geographical distance between siblings

2b) The following factors will significantly contribute to the higher order dimension of conflict as measured using the ASRQ:

i. How often siblings sees each other

ii. Sibling dyad

iii. Geographical distance between siblings

2c) The following factors will significantly contribute to the higher order dimension of rivalry as measured using the ASRQ:

i. How often siblings sees each other

ii. Sibling dyad

iii. Geographical distance between siblings

In order to answer 2a, 2b, and 2c hypotheses the Kruskal-Wallis test was used as it examines the median differences in continuous variables between three or more groups.

3) The following factors will significantly contribute to how often siblings see each other:

i. Geographical location

ii. Gender

iii. Sibling dyad.

In order to answer this question the chi-squared test was used to examine associations between two categorical variables.

4a) Factors significantly associated with depression as measured using the BDI-II will include:

i. Warmth with be negatively correlated with depression (as warmth increases levels of depression will decrease).

ii. Conflict will be positively correlated with depression (as conflict increases levels of depression will increase)

iii. Rivalry will be positively correlated with depression (high rivalry is associated with high depression)

iv. Sibling comparisons will be negatively correlated with depression (lower scores for sibling comparisons will be associated with higher depression scores)

v. External shame will be positively correlated with depression (as external shame scores increase higher depression scores will also exist)

vi. Sibling put down and shaming will be negatively correlated with depression (lower sibling put down and shaming scores will be associated with higher depression scores.

4b) Factors significantly associated with external shame as measured using the Other as Shamer scale will include:

i. Warmth will be negatively associated with shame (as warmth levels increase external shame levels will decrease)

ii. Conflict will be positively correlated with external shame (as conflict levels increase external shame levels will also increase)

iii. Rivalry will be positively correlated with external shame (as rivalry levels increases external shame will also increase)

iv. Sibling comparisons will be negatively correlated with external shame (low sibling comparison scores will be associated with high external shame scores)

v. Sibling put down and shaming will be negatively correlated with external shame (low sibling put down and shaming scores will be associated with higher external shame scores)

vi. Depression will be positively correlated with external shame (high scores for depression will be associated with high scores for external shame)

In order to answer hypothesis 4a and 4b the Spearmans rank correlation measured associations between two continuous variables.

3.0 Results

3.1 Response Rate

Of the 183 participants who were approached, 82 (45%) agreed to participate in this research.

3.2 Sample Characteristics

Table 1: Characteristics of the depressed clinical and control groups

Variable	Depressed n=33	Control n=49	*U*	*Z*	P-value
Age (years)	41 (32 to 52)	28 (26 to 31)	416.500	-3.714	< 0.001
Age Difference	2 (2 to 4)	3 (2 to 6)	678.000	-1.265	0.206

Values are median (interquartile range)

Variable	Depressed n=33	Control Group n=49	Chi-square	df	P-value
Gender			0.59	1	0.808
Male	39 (n=13)	37 (n=18)			
Female	61 (n=20)	63(n=31)			
Number of siblings					0.001
One	79 (n=26)	100 (n=49)			
Three	12 (n=4)				
Four	6 (n=2)				
Five	3 (n= 1)				
Sibling Dyads			820	2	0.664
Brother	19 (n=6)	20 (n=10)			
Sisters	42 (n=14)	33 (n=16)			
Mixed	39 (n=13)	47 (n=23)			
Ranking			2.211	1	0.137
Older	36.4 (n=12)	53.1 (n=26)			
Younger	63.6 (n=21)	46.9 (n=23)			
Distance			10.418	3	0.015*
Same city	46(n=15)	29 (n=14)			
Different city	3 (n=1)	31 (n= 15)			
100 - 200 miles away	27 (n=9)	16 (n=8)			
200 – 500 miles away	9 (n=3)	12 (n=6)			
500 – 1,000 miles away	6 (n=2)	10 (n=5)			
More than 1000	9 (n=3)	2 (n=1)			
How often do siblings see each other?			6.184	2	0.045*
Hardly at all	31 (n=10)	4 (n=2)			
A little	21 (n=7)	25 (n=12)			
Some what	36 (n=12)	40 (n=19)			
Very much	6 (n=2)	25 (n=12)			
Extremely much	6 (n=2)	8 (n=4)			

Table 1: Sample characteristics continued

Attendance to family Gatherings			15,227	3	0.002*
Hardly at all	33 (n = 11)	8 (n=4)			
A little	27 (n= 9)	14 (n=7)			
Somewhat	21 (n=7)	23(n=11)			
Very much	12 (n=4)	35 (n=17)			
Extremely much	6 (n=2)	20 (n=10)			
Phone contact made by participant			6.196	3	0.102*
Hardly at all	27 (n=9)	12 (n=6)			
A little	27 (n=9)	29 (n=14)			
Somewhat	31 (n=10)	22 (n= 11)			
Very much	9 (n=3)	27 (n=13)			
Extremely much	6 (n=2)	10 (n=5)			
Phone contact from sibling to participant			3.171	2	0.205*
Hardly at all	33 (n=11)	6 (n=3)			
A little	18 (n=6)	35 (n=17)			
Somewhat	33 (n=11)	27 (n=13)			
Very much	13 (n=4)	24 (n=12)			
Extremely much	3 (n=1)	8 (n=4)			

% (n)

*chi-squared based on collapsed categories due to small numbers.

3.2.1 Age difference

Figure 5: Distribution of age differences between siblings for the control and depressed group

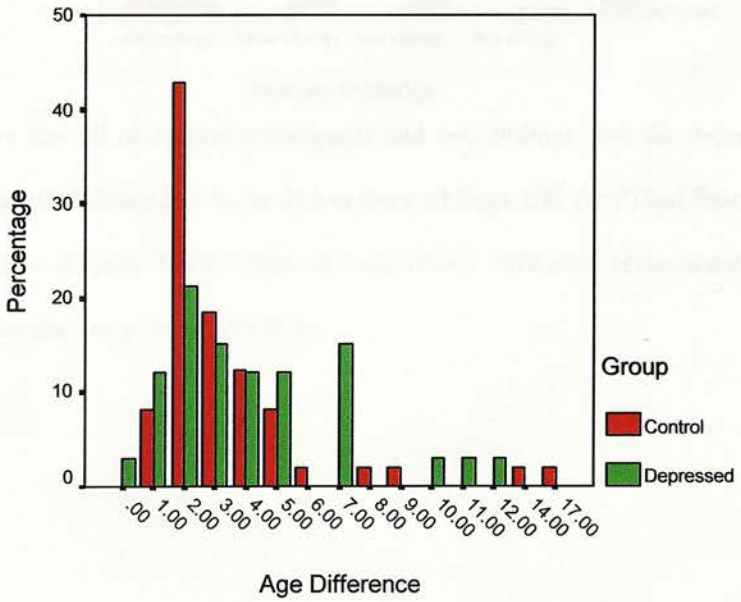


Figure 5 shows that the most common age difference group for the control population was two years 43% (n=21). The age difference for the control group ranged from 1 -17 years. The highest percentage age group for the depressed group was also two years 21% (n=7) and the age difference for the depressed group ranged from 1-12 years. Table 1 confirms a significant difference in overall median age between the control and depressed groups ($p \leq 0.001$).

3.2.2 Number of siblings

Figure 6: Number of siblings (%) in the control and depressed groups

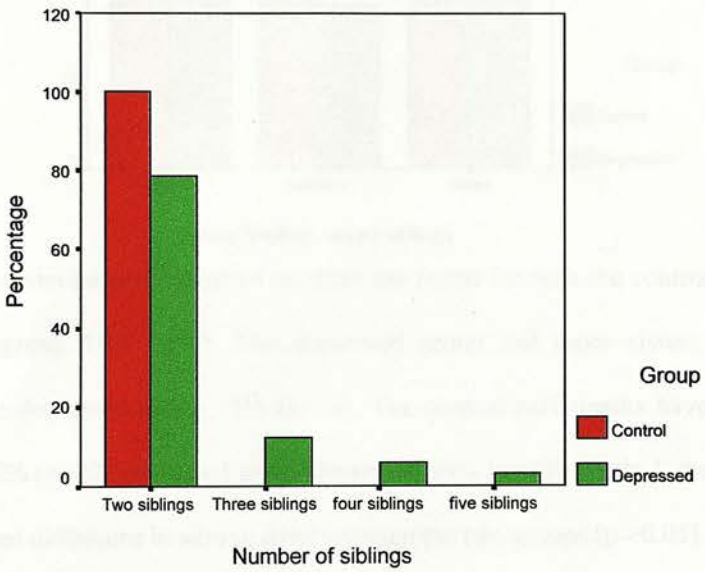


Figure 6 shows that all of control participants had two siblings. For the depressed group, 79% (n=26) had two siblings, 12 % (n=4) had three siblings, 6% (n=2) had four siblings and 3% (n=1) had five siblings. Table 1 showed a significant difference in the overall number of siblings between the two groups (p=0.010).

3.2.3 Sibling dyads

Figure 7: The percentage of sisters, brothers and mixed sibling dyads for the depressed and control groups

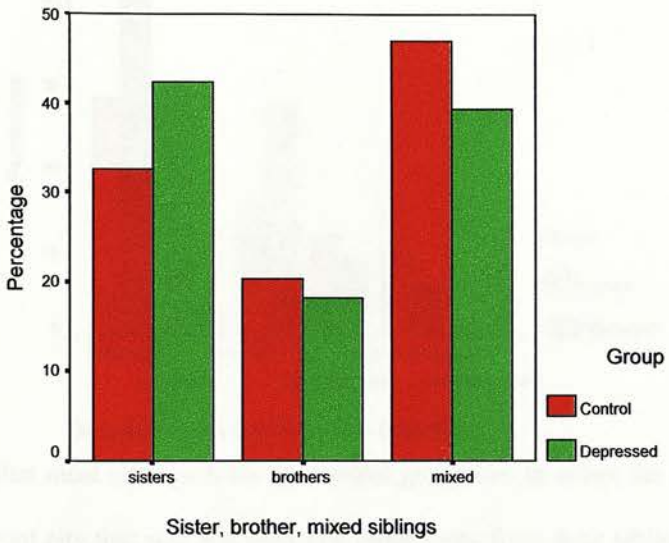


Figure 7 shows a similar percentage of brothers are found for both the control 20% (n=10) and depressed group 18% (n=6). The depressed group had more sisters 42% (n=14) compared to the depressed group 33% (n=16). The control participants have more mixed sibling dyads 46% (n=23) compared to the depressed 39% (n=13). Table 1 shows that there was no significant difference in sibling dyad between the two groups ($p > 0.05$)

3.2.4 Distance between siblings

Figure 8: Distance between siblings for the depressed and control group

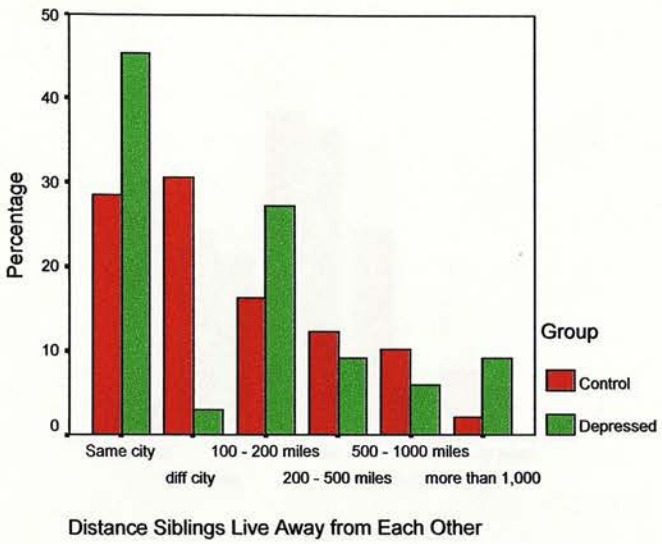


Figure 8 shows that most siblings from the control group live in either the same city 28% (n=14) or a different city that was less than 100 miles away from their sibling 36% (n=15). For the depressed group, most siblings lived in the same city 45% (n=15). Table 1 shows a significant difference in distance, between sibling between the control and depressed groups. In order to perform Chi-square analysis the above categories were collapsed into the following groups (i) same city (ii) different city (iii) between 100-200 miles away (iv) between 200-1000 miles away.

3.2.5 How often do you see each other?

Figure 9: Contact between siblings in the control and depressed group

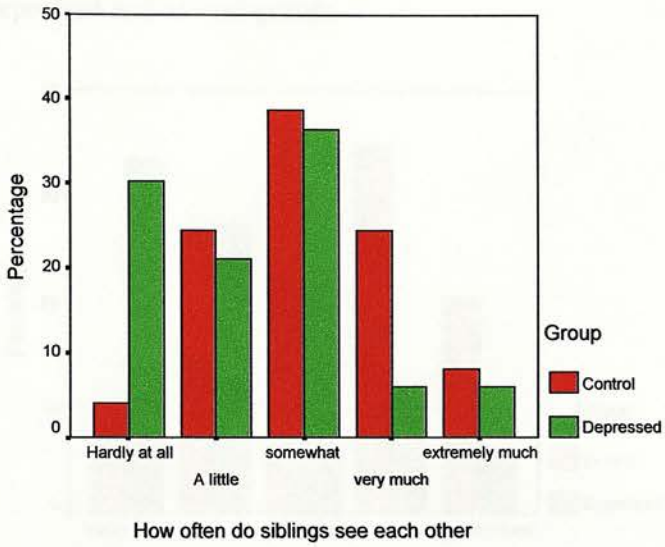


Figure 9 shows that control participants are most likely to see their sibling somewhat 39% (n=19), a little 24% (n=12) or very much 25% (n=12). However, depressed siblings are more likely to see their sibling somewhat 36% (n=12) or hardly at all 30% (n=10). More control siblings are likely to see their sibling extremely much 8% (n=4) compared to the depressed group 6% (n=2). Table 1 shows a significant difference between how often siblings see each other and overall group status (p=0.045)

3.2.6 Family gatherings

Figure 10: Percentage of holidays and family gatherings attended for the depressed and control groups

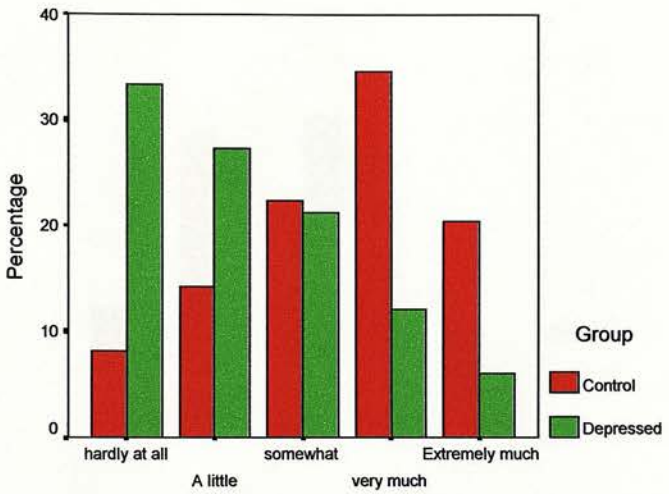
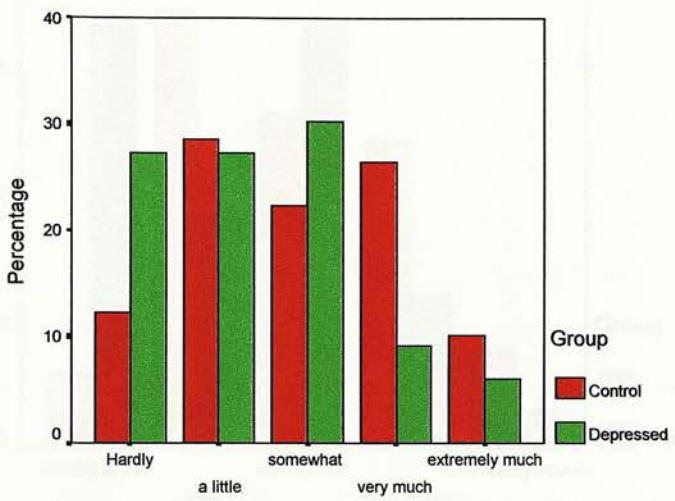


Figure 10 shows that control participants are most likely to engage in family gatherings and holidays, with the most responses being for somewhat 22% (n=11), very much 34% (n=17) and extremely 20% (n=10). However, the depressed group are less likely to take part in this activity with more responses occurring for hardly at all 33% (n=11) and a little 27% (n=9). Table 1 shows a significant difference between attendance at family gatherings between the control and depressed groups (p=0.002).

3.2.7 Phone contact

Figure 11: Percentage of phone contact made by participant in the control and depressed group



Level of phone contact made by subject

Figure eleven shows that more of the depressed participants hardly call their sibling 33% (n=11) compared to the control group 6% (n=3). More control participants call their sibling either very much 25% (n=12) or extremely much 8% (n=4), compared to the depressed group 9% (n=3) and 6% (n=2) respectively. Table 1 shows that there was no overall significant difference in the level of phone contact between the two groups (p=0.102)

Figure 12: Percentage of perceived phone contact from sibling to participant in the control and depressed groups

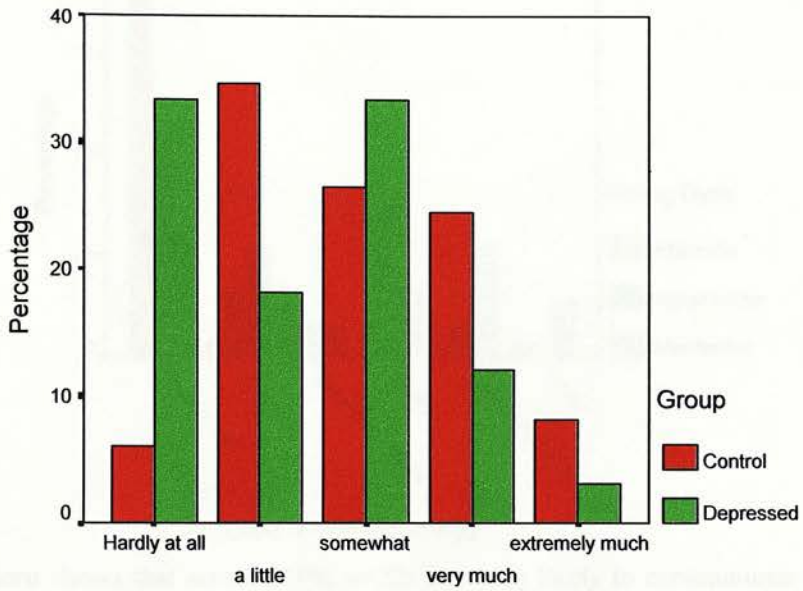


Figure twelve shows that for the hardly at all phone contact, depressed participants have a higher prevalence 33% (n=11) compared to the control group, 6% (n=3). In comparison to the depressed group, more control participants perceive that they receive phone contact very much 25% (n=12) and extremely much from their sibling 8% (n=4), compared to the depressed group 12% (n=4) and 3% (n=1) respectively. Table 1 shows that there was no significant difference in overall phone contact between the two status groups (p=0.205).

3.2.8 Level of communication

Figure 13: Percentage of level of communication for sibling dyad.

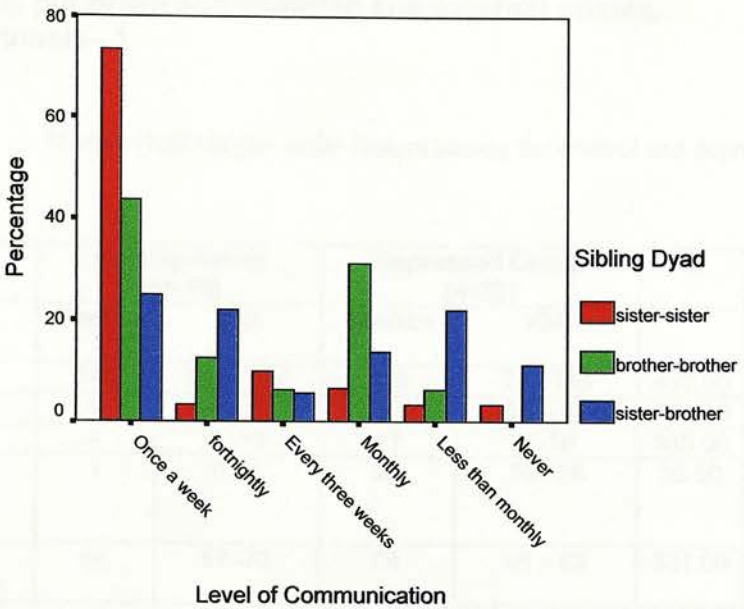


Figure thirteen shows that sisters (73%, n=22) are more likely to communicate with one another on a weekly basis and mixed siblings are least likely (25%, n=9). In terms of fortnightly, sister-sister level of communication is lower (3%, n=1) and mixed siblings are more likely to see each other (22%, n=8). More mixed siblings are likely to never see their sibling (11%, n=4) compared to sisters (3%, n=1), but these percentages are very low.

Table 2: Level of communication for the combined depressed and control groups combined

Level of Communication	Frequency	Percentage
Once a week	38	46
Fortnightly	11	13
Every three weeks	6	7
Monthly	12	15
Less than monthly	10	12
Never	5	6

In total 88% (n=85) people have had at least monthly contact with their sibling. Most siblings see each other at least weekly 46% (n=38) and only 6% (n=5) never see each other.

3.3 Significant differences between the control and depressed group for warmth, conflict, rivalry, depression, sibling comparisons, sibling put down and shaming and external shame. Hypothesis– 1

Table 3: Median (IQR) higher order factors among the control and depressed groups

	Healthy Group (n= 49)		Depressed Group (n=33)		U	Z	P
	Median	IQR	Median	IQR			
Warmth	148	123 - 180	119	78 –143	467.00	-3.23	0.001*
Conflict	38	30 - 51	35	31 – 44	734.50	-.700	0.484
Rivalry	4	0 -10	11	5 -16	388.00	-2.80	0.005*
Beck Depression Scale	1	0 - 4	23	16 –35	38.50	-7.33	0.000*
Sibling Comparisons	64	57 -73	54	46 – 62	381.00	-3.90	0.000*
Putdown and Shaming	16	14 - 16	15	10 –16	557.00	-2.22	0.026*
External Shame	13	8 -18	34	19 – 46	257.50	-4.94	0.000*

There was a significant difference between the depressed and control groups on measures such as warmth (p= 0.001), rivalry (p= 0.484) depression (p=<0.001), sibling comparisons (p=≤0.001), put-down and shaming (p=0.026) and external shame (p=<0.001). However, there was no significant difference between the two groups for conflict (p>0.05).

3.4 Subscales which make up the higher order factors

Although this section is not related specifically to the constructed hypotheses, it is important to understand the questions that make up the higher order factors.

3.4.1 Warmth

Table 4: Median (IQR) subscales for warmth among the depressed and control groups.

Subscale factors for warmth	Depressed *Median (IQR)*	*Control* *Median (IQR)*	U	Z	P-Value
Similarities	11 (9 – 14)	33 (9.0 – 11.0)	442.500	-3.480	0.001
Intimacy	19 (14 – 23)	14.0 (8– 19.0)	504.500	-2.879	0.004
Affection	20 (16 –25.5)	16.0 (11– 22.0)	533.500	-2.605	0.009
Admiration	21 (18 – 24.0)	17.0 (13 – 21)	473.000	-3.181	0.001
Emotional support	20 (14 – 25.5)	14 (11 – 19)	473.000	-3.169	0.002
Instrumental support	16 (11 – 19.5)	12 (8 – 15)	495.000	-2.965	0.003
Acceptance	22 (20 – 24)	20 (13 – 24)	561.000	-2.349	0.019
Knowledge	19 (18 – 23.5)	16 (11 – 21)	564.500	-2.484	0.013

The 4 shows that all of the subscale factors are significantly different between the control and depressed groups ($p \leq 0.05$). Therefore each subscale factor contributes to the difference seen in warmth between the two groups. The higher the warmth score, the more likely warmth exists.

3.4.2 Conflict

Table 5: Median (IQR) subscales for conflict among the depressed and control groups

Subscale factors for conflict	Control *Median (IQR)*	*Depressed Median (IQR)*	U	Z	P-Value
Quarrelling	9 (7 – 13)	9 (7 – 11)	720.000	-.842	0.400
Antagonism	9 (7 – 14)	11 (8 – 15)	691.000	-1.117	0.264
Competition	8 (7 –12)	8 (7 – 11)	779.000	-0.282	0.778
Dominance	10 (7 – 13)	8 (7 – 11)	667.00	-1.384	0.178

No subscales for conflict were significantly different between the control and depressed groups. The higher the score the more likely the subscale exist.

3.4.3 Rivalry

Table 6: Median (IQR) maternal and paternal rivalry subscales among the control and depressed groups

Subscale Factors	Depressed Median (IQR)	Control Median (IQR)	*U*	*Z*	*P-value*
Maternal rivalry	5 (1 – 8)	2 (0 –6)	427.500	-2.361	0.018
Paternal rivalry	8 (1 – 12)	0 (0- 7)	471.500	-3.301	0.001

Parental rivalry and maternal rivalry are significantly different between the control and depressed group. The higher the rivalry score the more likely rivalry exist.

3.4.4 Put down and shaming

Table 7: Median (IQR) subscales of put down and shaming by group

Subscale factors contributing to sibling put down and shaming	Control Median (IQR)	Depressed Median (IQR)	*U*	*Z*	*P-value*
Made to feel Stupid	4 (4 –4)	4 (1 –4)	584.000	-2.143	0.032
Made to feel inadequate	4 (4 – 4)	4 (2 – 4)	500.000	-3.170	0.002
Made to feel put down	4 (4 – 4)	4 (2 – 4)	590.500	-2.064	0.039
Made to feel embarrassed	4 (4 - 4)	4 (3 – 4)	628.000	-1.632	0.103

The table shows a significant difference between groups on made to feel stupid ($P = 0.032$) made to feel inadequate ($P = 0.002$) and made to feel put down ($P = 0.039$). Made to feel embarrassed was not significantly different between the control and depressed groups. The lower the sibling put down and shaming score, the more likely this subscale exists.

3.4.5 Sibling Comparisons

Table 8: Median (IQR) subscales among the depressed and control groups for sibling comparisons

Subscale Items Contributing to Sibling Comparisons	***Depressed Median (IQR)***	***Control Median (IQR)***	***U***	***Z***	***P-value***
Inferior / superior	5 (4 – 6)	6 (5 – 7)	594.000	-1.879	0.060
Incompetent / competent	5 (4 – 7)	6 (5 - 7)	575.000	-2.063	0.039
Unlikeable / more likeable	4 (3 – 6)	6 (5 – 6)	454.000	-3.422	0.001
Left out / accepted	5 (3 – 6)	6 (5 – 7)	405.000	-3.733	0.000
Different /Same	5 (3 – 5)	5 (4 – 6)	570.500	-2.099	0.036
Untalented / more talented	6 (4 – 7)	6 (5 – 6)	723.500	-0.605	0.545
Weaker / stronger	5 (3 – 7)	6 (5 – 7)	573.500	-2.072	0.038
Unconfident / more confident	5 (3 – 6)	6 (5 – 8)	509.500	-2.688	0.007
Undesirable / more desirable	5 (3 – 6)	6 (5 – 6)	464.000	-3.157	0.002
Unattractive / more attractive	5 (3 – 6)	5 (5 – 6)	579.000	-2.031	0.042
Outsider / insider	4 (3 – 6)	6 (5 – 7)	343.000	-4.330	$\leq$0.001

Using the Mann-Whitney U test the following subscales were significantly different between the two groups: incompetent / more competent ($P = 0.039$), unlikeable/likeable ($P = 0.001$), left out/accepted ($P \leq 0.001$), different / same ($P = 0.036$), weaker /stronger ($P = 0.038$), unconfident /more confident ($P = 0.007$), undesirable/more desirable ($P = 0.002$), unattractive/more attractive ($p = 0.042$) and outsider/insider ($P \leq 0.001$). Inferior/ superior, untalented/more talented and unattractive/ more attractive were not significantly different between the control and depressed groups. We can postulate that all subscales, except inferior/superior and untalented/more talented contribute to the significantly lower sibling comparison scores among the depressed group. The lower the score the more likely it is that the participant makes a negative sibling comparison.

3.5 Factors (sibling dyad, geographical location and how often siblings see each other) significantly contributing to warmth, rivalry and conflict. Hypothesis-2a, 2b and 2c.

3.5.1 Warmth

Table 9: Median (IQR) warmth by range of potential contributing factors

Variable	Warmth Median (IQR)	Chi-square	df	P-Value
Sibling Dyad		3.849	2	
Sisters	149 (115 – 188)			0.146
Brother	132 (116– 162)			
Mixed	125 (86 – 158)			
Distance		1.787	5	
Same city	133 (82– 172)			0.878
Different City	132 (114 – 156)			
100 – 200 miles away	132 (118 – 159)			
200 to 500 miles	148 (124 – 172)			
500 miles to 1,000	179 (101 – 199)			
More than 1,000	138 (80 – 185)			
How often do you see your sibling?		28.664	4	
Hardly at all	72 (63 – 97)			≤ 0.001
A little	119 (93 – 136)			
Somewhat	143 (131 – 170)			
Very much	157 (128 – 199)			
Extremely much	175 (143 – 206)			

Using the Kruskal-Wallis test table 9 shows that how often siblings see each other is significantly associated with the level of warmth perceived within the relationship. It appears that as the amount of sibling contact increases so does the amount of warmth within the relationship. However, sibling dyad and distance are not associated with the higher order factor of warmth.

3.5.2 Rivalry

Table 10: Median (IQR) rivalry by range of potential contributing factors

Variable	Rivalry Median (IQR)	Chi-square	df	P-Value
Sibling Dyad		3.266	2	
Sisters	7 (0 – 14)			0.195
Brother	2 (0 – 11)			
Mixed	7 (4 – 14)			
Distance		3.646	5	
Same city	8 (0 –16)			0.601
Different City	9 (4 – 15)			
100 – 200 miles away	7 (1–12)			
200 to 500 miles	6 (0 – 9)			
500 miles to 1,000	1 (3 – 8)			
More than 1,000	1 (4 – 11)			
How often do you see your sibling?				
Hardly at all	12 (7 – 21)	12.001	4	0.017
A little	10 (4 – 16)			
Somewhat	4 (0 – 9)			
Very much	6 (0 –14)			
Extremely much	3 (0 – 11)			

Using the Kruskal-Wallis test table 10 shows that how often the participant sees their sibling may contribute to the level of perceived rivalry within the relationship. The less often siblings see each other the greater the amount of rivalry. Sibling dyad and distance are not significantly associated with rivalry.

3.5.3 Conflict

Table 11: Median (IQR) conflict by range of potential contributing factors

Variable	Conflict Median (IQR)	Chi-square	df	P -Value
Sibling Dyad		2.782	2	0.249
Sisters	40 (32 – 52)			
Brother	37 (26 – 42)			
Mixed	35 (30 – 48)			
Distance		2.227	5	0.817
Same city	36 (32 – 52)			
Different City	37 (30 – 49)			
100 – 200 miles away	36 (32 – 46)			
200 to 500 miles	39 (32 – 49)			
500 miles to 1,000	43 (33 – 63)			
More than 1,000	32 (27 – 39)			
How often do you see your sibling?		9.438	4	
Hardly at all	41 (35 – 62)			
A little	35 (31 – 43)			
Somewhat	36 (31 – 46)			
Very much	32 (27 – 52)			0.510
Extremely much	54 (43 – 68)			

Using the Kruskal-Wallis test the table shows that sibling dyad, distance and how often siblings see each other are not significantly associated with conflict.

3.6 Factors (geographical location, gender and sibling dyad) significantly contributing to how see often siblings see each other. Hypothesis-3

Table 12: Association between gender, geographical location, sibling dyad and contact.

Variable	Hardly at all	A little	Somewhat	Very much	Extremely much	Chi-Square	df	P - Value
Gender						9.315	2	
Male	16 (n=5)	26 (n=8)	52 (n=16)	6 (n=2)	0 (n=0)			
Female	14 (n=7)	21 (n=11)	29 (n=15)	24 (n=12)	12 (n=6)			0.009*
Geographical Location								0.03*
Same city	17 (n=5)	17 (n=5)	21 (n=6)	24 (n=7)	21 (n=6)	2.599	3	
Different City	6 (n=1)	19 (n=3)	30 (n=6)	38 (n=6)				
100 – 200 miles away	6 (n=1)	35 (n=6)	58 (n=10)	0 (n=0)				
200 to 500 miles	11 (n=1)	33 (n=3)	56 (n=5)	0 (n=0)				
500 miles to 1,000	43 (n=3)	14 (n=1)	43 (n=3)	0 (n=0)				
More than 1,000	25 (n=1)	25 (n=1)	25 (n=3)	25 (n=1)				
Sibling Dyad								
Sisters	7(n=2)	13 (n=4)	30 (n=9)	30 (n=9)	20 (n=6)	11.613	2	
Brothers	6 (n=1)	19 (n=3)	69 (n=11)	6 (n=1)	0 (n=0)			
Mixed	25 (n=9)	33 (n=12)	30 (n=11)	12 (n=4)	0 (n=0)			0.03*

Values are raw % (n)

* Chi-square based on collapsed categories

Chi-square tests were conducted and table 12 shows that there is a significant association between gender and contact. It seems that males are less likely to have 'very much' or 'extremely much' contact with their sibling compared to females. There also appears to be a significant difference between sibling dyad and contact, in which sisters are more likely to have 'very much' 'extremely much' contact. Mixed sibling dyads and then brother-brother relationships follow this. Geographical location this was a non-significant associative factor with contact.

In order to perform the statistical test distance was collapsed into the following categories (i) same city (ii) different city (iii) Between 100-200 miles away (iv) between 200-1000 miles

away. How often sibling see each other for distance and sibling dyad was collapsed into (i) hardly at all to a little contact (ii) somewhat to extremely much contact. For gender, the often do you see your sibling was collapsed into (i) hardly at all to a little (ii) somewhat (iii) very much to extremely much.

3.7 Factors significantly associated with depression external shame include; warmth, conflict, rivalry, sibling comparisons, external shame and sibling put down and shaming – Hypothesis 4a and 4b

3.7.1 Correlations for control group

Table 13: Spearman's rank correlations on all higher order factors among the control group

	Depression	External Shame
Warmth	0.001 (n=49)	-0.109 (n=47)
Conflict	0.124 (n=49)	0.056 (n=47)
Rivalry	-0.149 (n=47)	-0.060 (n=46)
Depression		0.275* (n=47)
Sibling Comparison	-0.134 (n=49)	-0.205 ((n=49)
Social Rank (Attractiveness)	-0.108 (n=49)	-0.241 (n=47)
Rank	-0.055 (n=49)	-0.135 (n=47)
Group fit	-0.066 (n=49)	-0.069 (n=47)
Sibling Putdown and shaming	-0.109 (n=49)	-0.298* (n=47)

* $p \leq 0.05$

There was one significant negative correlation between external shame and sibling put-down and shaming (rs =-0.298, $p<0.05$). There was also a positive correlation between external shame and depression (r =*0.275, $p<0.05$)*. The remaining results show that there were no significant associations between the higher order factors.

3.7.2 Correlations for depressed group

Table 14: Spearman's rank correlations on all the high order factors for the depressed group.

	Depression	External Shame
Warmth	-0.32* (n=33)	-0.30* (n=32)
Conflict	0.38* (n=33)	0.32* (n=32)
Rivalry	0.44* (n=27)	0.67** (n=26)
Depression		0.60** (n=32)
Sibling Comparison	0.31* (=32)	-0.52** (n=32)
Social rank (Attractiveness)	-0.22 (n=32)	-0.38* (n=32)
Rank	0.06 (n=32)	-0.32* (n=32)
Group-fit	-0.47** (n=32)	-0.43** (n=32)
Sibling Putdown and shaming	-0.35* (n=31)	-0.43** (n=31)

* $p \leq 0.05$
** $p \leq 0.01$

The table of correlations for the depressed sample shows that: -

- There was a significant negative correlation between warmth and depression (*rs=-0.32, P<0.05)*
- There was a significant positive correlation between conflict and depression (*rs*= 0.38, *p<0.05*).
- There was a significant positive relationship between rivalry and depression (*rs*=0.44, *P*<0.005)
- There was a significant positive relationship between sibling comparisons and depression (*rs*=0.31, *P*<0.05).
- There was a significant positive association between group-fit and depression (*rs* = 0.43, *p*<0.01).

- There was a significant negative correlation between sibling put-down and shaming and depression (rs=-0.53, P<0.05).
- There was a significant positive relationship between external shame and warmth (rs=-0.30, P<0.05).
- There was a significant positive relationship between external shame and conflict (rs=0.32, P<0.05)
- There was a significant positive correlation between and rivalry and external shame (rs =0.67, p<0.01).
- There was significant positive correlation between depression and external shame (rs = 0.60, p<0.01).
- There was a significant negative correlation between sibling comparisons and external shame (rs=-0.52, p<0.01).
- There was a significant negative correlation between social rank and external shame (rs= -0.38, p<0.05), but the magnitude of this association was low.
- There was a significant relationship between rank and external shame (rs=-0.32, P<0.05)
- There was a significant negative association between group-fit and external shame (rs = -0.43, p<0.01).
- There was a significant negative correlation between sibling put-down and shaming and external shame (rs=-0.43, p<0.01), but the magnitude of this correlation was not particularly high.

For the remaining dimensions there was no significant association.

Figure 14: Scattergram between external shame and rivalry.

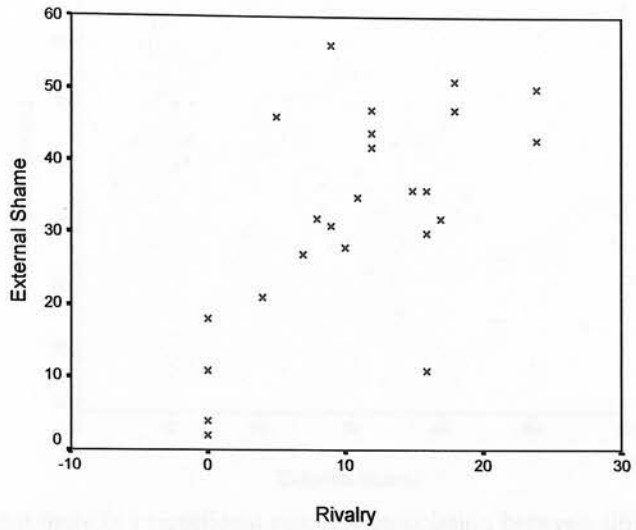


Figure 14 shows a significant positive correlation between external shame and rivalry (r=0.63). See table 13.

Figure 15: Scattergram between depression and external shame.

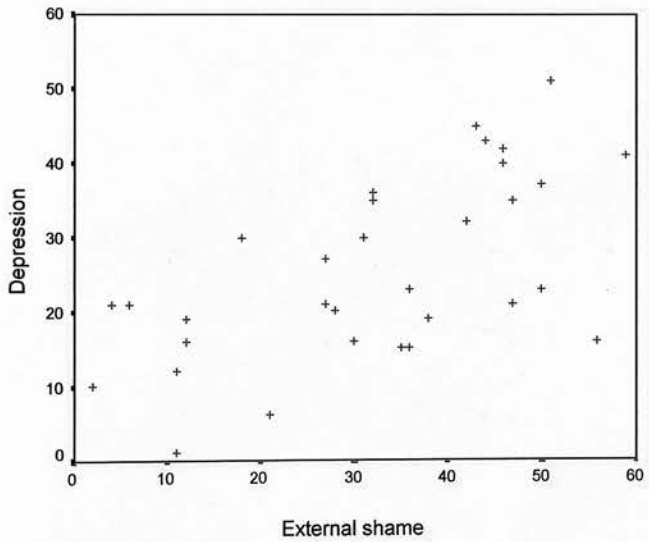


Figure 15 shows a significant positive association between depression and external shame (r=0.60). See table 13.

Figure 16: Scattergram between sibling comparisons and external shame.

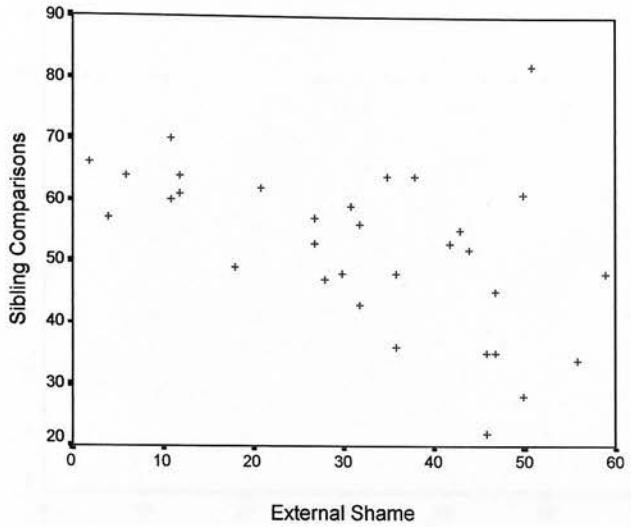


Figure 16 shows that there is a significant negative association between sibling comparisons and external shame (r=-0.52). See table 13.

Figure 17: Scattergram between group-fit and external shame

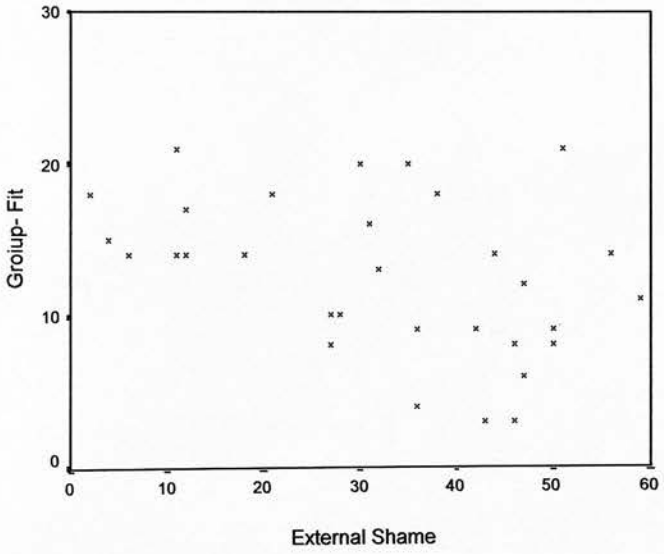


Figure 17 shows a negative correlation between external shame and group-fit (*r*= -0.43*)*. See table 13.

Figure18: Scattergram between sibling put-down and shaming and external shame

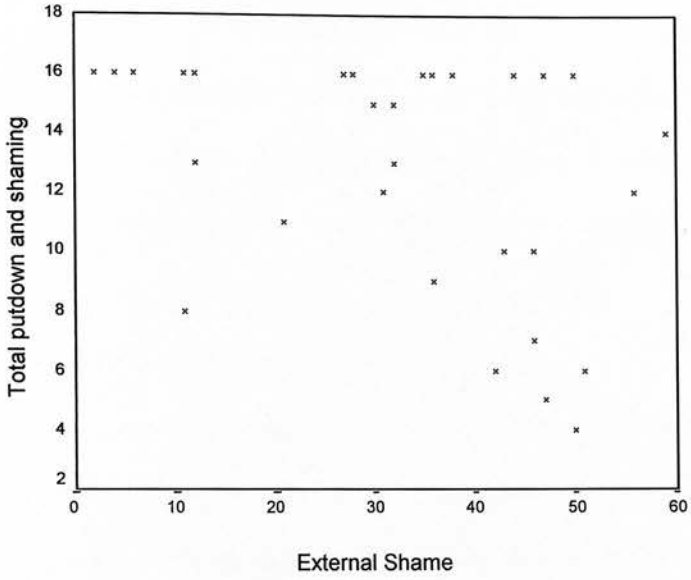


Figure 18 shows a negative correlation between external shame and put down and shaming (*rs*=-0.43*)*. See table 13.

4.0 Discussion

4.1 Preface

The aim of the discussion is to outline the results found in the present research, with subsequent comparisons with previous research in the area. Following this, a critique of the study will be carried out, a discussion of the practical difficulties encountered, suggestions for future research, and finally, how this research can be applied to clinical practice.

4.2 Summary of Results

4.2.1 Characteristics of the sample

The control and depressed groups did not differ significantly in terms of gender, age difference between siblings, sibling dyad, ranking (oldest/youngest) and phone contact made by participant or received by participant from sibling. However, a number of significant differences between the control and depressed groups were noted including; age of sibling, number of siblings within the family of origin, geographical distance between siblings, how often siblings see each other and attendance at family gatherings.

All of the control group (n=49) had one sibling, compared to between two to five siblings for the depressed group. As mentioned in the method section, this significant difference occurred because the criterion for the number of siblings was modified, to increase the response rate. Allowing only one sibling was excluding a large number of participants from the study. For geographical distance between siblings, it appears that more siblings in the depressed group lived either in the same city or in a different city less than 100 miles. Siblings from the control group saw their sibling more often compared to the depressed group. In terms of family gatherings, siblings from the control group were more likely to attend family gatherings. This corresponds with research suggesting that close relationships with others are a protective factor against psychopathology (Lindsay and Powell, 1999).

4.2.2 Significant difference between the control and depressed group for warmth, conflict, rivalry, depression, sibling comparisons, put down and shaming and external shame. Hypothesis–1

The findings from this study indicate a significant difference for warmth as measured by the ASRQ, between the control and depressed group. The highest achievable score for this dimension is 230. The control group's IQR was 123-180 and the depressed group was 78-148. Participants from the control group demonstrated higher warmth scores, indicating higher warmth compared to the depressed group. Each of the subscales that go to make up the higher order factor of warmth (having knowledge about their sibling, acceptance of their sibling's life style, intimacy, similarity, affection, and admiration for their sibling, emotional and instrumental support) all significantly contributed to observed differences in the higher order dimension of warmth.

No significant difference was found between the depressed and control group for conflict as measured using the ASRQ. This indicates that conflict is just as likely to occur in both groups. In terms of the subscale factors that go to make up the higher order factor of conflict it appears that all subscales including; quarrelling, antagonism, competition and dominance were not significantly different between the control and depressed group.

For rivalry, as measured using the ASRQ, a significant difference existed between the control and depressed groups with the depressed group scoring higher. The highest achievable score for rivalry is 24. The control group's IQR was 0-10 and the depressed group was 5-16. In terms of the subscales that go to make up the concept of rivalry it appears that both subscales, paternal rivalry and maternal rivalry, contributed significantly to this higher order factor.

Unsurprisingly, for depression symptomatology, as measured using the BDI-II, there was a significant difference between the control and depressed group, in which higher depression symptomatoloy occurred in the depressed group.

Sibling comparison scores were significantly different between the depressed and control groups. The participants in the depressed group were more likely to make negative sibling comparisons. In terms of the subscale factors that go to make up this higher order factor it appears that incompetent/competent, unlikeable/likeable, leftout/accepted, different/same, weaker/stronger, unconfident/more confident and outsider/insider were significantly different between the depressed and control group.

A significant difference existed for put-down and shaming between the control and depressed group, suggesting this is more likely to occur in the depressed group. The highest achievable score is 16, indicating that a sibling is unlikely to take part in put down and shaming. The IQR for the control group was 14-16 and 10-16 for the depressed group, suggesting that perceived shaming and put down was more likely to occur in the depressed group. The subscales that contributed significantly to the concept of put-down and shaming appear to be, 'made to feel stupid, 'made to feel inadequate' and 'made to feel put down'. However, the subscale of 'made to feel embarrassed about myself' did not appear to contribute significantly to this higher order concept of put-down and shaming. Few studies have compared shame and embarrassment (Tangney, Miller, Flicker and Barlow, 1996). However, shame is considered a more intense emotion compared to embarrassment (Borg, Staufenbiel and Scherer, 1988) so this may explain why this emotion was not significantly different between the depressed and control group. Embarrassment is associated with small transgressions, but shame is associated with serious moral failures (Ortony, Clore and Collins, 1988).

A significant difference between the control and depressed group existed for external shame, as measured by the Other As Shamer scale, indicating that participants in the depressed group were more likely to perceive others as shaming.

4.2.3 Factors (sibling dyad, geographical location and how often siblings see each other) significantly contributing to warmth, rivalry and conflict. Hypothesis-2a, 2b and 2c

The factor that appears to contribute to increased warmth within the sibling relationship was how often siblings see other, but the causal direction of this unknown. This could suggest that increased contact increases warmth, or warmth increases further contact. However, geographical location and sibling dyad did not significantly contribute to this higher order factor.

How often siblings see each other appears to be a factor that contributes to perceived rivalry. In fact, the results indicate an association between low contact and high rivalry, however the causal direction is unknown. This Suggests that high rivalry may cause siblings to reduce contact with one another, or less contact contributes to increased rivalry. Sibling dyad and geographical location does not significantly contribute to rivalry.

Sibling dyads, geographical distance from sibling and how often siblings see each other does not significantly contribute to conflict. This is probably attributed to the fact that conflict remained relatively constant across the depressed and control group, as no significant difference was found between the two groups.

4.2.4 Factors (geographical location, gender and sibling dyad) significantly contributing to how often siblings see each other. Hypothesis-3

There seem to be a number of factors that have contributed to how often siblings see each other. Gender appears to significantly contribute to this, in which females were more likely to spend 'very much' to 'extremely much' time with their sibling. How often siblings see each other is also significantly affected by sibling dyad, in which sisters had 'somewhat/very much/extremely much' contact. Mixed sibling dyads were the next largest amount of contact followed by brothers. However, geographical location between siblings did not significantly contribute to how often siblings see each other.

4.2.5 Significant associations between warmth, conflict, rivalry, sibling put down and shaming, sibling comparisons, depression and external shame dimensions. Hypothesis – 4a and 4b

For the control group a significant negative correlation coefficient existed between external shame and sibling put down and shaming, in which high scores were found on external shame and low scores on put down and shaming. However, the magnitude of this correlation coefficient was low. A significant positive correlation was found between depression and external shame but the magnitude of this correlation was low. This was largely attributed to the fact that lower external shame and depression scores were present in the control group, which one would expect. The causal direction of this significant association is unknown. It is possible that external shame could contribute to sibling put down and shaming, but equally the reverse association could be likely. None of the other dimensions were significantly associated with external shame or depression, however, this was expected given the low scores for depression and external shame for the control group.

The depressed group had more significant associations compared to the control group, which was expected given the higher depression and external shame scores, however, the causal direction of all associations remains unknown. When examining rivalry, a significant positive correlation occurred with external shame, which suggests that a high score for one dimension was associated with high scores in another. A significant positive correlation coefficient between rivalry and depression also existed but the magnitude of this was low. A significant negative correlation was also noted between external shame and sibling comparisons, suggesting that a high score for external shame was associated with low scores for sibling comparisons, this also occurred for sibling comparisons and depression but the magnitude of this association was low. A significant positive correlation coefficient existed between depression and external shame, suggesting that high scores for depression are associated with high scores for external shame. For put down and shaming there was a significant negative correlation with external shame, but for depression the magnitude of this association was lower. There also appears to be a significant positive correlation between conflict, depression and external shame, but the magnitude of this was low. For the higher order factor of warmth, there was a significant association between depression or external shame, but the magnitude of this was low. Furthermore, group-fit was significantly associated with external shame and depression. Social rank and rank were both significantly associated with external shame, but the magnitude of this association was low.

4.2.6 Post hoc Power analysis

The relatively small sample size of the present study is one limitation in the assessment of clinical versus statistical significance when commenting on the magnitude of the rank correlations between factors. Post-hoc power analysis (using logged values to determine Pearson correlation) suggests that, given a sample size of 33 and a Pearsons correlation of

+/- 0.3, the power of the test of significance at the 2 sided 5% level is less than 50%. In order to reach 80% power in determining a Pearson correlation of +/- 0.3 as statistically significant, over 100 participants in each group would be required.

4.3 Comparison with other studies

4.3.1 Significant differences between the control and depressed group for warmth, conflict, rivalry, sibling put down and shaming, sibling comparisons, external shame and depression. Hypothesis-1

Making comparisons between studies will be difficult, because previous research studies have focused on different sibling groups (e.g. the entire sibship, the emotionally closest sibling, the most frequently contacted sibling), on different age groups, and have used different response categories (e.g. affectional closeness, contact frequency), which are measured differently.

This research has shown that warmth was significantly more likely to exist in the control group compared to the depressed group, but this finding does not predict that one will affect another. This finding is supported by a number of recent findings. Lanthier, Spencer and Haberstroh (2002) found that having a harmonious sibling relationship is predictive of positive mental health. Bedford (1989a) also stated that the warmth dimension was observed in middle adulthood and this has also been found in this current research.

This current research suggests that conflict is a salient factor that occurs in adult sibling relationships which is supported by Stocker, Lanthier and Furman (1997). However, this higher order factor was not significantly different between the control and depressed group, suggesting that conflict was likely to occur in both groups. Scott (1990) used a similar concept to conflict and discovered that hostile sibling relationships did not take place.

Cicirelli (1981) also revealed that 88 % of siblings argue 'rarely' or 'never', and only 3% argued 'frequently' or 'more often'. Compared to these research findings it seems that conflict occurs more than other research has revealed, which is probably attributed to the fact that their research did not incorporate a clinical group. The highest achievable score for this higher order factor is 115; the IQR for the control group was 30–51, and 31–44 for the depressed group. Obviously these figures for both groups are not particularly high, but it does show that conflict does exist and therefore should not be underestimated.

This research found a non-significant difference between groups for conflict, which could be attributed to participants finding it hard to reveal negative aspects of their relationship. This interpretation would be supported by Bank and Khan (1982) in which it is thought that siblings are often unaware of the rivalry and hostility that can underlie the surface friendliness of warm sibling alliances. Furthermore, it could equally be argued that conflict is just as likely to occur in depressed or control groups, without detrimental effects. In particular, Bedford, Volling and Avioli (2000) identified a number of positive outcomes regarding conflict. Ross and Milgram (1982) stated that siblings who have a close relationship with their sibling are most likely to experience conflict. Although this present research has not revealed a direct association between conflict and warmth, the current study does suggest that warmth and conflict within sibling relationships are likely to co-exist.

A significant difference has been highlighted between the depressed and control group for the rivalry higher order dimension. Child research studies have linked severe sibling rivalry to various mental health problems (Cavenar and Butts, 1977; Frank, 1979; Robbins, 1964; Steele and Pollock, 1968), and the current study supports this finding. Previous research carried out in the field of adult and older adult sibling relationships also supports this research finding (Brody, 1996; Cicirelli, 1989 and Gilbert and Gerlsma, 1999). However, the

difference between the control and depressed group for rivalry and mental health is still not fully understood. The result gained for this hypothesis does not show if the two factors are associated.

The current research finding shows that put-down and shaming was significantly more likely to occur in the depressed sample compared to the control group. However, the exact concept of put down and shaming used in this study has not been utilised in previous research using siblings, making comparisons with other research difficult. However, using a similar concept other studies (Falloon, 1988; Jenkins and Karno, 1992) have found that criticism contributed to negative consequences of mental health. Social undermining has also been found to impact mental health (Vinkur and van Ryan, 1993). However, at this stage, one can only assume that put down and shaming is likely to occur in a depressed population as the Mann-Whitney test does not examine the association between variables.

It has been theorised that siblings use one another as 'yardsticks' for measuring success and failure (Troll, 1971; Adams, 1967). The process of making sibling comparisons is considered by many to be typical of sibling relationships in adulthood (Adams, 1968). The concept of sibling comparisons is useful but it is one that has received little research, however, the present research supports the existence of this. In particular, siblings who have received a primary diagnosis of depression within the past year are more likely to make negative sibling comparisons compared to the control group. It is unknown if being depressed causes one to make negative sibling comparisons, or if making negative sibling comparisons causes one to feel depressed. Given either of these assumptions, it would be interesting to know where these thoughts came from, be it from parents, siblings or friends. Negative sibling comparisons may also arise from sibling's own perception without overt experiences.

For the external shame higher order dimension there was a significant difference between the control and depressed group suggesting that external shame is more likely to occur in a depressed population. Gilbert (1992) and Mollon and Parry (1984) found that shame, but not guilt, was a predictor of depression and anxiety in a student population. Similarly, shame has also been shown to be associated with depression rather than guilt (Harder, Cuter and Rockart, 1992). Although our result for this section adds weight to the above findings this does not show that shame causes depression or vice versa.

4.3.2 Factors (sibling dyad, geographical location and how often siblings see each other) significantly contributing to warmth, rivalry and conflict. Hypothesis-2a, 2b and 2c.

The present study revealed that the higher order factor of warmth does not appear to be significantly affected by sibling dyad. Despite this when examining median values, one observes sister-sister relationships having the most warmth followed by brothers and mixed sibling relationships. If the sample size had been greater, it would be likely that sister-sister relationships would have greater warmth. However, at this stage it is difficult to draw firm conclusions. A number of previous researchers (Brody, 1996; Cicirelli 1989; Cicirelli 1977, Wilson. Calsyn and Orlofsky, 1994) have supported the finding that sister-sister relationships have the most warmth. It could be argued that sister-sister relationships are more likely to be perceived as warmer compared to males, because males have difficulty reporting their feelings of warmth.

In terms of conflict, sibling dyad was not significantly associated in this study. This finding contrasts with previous literature, as it has been argued that mixed dyads are likely to report less conflict in their relationship than siblings of the same gender (Stocker, Lanthier and

Furman, 1997). When examining the median and IQR results, however, the finding concurs with the above research. Sample size was low making it difficult to draw firm conclusions.

Rivalry was not significantly associated with sibling dyad but when examining median scores it seems that sisters have the most conflict, followed by brothers and then mixed sibling dyad. The median scores correspond with previous research, which states that rivalry is traditionally greatest between brothers and least likely between mixed dyads (Cicirelli, 1980; 1985 and Gold, 1986). For mixed sibling relationships, arguments, competitiveness and rivalry were high during adolescence and then declined revealing very low values between siblings (Cicirelli, 1994). Obviously, the current research has not examined sibling relationships across the lifespan so it is difficult to know if rivalry changes across the life course. However, rivalry does exist in adult sibling relationships and according to the median values this is more likely to occur between sister-sister and least likely between mixed sibling relationships. Sample size needs to be larger in order to investigate significance levels further.

How often siblings see each other appears to contribute to the level of warmth perceived in a sibling relationship and this finding has been substantiated (Stocker, Lanthier and Furman, 1997). However, contact and warmth may be slightly inflated because of the shared variance in these two factors. This appears to show that contact and warmth may, in part, be measuring the same dimension.

Previous research suggests that reduced contact contributes to less overt quarrelling (Adams, 1968), however, the current research did not concur with this finding. Conflict does not significantly contribute to how often siblings see each other. This is partly attributed to the fact that conflict is a different concept to quarrelling so it is difficult to compare the results.

Stocker, Lanthier and Furman, (1997) used the same concept as used in this study, and found that reduced conflict was likely to maintain contact and higher conflict is likely to reduce contact. This was based on a sample of 383 participants, which is considerably higher than the sample size used in this current research. Furthermore, because conflict was effectively stable between the depressed and control group this may have also contributed to the non-significant result.

Previous research suggests that limited contact plays a part in allaying rivalrous feelings between siblings (Stocker, Lanthier and Furman, 1997). This research found the reverse association suggesting that less contact was associated with increased rivalry. This finding shows that siblings who have increased rivalry are less likely to maintain contact with one another, or equally, less contact with a sibling causes more rivalry but the causal direction is unknown.

This research suggests that geographical distance between siblings does not significantly contribute to warmth, rivalry or conflict. Of the total sample, 65% (n= 53) participants lived in a different city or more than 1,000 miles away from their sibling. However, even with this moderately high percentage of siblings not living in close proximity, this variable failed to contribute to the higher order factors. It seems that even when siblings are not living together conflict and rivalry is still likely to occur suggesting that these dimensions predate adulthood perceived experiences. Rivalry is still likely to occur even when adult siblings do not live together (Bedford, 1989; Gold, 1989; Ross and Milgram, 1982). In terms of warmth, it seems that distance does not prevent siblings from having a warm relationship.

4.3.3 Factors (geographical location, gender and sibling dyad) significantly associated with how often siblings see each other. Hypothesis-3

The current study indicates that of the 82 participants who took part in this study 80% (n=67) saw their sibling at least monthly or more often. Previous research for older adults, has found that 50% of participants see their sibling at least monthly which is a lower percentage compared to this study (White and Riedmann, 1992). This research finding is also very interesting when you examine the 'hour glass effect' by Bedford (1990) which proposes that younger adults spend less time with their sibling compared to older adults. The results in this study do not support this finding when compared to the findings by White and Reidmann (1992). A national study carried out in America of people aged 18 years and over found that 75% of the sample had seen their sibling in the past month (Harris and Associates, 1975). The results are very similar to the present study because the sample was younger.

The current research suggests that 'how often siblings see each other' is not significantly affected by distance. This does not seem to be supported by literature (White and Reidman, 1992; Stocker and Lanthier and Furman, 1997; Connidis, 1989 and Lee and Marcini, 1990). When examining percentage scores, however, one can see that participants who see their sibling 'extremely much' or 'very much' lived in the same city or a different city less than 100 miles away. If a larger sample had been achieved it is highly likely that a significant finding would have been achieved therefore the results gained should be interpreted with some caution. A significant difference may not have been achieved because categories for distance and contact had to be collapsed in order to perform chi-square statistical tests. Instead of contact being a five-point scale this reduced to a two-point scale. Distance between subjects started at a six-point scale and reduced to a four-point scale which condensed the spread of this variable and potential significance.

In this study there appears to be a significant difference between sibling dyad and contact in which sisters are more likely to have 'somewhat/very much to extremely much' contact. This finding is supported by White and Reidmann (1992) in which the level of contact was higher for sisters. In this current study mixed sibling dyads are the second most likely group to have the most contact followed by brothers. This finding corresponds with research carried out by Cicirelli (1989; 1977) and Brody, (1996) in which less contact was found between brothers and most contact between mixed sibling dyads. In order to perform chi-square statistical tests, the contact variable had to be reduced from a five-point scale to a three-point scale if, however, the sample size for 'very much' and 'extremely much' categories for contact had been larger this would not have been necessary perhaps increasing significance levels further.

The current research found that the level of contact for siblings is significantly affected by gender. It seems that males are least likely to have 'very much to extremely much' contact with their sibling compared to females. If sample size was larger it would have avoided contact categories having to be collapsed which may have increased the level of significance. Research suggests that men contact their sibling out of a sense of duty and women by affection for their sibling (Adams, 1968) which may, to some extent, explain why females have more contact even though motivation behind contact was not explored.

4.3.4 Significant factors associated with depression will include: warmth conflict, rivalry, sibling comparisons, external shame and sibling put down and shaming – Hypothesis 4a

The present research found that depression and warmth were significantly associated with each other but the magnitude of this association was low, suggesting that warmth may be a protective factor against depression. Using a larger sample, Stocker, Lanthier and Furman (1997) also found that there was no association between mental health functioning and warmth, although their sample was based on a student population. It could be interpreted that emotional warmth from a parent rather than a sibling provides greater protection from mental health problems or, may be, another variable is operating between these concepts. This current research would challenge the assertion by Cicirelli (1980), in which emotional warmth for female siblings was equal to warmth by mothers, and where siblings felt more emotionally close to their sibling than to their father.

Gerlsma, Emmelkamp and Arrindell, (1990) when examining parent-child dyads found that low parental emotional warmth is negatively associated with psychopathology, using the Egna Minnen Betraffade Uppfostran (EMBU) (Perris, Jacobsson, Lindstrom, and Von Knorring, 1980) to assess warmth. It could be argued that warmth, as measured using the Adult Sibling Relationships Questionnaire, does not measure this concept effectively. Perhaps the EMBU questionnaire was more effective in measuring warmth, however this would have required adaptation for sibling relationships.

Conflict is equally likely to occur in both the depressed and control group and a significant positive association was found between both dimensions. The magnitude of this association was low possibly due to low sample size. Using a larger sample Stocker, Lanthier and Furman (1997) found a significant negative association. Adults who had high scores on

psychological functioning reported lower levels of conflict in their sibling relationship compared to adults with worse mental health scores. As with all correlational analysis, one cannot determine if depression contributes to conflict or if conflict contributes to depression in a causal fashion. It could be argued that depressed people are more likely to react negatively to conflict than controls resulting in further depression. This finding is supported by Cicirelli (1999), in which 'long-range' effects of conflict can cause siblings to become depressed or anxious (Cicirelli, 1995). Sade (1999) also noted a relationship between psychological functioning and conflict, in which adults who experienced physical and emotional abuse from their sibling had a significantly lower level of self-concept. Although Sade's findings are very useful, it is difficult to draw direct comparisons, as it is unknown if the siblings in the current study considered themselves to have been abused by their sibling. If the frequency, duration and intensity of conflict had been measured this may have been more indicative of possible later depression in siblings.

From this research a significant positive correlation between rivalry and depression did emerge but the magnitude of this relationship was low, suggesting that another variable may be operating affecting these higher order factors. This is very interesting as external shame is positively correlated with rivalry and could be a mediating factor. Previous research suggests that severe rivalry can contribute to various problems in mental health (Cavenar and Butts, 1977; Frank, 1979; Robbins, 1964; Steele and Pollock, 1968). Persisting feelings of rivalry between sisters was related to greater symptoms of depression among women (Cicirelli, 1989). The results found in this study may have been affected by the fact that only 22 people had 'moderate' to 'severe' depression; if more participants had higher depression scores within these ranges depression and rivalry may have been highly correlated.

This research did identify an association between put down and shaming and depression, but this correlation was very low. Gilbert and Gerlsma (1999) support the view that put down

and shaming can contribute to psychopathology, however this was based on parental research only. Furthermore the detrimental effects of criticism on mental health are well documented (Falloon, 1988; Jenkins and Karno, 1992; Beck, Rush, Shaw and Emery, 1979; Belsher and Costello, 1988; Hooley and Teasdale, 1989). The result gained in this study may be partly attributed to low statistical power. The put down and shaming measure used in this study included only four questions. It may mean that this was not robust enough but as a preliminary area of enquiry it was considered sufficient at this stage. Previous research has assessed high expressed emotion using the Camberwell family interview, which would have provided a more valid picture of sibling relationships. This measure was considered however ethical approval was difficult due to accessing patient's siblings. In addition, geographical distance between adult siblings is likely it would be very time consuming to administer. Gilbert, Allan and Goss (1996) found that parental put-down/shaming and favouritism exists in relation to sensitivity to shame, interpersonal problems and psychopathology. However, given that their research design focused on a retrospective analysis of parent-child interaction and psychopathology in general, it makes difficult to draw direct comparisons with this present research. However, the differing results may suggest that put-down and shaming by parents is more likely to contribute to depression than that within a sibling relationship. Results may have been affected by participants having difficulty reporting put down and shaming by their sibling.

The present study found that for the depressed group a significant correlation between depression and sibling comparisons. Contrasting research suggests that depression and social comparisons are associated (Swallow and Kuiper, 1988; Allan and Gilbert, 1995). Their findings supported their clinical observations suggesting that depressed people make negative social comparisons such as feeling an outsider, not like others and not fitting in (Brewin and Furman, 1986). However, the group-fit (subscale from the sibling comparison

scale) showed that this was negatively associated with depression, although the magnitude of this was low. This prsent research suggests that there is a link between participants not 'fitting-in' and depression but the causal direction is unknown. This low correlation may be related to sample size, however, this correlation is in the right direction. This result could be more associated with feelings of not fitting into the family of origin and feeling an outsider rather than with their sibling per se.

For this research there is a significant positive correlation between external shame and depression. This finding has been supported by a number of studies. In particular shame, but not guilt, was found to be a predictor of depression and anxiety in a student population (Gillbert, 1992; Mollon and Parry, 1984). Although this analysis has not been predictive in nature it does support an association between depression and shame, however, once again, causal direction of this is unknown. The results highlight how important shame is in relation to depression.

4.3.5 Significant factors associated with external shame will include; warmth conflict, rivalry, sibling comparisons, external shame and sibling put down and shaming – Hypothesis 4b

It was hypothesized that external shame and warmth would be associated. When examining research that focused upon the parent-child dyad (because literature focusing on shame and sibling relationships could not be identified) it was found that in families of low warmth there was significant shaming and favouring (Gilbert and Gerlsma, 1999). The results from this study did support this finding suggesting that warmth may be a protective factor against external shame or that high external shame is associated with low warmth, but the magnitude of this correlation was low. It must be remembered however that sibling relationships have not been investigated in terms of warmth and external shame before. Again, it could be

argued that the warmth measure may not be robust, but equally, warmth within a parent-child relationship is a more protective factor, compared to siblings, for preventing external shame.

The results from this research suggest that external shame and conflict are associated, but the magnitude of this correlation was low.When examining research by Scheff (1995) it was found that conflict is caused by hidden shame. This previous research used a different methodological approach, but an association in this present study was still expected. The result gained may have been attributed to participants having difficulty revealing conflict within their relationship. In Scheff's research, previously recalled negative interactions between parent and student relationships were reinacted by student, which may have made it easier to discuss conflict openly. Furthermore, decoding conflict through non-verbal communication may have made it easier to identify rather than through self-report accounts which were used in this present study.

A significant positive association between external shame and rivalry exists in the present research. This not only suggests that rivalry exists in an adult sibling relationship but it is also associated with external shame. Stocker, Lantheir and Furman (1997) did not find a significant association between rivalry and mental health functioning. This is probably attributed to the fact that their research did not include a clinical sample and shame could possibly mediate between mental health functioning and rivalry. The current research would suggest that rivalry in an adult sibling relationship has been under-reported in previous research. The causal direction of rivalry and external shame is unknown. Rivalry may cause depression, but equally depression may cause rivalry. Research by Gilbert, Allan and Goss (1996) supports this finding in that female students who felt that their sibling was more favoured than themselves had associated vulnerability to psychopathology, negative social comparison, shame and interpersonal problems.

A significant negative association existed between external shame and sibling comparisons in this current study. Although this has not been previously investigated, a comparable study has focused on social comparisons rather than sibling comparisons. It has been proposed that social comparisons are the key in social interaction (Festinger, 1954). Furthermore, Lewis (1971, 1986, 1987) stated that self-other comparisons are central to shame. Our standards and ideals are often taken from other people (Suls and Willis, 1991) making social comparison a possible salient cognition in shame (Gilbert and Andrews, 1998). A study that utilised both the social comparison questionnaire (before adaptation was made in this study) and the Other As Shamer scale (Goss, Gilbert, and Allan, 1994) found that these measures of unfavourable social comparison were highly correlated with external shame (0.57) using a student population (Gilbert, Allan, Ball and Bradshaw, 1996). Previous research has obviously focused on 'social' comparisons in which a participant decides who their comparative other should be. This research has focused exclusively on sibling relationships and these two dimensions are still highly correlated. This suggests that this is an area that should not be overlooked by clinical psychologists during assessment and treatment of psychological difficulties.

This study has shown that a significant negative association was found between social attractiveness (subscale from the sibling comparisons scale) and external shame, but the correlation coefficient was not high making it difficult to draw definite conclusions. The negative correlation however suggests that low attractiveness scores (unattractive) are associated with high external shame scores but the causal direction of this is unknown. When examining research by Gilbert and Miles (2002) it has been proposed that attractiveness is the most dominate feature in social relationships. It is thought that ones level of attractiveness to another is constantly evaluated and requires regular social comparison (Gilbert, Price & Allan, 1995). In terms of operationalising the concept attractiveness, it is thought that this

refers to being 'loved, approved, chosen and wanted'. However, in this research it refers to being, 'likeable, desirable and attractive'. It may be that participants interpreted the attractiveness subscale as physical attractiveness rather than specifically being 'wanted, chosen and desired' which may account for the low correlation coefficient.

In this research a significant negative association existed between external shame and put down and shaming. Previous research using the put down and shaming scale (before modifications made in this research) found that this was negatively correlated with shame (Gilbert Allan and Goss, 1996), although this was based on a sample of 90 students. The low correlation found in this present research may indicate that put down and shaming from a parent is more likely to contribute to shame rather than from a sibling. The sample size would need to be extended in order to support or refute this hypothesis.

This research showed that external shame and depression was positively associated. This finding is not predictive therefore it is unknown if external shame causes depression, or depression causes external shame. Shame is thought to occur in the development and maintenance of psychopathology (Kaufman, 1989; Mollon, 1984; Morrison, 1984). Feeling inferior, bad or worthless in the eyes of others are captured by the concept of shame proneness now recognised to be a major vulnerability factor for psychopathology. Shame, but not guilt, was found to be a predictor of depression and anxiety in a student population (Gillbert, 1992, Mollon; and Parry, 1984; Harder, Cuter and Rockart, 1992).

The literature review revealed that as sibling relationships develop into adulthood they become egalitarian (Cicirelli, 1982). The findings from this research would question this assertion as external shame, negative sibling comparisons, sibling put down and shaming and rivalry appear to be significant in a depressed sample.

Furthermore it has been found that the following dimensions were highly correlated: external shame and rivalry, depression and external shame and sibling comparisons and external shame. This research highlights the importance of not accepting that sibling relationships are egalitarian and instead dimensions of this relationship may be detrimental to psychological well-being or vice versa.

4.4 Critique of the current study

It is important to determine how patterns of interaction vary as a function of family structure. Ignoring sibling structure variables will indicate that some confounding will be introduced into the analysis. Complex statistical modelling is required to control for such structural variations of sibships. As highlighted in the results section there was a significant difference between the depressed group and control group in terms of siblings' age and number of siblings making it possible that these two variables are confounding the results. Age difference, gender and sibling dyad were not significantly different between the groups.

The age range of participants in the control group was 23-56 years and 20-62 years for the depressed group. Given the large age range this may have confounded the results. Using Erickson's model (1963) one can see that the development of interpersonal relationships in young adults centres on intimacy versus isolation. Middle age centres on generativity versus stagnation where individuals are willing to have and take care of children and devote themselves to their work. Given the contrasting developmental tasks, one should investigate this further by carrying out partial correlations. As this is preliminary area of investigation and sample size is low it would make it unwise to investigate this further at this stage.

In order to maximise sample size psychologists, psychiatrists, community psychiatric nurses and ward staff were all informed about the nature of the study. Therefore

selection bias could have occurred. Participants, who expressed difficulties with their sibling may have been more likely to be selected, which would not make this sample truly representative. There was however no actual evidence of this. In order to gain participants for the control sample a phone call was made to managers from various wards and a poster was displayed to encourage participants to take part. This self-referral system may have only attracted participants who had a positive relationship with their sibling whilst other control participants, who had a difficult relationship, may have been reluctant to take part. No record was kept regarding the reasons why participants did not take part in this study. It may be that siblings read the nature of the study and felt that their relationship was good therefore did not feel that the research applied to them. Consequently, this would have provided an unrepresentative sample. Finally, reporting conflict and rivalry using a self report questionnaire could have been difficult for all participants so the level reported in this research may be lower than reality.

For the control sample, individuals were invited to participate in this study if they had not had a history of depression. Given that this was not substantiated by general practitioner case notes and was based on the participants' perception alone the results should be interpreted with some caution. Furthermore, even if the participants had not experienced any depressive disorder, this does not guarantee it will not occur in the future.

The use of a cross-sectional design means that the origin of depression has not been fully understood. Dimensions operating within an adult sibling relationship may be contributing to depression and external shame but when and how this started has not been investigated. This is where a longitudinal approach would be appropriate as discussed below.

Given that depressed participants were referred from psychology services, psychiatry, community psychiatric services and ward staff it is realistic to presume that participants were receiving different forms of treatment ranging from drug therapies to psychotherapy. The differing treatments may have influenced the clients' level of insight into their difficulties. Participants who had undergone psychotherapy may be in a better position to understand the origin of their difficulties and may be more likely to consider sibling relationships as a possible salient factor. Alternatively, participants who had undergone psychotherapy may have already addressed sibling issues and may no longer see it as an issue. The researcher did not examine the frequency of responses in relation to referring agent, which would have been interesting, but, given the small numbers, this would have not been possible in this current study.

In terms of contact it was not noted if parental involvement affected contact between siblings. If a sibling currently resides with their parents this may have contributed to contact between siblings consequently preventing or increasing contact. It is beneficial that this factor is ruled out in future research.

The Sibling Comparison Scale is based on a self-report measure requiring individuals's perception of themselves compared to their sibling. It may be that participants based their perception on how they would like others to see them, and not their true perception of themselves (Andrews, 1998).

Investigating the role of sibling comparisons is very important, since this has been a relatively neglected research area. It is however; also beneficial to investigate how important the specific dimension (unattractive-more attractive etc) is to the sibling. A sibling could feel that he or she is less attractive to their sibling, but if it is an unimportant dimension then it

has little relevance to sibling self-perception. Furthermore, the frequency in which sibling comparisons are made would have been interesting to know. If a sibling spends a frequent amount of time ruminating about negative sibling comparisons then this is likely to contribute to psychological functioning.

4.5 Practical difficulties with the current study

Since it was difficult to recruit subjects with a primary diagnosis of depression various pathways for recruiting participants were used. To increase the response rate for this group a professional diagnosis of depression had to be made within 12 months of the study taking place. A cut-off score for the Beck Depression Inventory was excluded, as diagnosis had been made, so, four participants out of the depressed group had a score of between 1 and 12, which indicates minimal depression (Beck, et al, 1996). These cases were kept in the study to increase the response rate, but statistics have been carried out without this group present and they make little difference to the overall findings. All participants for the control group scored less than 14 on the beck depression inventory, indicating minimal to mild depression.

The recruitment of control and depressed participants ran concurrently. At the start of the study participants were only allowed one sibling, but this was found to exclude a substantial number of potential participants, as such, the decision was taken to alter the criterion. Therefore the participants could have any number of siblings, but the participant had to rate their sibling who was closest in age. This modified inclusion criteria explains the significant difference between the control and depressed groups for number of siblings.

In order to increase the response rate the option of identifying clinical participants through GPs was also considered. However part of the inclusion criteria states that a diagnosis of

depression should be in line with the ICD10 classification which, research indicates, GPs would be unlikely to make accurately (Torrens, 1999).

4.6 Suggestions for future research

As mentioned earlier, the causal link between adult sibling relationships and mental health problems remains a debate. One way to overcome this difficulty is to carry out a longitudinal study administering the questionnaires used in this study when the individuals are depressed and later when recovered. Using this approach it could be seen if low mood contributes to participant's perception of their sibling relationship or if this is a contributing factor in itself to mental health problems. Alleviate low mood is drug or psychotherapy treatment should be avoided as it may affect ones' perception of their sibling relationship. A longitudinal design would be most useful in determining whether mental health problems stem from childhood sibling relationships, adolescence or whether the adult sibling relationships are more strongly associated. A retrospective design could be considered an alternative to the longitudinal design but this is reliant on memory for events, which can be an unreliable source of information.

This research has relied on one perception of the sibling relationship which does not provide a reliable picture of their total relationship. Information concerning the participants' sibling's mental health was not highlighted and this is something that should be included in future research.

The results presented in this research are based on the participant's perception of their sibling relationship. This can be open to bias and is dependent on mood. To increase the validity of the results it would have been useful to include both siblings, allowing cross

referencing in terms of responses and providing further validity to their perceived relationship.

This research focused on depression and did not take into account other mental health problems that may exist in both the depressed and control group. As a result this study can only make assumptions about depression, when in fact other mental health problems may co-exist and be associated with sibling relationships. It may be beneficial for future research to focus on different diagnoses.

A matched pairs design may be more helpful if this study was to be replicated in the future, This keeps participant variables to a minimum, avoids ordering effects and maintains the homogeneity of the variance. This style of design is difficult to achieve and is time consuming.

The current research focuses on biological siblings without reference to half-siblings (individuals only have one biological parent involved) and step-siblings. Given that the structure of the family is continuing to evolve it would be unwise to exclude these groups as they are becoming increasingly predominant in our society. The research also focused on siblings who were alive however, even if a sibling has died this does not mean that a person will not make comparisons between themselves and this sibling. Future research should also include this group. The role of ethnic diversity in sibling relationships could also be explored.

This research focuses on the perception of sibling relationships, as this is likely to influence the pattern of relationships for the rest of their lives. Further research could potentially include observations of this relationship to provide a more valid picture of sibling

interaction. As some adult siblings do not spend a lot of time with one another it would be difficult to carry this out effectively.

For the purposes of this study external shame was focused upon as it has been found that this is highly correlated with internal shame (Lewis, 1987, Gilbert, 1992). It may be beneficial to focus on further aspects of the shame model such as behaviour (Gilbert and Miles, 2000).

This research did not examine the length of time and frequency in which conflict, put down and shaming and rivalry has existed. It may be useful to look at this in further detail as the increased length of time and frequency of these concepts occurring may contribute to increased depression and external shame.

This research has highlighted that external shame is an important concept when analysing adult sibling relationships. More elements of adult sibling relationships correlated with external shame than with depression. Although this research did not demonstrate that shame-proneness causes depression other research has investigated this (Kaufman, 1989; Mollon, 1984; Morrison, 1984). It would be interesting to know if shame is a mediating factor between dimensions of adult sibling relationships and depression. Future research could include a cut-off score for the Beck Depression Inventory or partial correlations could be introduced to see if the severity of depression impacts upon the correlations discussed. It was out with the scope of this research to investigate this further. In addition, sample size for severity of depression sub-categories was low for further analysis to take place.

This research noted a significant difference between the control and depressed groups for sibling comparisons however it would be very useful to investigate where these comparisons originate. It may be a result of depression itself i.e. perceiving the self negatively and participants may have particular examples of this occurring overtly in adulthood. The best

way to investigate this further is through interviews with participants. Ross and Milgram (1982) noted, in their interviews with siblings, that one participant presented a case in which a parent used overt comparisons in later life.

4.7 The relevance to clinical work

This research has shown that rivalry, sibling put down and shaming and sibling comparisons are more likely to occur in a depressed population. Furthermore, external shame and rivalry, sibling comparison and external shame are highly correlated. This not only highlights the importance of carrying out a thorough assessment of sibling relationships but also therapy may need to focus on this area directly. This may include using a systemic approach to therapy in which a sibling of the patient is included.

This research has also shown that depression and external shame are highly correlated and this must also be assessed when carrying out a clinical interview. If shame is an important factor mediating psychopathology then it must be addressed with the client.

The effort made by therapists to encourage adult patients to revitalise sibling relationships could be very helpful. Even if the relationship cannot be enriched the patient may still benefit by learning to understand and accept the reality of lost opportunities and by being able to let go of relationships that have been chronically destructive. Research suggests that in early adulthood, mid-life and old age most siblings judge their sibling to be compatible and have a warm relationship (Bedford and Gold, 1989 and Cicirelli, 1982; 1988). Sibling conflicts when extreme, bitter, and prolonged are significantly associated with a previous disturbing family situation. With this in mind therapists have worked with clients to encourage them to become aware of the silent inscriptions of childhood and provide them with the opportunity to enrich and to understand life's longest connection (Khan and Lewis, 1988).

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Appendices

Appendix A

NHS GRAMPIAN
AND
UNIVERSITY OF ABERDEEN

GRAMPIAN RESEARCH ETHICS COMMITTEE

Chairmen
Committee One
Dr John Dean
Consultant
Department of Medical Genetics
Medical School
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Committee Two
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Tel: (01224) 555167
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Clerk to the Committee

Mrs Diane Murray
Dept of Public Health
NHS Grampian
Summerfield House
2 Eday Road
ABERDEEN, AB15 6RE
Email:**diane.murray@ghb.grampian.scot.nhs.uk**

Tel: (01224) 558503
Fax: (01224) 558609

15th January 2003

Project No: 02/0271

Miss Lorna Relton

Dear Miss Relton

Sibling relationship factors and vulnerability to shame and depression

Thank you for your recent correspondence which we received on the 20th December 2002. I am pleased to confirm that full ethical approval has now been granted for the above numbered project, poster, staff information sheet and patient information sheet.

I also confirm that ethical approval has also been granted for the changes made to your questionnaires which are described in your recent letter, which we received on the 3rd December 2002.

With regards to medical indemnity, I enclose a form which should be completed and returned to either, Prof J Broom, Research & Development Director, Research & Development Offices, Grampian University Hospitals Trust, Westburn House, Foresterhill, Aberdeen, or, Dr G Peterkin, Medical Director, Grampian Primary Care Trust, Summerfield House, 2 Eday Road, Aberdeen as appropriate, if you wish one of the above Trusts to accept liability for medical indemnity for this project.

We would be very glad to receive in due course, copies of any publications arising from this research. Thank you for bringing this study to the Committee's attention.

Yours sincerely

Mrs Diane Murray
Clerk to Grampian Research Ethics Committee

Please quote project number in all correspondence

Appendix B

NHS GRAMPIAN
AND
UNIVERSITY OF ABERDEEN

GRAMPIAN RESEARCH ETHICS COMMITTEE

Chairmen

Committee One
Dr John Dean
Consultant
Department of Medical Genetics
Medical School
Foresterhill
Aberdeen
AB25 2ZD

Tel: (01224) 552120
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Clerk to the Committee

Mrs Diane Murray
Dept of Public Health
NHS Grampian
Summerfield House
2 Eday Road
ABERDEEN, AB15 6RE
Email: diane.murray@ghb.grampian.scot.nhs.uk

Tel: (01224) 558503
Fax: (01224) 558609

Project Number: 02/0271

11th February 2003

Miss Lorna Relton

Dear Miss Relton

Sibling relationship factors and vulnerability to shame and depression

Thank you for your email of 3rd February 2002 to Mrs Jenny Godfrey-Brown. I am pleased to confirm that ethical approval has been granted for the letter which yourself and the psychiatrist intend to send out to invite the patient to take part in the study along with the consent letter, subject information sheet and questionnaire.

Yours sincerely

Mrs Diane Murray
Clerk to the Grampian Research Ethics Committee

Please quote project number on all correspondence

Appendix C

Patient information sheet

Sibling Relationship Factors and Vulnerability to Shame and Depression

I would like to invite you to take part in a research project, which examines your current social relationship with your brother or sister and how this contributes to shame and depression. In order to do this I will be asking participants to complete 5 questionnaires, which take approximately 30 minutes to complete.

If you decide to take part in this research you will be asked to meet with the researcher, Miss Lorna Relton, who will discuss these issues with you and who will assist you (if you wish) to complete the questionnaires. Alternatively, if you feel satisfied that you have enough information to complete the questionnaire then you can do this and return it in the envelope provided.

You do not have to take part in the study and if you do you are completely free to withdraw from the research or part of the research at any time you wish and this will not affect your continuing medical or psychological treatment in any way.

All the information you give is treated as highly confidential and will be used for research purposes only. Client names will not be present in any documents produced.

If you have any questions about the research please ask For Lorna Relton on 01224 557219.

Appendix D

CONSENT BY PATIENT/VOLUNTEER TO PARTICIPATE IN:

Name of Patient / volunteer:.....

Name of Study:

Principal Investigator: Lorna Relton, Trainee Clinical Psychologist.
Helen Burr, Consultant Clinical psychologist.
Suzanne O'Rourke, Clinical Psychologist.

I have read the patient / volunteer information sheet on the above study and have had the opportunity to discuss the details with Lorna Relton and ask questions. The researcher has explained to me the nature and purpose of the questionnaires and interview. I understand fully what is proposed to be done.

I have agreed to take part in this study as it has outlined to me, but I understand that I am completely free to withdraw from the study or any part of the study at any time I wish and that this will not affect my continuing medical treatment in any way.

I understand that the questionnaires and interview are part of a research study designed to promote psychological knowledge, which has been approved by the Grampian Research Ethics Committee, and may be of no benefit to me personally.

I also understand that, where appropriate, my general practitioner will be informed that I have taken part in this study.

I hereby fully and freely consent to participate in the completion of the questionnaires and or interview, which has been fully explained to me.

Signature of patient / volunteer : .....
Date: .....

I confirm that I have explained to the patient / volunteer named above, the nature and purpose of the questionnaires to be undertaken.

Signature of Investigator : .....
Date : .....

Appendix E

Grampian Primary Care NHS Trust

Adult Mental Health Directorate
Clinical and Counselling Psychology
Block A
Clerkseat Building
Royal Cornhill Hospital
ABERDEEN AB25 2ZH
Tel: (01224) 557475
Fax: (01224) 557870

PRIVATE AND CONFIDENTIAL

Date: 29 July 2003
Your Ref:
Our Ref: *LR/KEB*

Dr.
Consultant Psychiatrist,
Clerkseat,
R.C.H.

Dear Dr

Re: Doctorate in Clinical Psychology Thesis

I am writing to you concerning my thesis project. I am a trainee clinical psychologist currently working in the adult mental health department, Royal Cornhill hospital. As part of my doctorate in clinical psychology I am undertaking research in the area of adult sibling relationships and its contribution to shame and depression. The Grampian Ethics Committee has approved this research. For the purposes of this research I am comparing subjects from a clinical versus healthy population. The research involves questionnaires that take approximately 30 minutes to complete. The clinical sample inclusion criterion consists of:

1. A primary diagnosis of unipolar depression in which the patient must be currently depressed.
2. He or she must have **ONE** biological sibling
3. He or she must be able to consent to participation in this study.

If you have any patients that fit the above criteria I would be very interested to know. Please can you complete the slip below to let me know how many patients you have and I shall contact you again. I have enclosed a copy of the pack that will be sent to patients, which includes a patient information sheet, consent form and questionnaires. This will not be sent out until the patient gives verbal consent to you.

Your help regarding this would be extremely appreciated.

Name of Psychiatrist
Number of patients meeting inclusion criteria

Yours sincerely

Lorna Relton
Trainee Clinical Psychologist

Helen Burr
Consultant Clinical Psychologist

Appendix F

Grampian Primary Care NHS Trust

Clinical and Counselling Psychology
Adult Mental Health Directorate
Block A
Clerkseat Building
Royal Cornhill Hospital
ABERDEEN AB25 2ZH
Tel (01224) 557219
Fax: (01224) 557870

IN CONFIDENCE

Date: 30 July 2003
Your Ref: LR/HB/MM

Dear

I am writing to you to enquire if you would be willing to take part in a research project on sibling relationships being run by my colleague, Lorna Relton, Psychologist in Clinical Training. As you may recall we discussed this during your last appointment.

This would involve your completing five brief questionnaires, which should take 30 minutes, and all the postage has been paid for, see enclosed pre-paid envelope. An information sheet is also included which outlines the nature of the research and also explains what you would be asked to do. If you have any queries concerning this research please contact Lorna Relton on the above telephone number.

If you choose to take part, please sign the enclosed consent form and complete the questionnaires. Naturally, if you do not wish to take part, then this would not affect your care or treatment in any way.

Yours sincerely

Dr. Raj Badial
Consultant Psychiatrist

Lorna Relton
Psychologist in Clinical Training.

Appendix G

Thesis Project

Staff members are invited to take part in a research project that examines the link between sibling relationships and shame /depression. The research compares a healthy population to a clinical population.

The inclusion criteria for staff members includes:

1. **You must have ONE sibling, male or female, older or younger than yourself**
2. **He or she must be your biological sibling**
3. **Staff members should be between 18 and 60 years old**
4. **You should not have a history of depression**

This piece of research goes towards part fulfilment of Doctorate in Clinical Psychology, based at the University of Edinburgh.

Volunteers would be much appreciated and Anonymity is given to all participants

If you have 30 minutes to spare in order to complete some questionnaires and would like to take part in this research, please contact

Lorna Relton, Trainee Clinical psychologist, Royal Cornhill Hospital, Adult Mental Health, Clerkseat Building, Block A, Aberdeen or telephone 01224 557219.

Appendix H

Instructions and Basic Information

This questionnaire is concerned with your relationship with one of your siblings. Each question asks you to rate how much different behaviors and feelings occur in your relationship. Try and answer each question as quickly and accurately as you can. Try and answer the questions as your relationship is now, not how it was in the past, nor how you think it might be in the future. In the remainder of the questionnaire, whenever you see THIS SIBLING or YOUR SIBLING we are talking about the specific sibling you are completing the study about. We begin by asking you some general questions about your sibling and yourself. Please circle, check, or fill in the correct response.

1a) Your age: _____ 1b) This sibling's age: _____

2a) Your gender: Male Female 2b) This sibling's gender: Male Female

---

3a) Your birth order: 1 = firstborn, 2 = secondborn,

3b) This sibling's birth order: 1 = firstborn, 2 = secondborn,

---

How far does this sibling live from you? (circle the correct response)

1) same city
2) different city, less than 100 miles
3) between 100 & 200 miles
4) between 200 and 500 miles
5) between 500 and 1000 miles
6) more than 1,000 miles

How much do you and this sibling see each other?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

---

How much does this sibling phone you?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

---

How much do you phone this sibling?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

---

How much do you and this sibling see each other for holidays and family gatherings?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

---

How often do you communicate with your sibling?
( ) Once a week ( ) Fortnightly ( ) Every three weeks ( )Monthly ( )Less than monthly ( ) Never

---

Study Number

1) How much did you and this sibling have in common?
[ ] 1 Hardly Anything [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

2) How much did you talk to this sibling about things that are important to you?
[ ] 1 Hardly Anything [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

3) How much did this sibling talk to you about things that are important to him or her?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

4) How much did you and this sibling argue with each other?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

5) How much did this sibling think of you as a good friend?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

6) How much did you think of this sibling as a good friend?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

7) How much did you irritate this sibling?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

8) How much did this sibling irritate you?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

9) How much did this sibling admire you?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

10) How much did you admire this sibling?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

11) Do you think your mother favored you or this sibling more?
[ ] 1 I was usually favored
[ ] 2 I was sometimes favored
[ ] 3 Neither of us were favored
[ ] 4 This sibling was sometimes favored
[ ] 5 This sibling was usually favored

12) Does this sibling think your mother favored him/her or you more?
[ ] 1 I was usually favored
[ ] 2 I was sometimes favored
[ ] 3 Neither of us were favored
[ ] 4 This sibling was sometimes favored
[ ] 5 This sibling was usually favored

13) How much did this sibling try to cheer you up when you are feeling down?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

14) How much did you try to cheer this sibling up when he or she is feeling down?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

15) How competitive were you with this sibling?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

16) How competitive was this sibling with you?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

17) How much did this sibling go to you for help with non-personal problems?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

18) How much did you go to this sibling for help with non-personal problems?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

19) How much did you dominate this sibling?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

20) How much did this sibling dominate you?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

21) How much did this sibling accept your personality?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

22) How much did you accept this sibling's personality?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

23) Do you think your father favored you or this sibling more?
[ ] 1 I was usually favored
[ ] 2 I was sometimes favored
[ ] 3 Neither of us were favored
[ ] 4 This sibling was sometimes favored
[ ] 5 This sibling was usually favored

24) Did this sibling think your father favored him/her or you more?
[ ] 1 I was usually favored
[ ] 2 I was sometimes favored
[ ] 3 Neither of us were favored
[ ] 4 This sibling was sometimes favored
[ ] 5 This sibling was usually favored

25) How much did this sibling know about you?
[ ] 1 Hardly Anything [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

26) How much did you know about this sibling?
[ ] 1 Hardly Anything [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

27) How much did you and this sibling have similar personalities?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

28) How much did you discuss your feelings or personal issues with this sibling?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

29) How much did this sibling discuss his or her feelings or personal issues with you?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

30) How often did this sibling criticize you?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

31) How often did you criticize this sibling?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

32) How close did you feel to this sibling?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

33) How close did this sibling feel to you?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

34) How often did this sibling do things to make you mad?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

35) How often did you do things to make this sibling mad?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

36) Did you think that this sibling could accomplish a great deal in life?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

37) How much did this sibling think that you could have accomplished a great deal in life?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

38) Did this sibling think your mother supported him/her or you more?
[ ] 1 I usually got more support
[ ] 2 I sometimes got more support
[ ] 3 We were supported equally
[ ] 4 This sibling sometimes got more support
[ ] 5 This sibling usually got more support

39) Did you think your mother supported you or this sibling more?
[ ] 1 I usually got more support
[ ] 2 I sometimes got more support
[ ] 3 We were supported equally
[ ] 4 This sibling sometimes got more support
[ ] 5 This sibling usually got more support

40) How much did you count on this sibling to be supportive when you are feeling stressed?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

41) How much did this sibling count on you to be supportive when he or she is feeling stressed?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

42) How much did this sibling feel jealous of you?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

43) How much did you feel jealous of this sibling?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

44) How much did you give this sibling practical advice?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

45) How much does this sibling give you practical advice?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

46) How much was this sibling bossy with you?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

47) How much were you bossy with this sibling?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

48) How much did you accept this sibling's lifestyle?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

49) How much did this sibling accept your lifestyle?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

50) Did this sibling think your father supported him/her or you more?
[ ] 1 I usually got more support
[ ] 2 I sometimes got more support
[ ] 3 We were supported equally
[ ] 4 This sibling sometimes got more support
[ ] 5 This sibling usually got more support

51) Did you think your father supported you or this sibling more?
[ ] 1 I usually got more support
[ ] 2 I sometimes got more support
[ ] 3 We were supported equally
[ ] 4 This sibling sometimes got more support
[ ] 5 This sibling usually got more support

52) How much did you know about this sibling's relationships?
[ ] 1 Hardly Anything [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

53) How much did this sibling know about your relationships?
[ ] 1 Hardly Anything [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

54) How much did you and this sibling think alike?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

55) How much did you really understand this sibling?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

56) How much did this sibling really understand you?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

57) How much did this sibling disagree with you about things?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

58) How much did you disagree with this sibling about things?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

59) How much did you let this sibling know you care about him or her?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

60) How much did this sibling let you know he or she cares about you?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

61) How much did this sibling put you down?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

62) How much did you put this sibling down?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

63) How much did you feel proud of this sibling?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

64) How much did this sibling feel proud of you?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

65) Did this sibling think your mother was closer to him/her or you?
[ ] 1 Our mother was usually closer to me
[ ] 2 Our mother was sometimes closer to me
[ ] 3 Our mother was equally close to both of us
[ ] 4 Our mother was sometimes closer to this sibling
[ ] 5 Our mother was usually closer to this sibling

66) Did you think your mother was closer to you or this sibling?
[ ] 1 Our mother was usually closer to me
[ ] 2 Our mother was sometimes closer to me
[ ] 3 Our mother was equally close to both of us
[ ] 4 Our mother was sometimes closer to this sibling
[ ] 5 Our mother was usually closer to this sibling

67) How much did you discuss important personal decisions with this sibling?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

68) How much did this sibling discuss important personal decisions with you?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

69) How much did this sibling try to perform better than you?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

70) How much did you try to perform better than this sibling?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

71) How likely was it you would go to this sibling if you needed financial assistance?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

72) How likely was it this sibling would go to you if he or she needed financial assistance?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

73) How much did this sibling act in superior ways to you?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

74) How much did you act in superior ways to this sibling?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

75) How much did you accept this sibling's ideas?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

76) How much did this sibling accept your ideas?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

77) Did this sibling think your father was closer to him/her or you?
[ ] 1 Our father was usually closer to me
[ ] 2 Our father was sometimes closer to me
[ ] 3 Our father was equally close to both of us
[ ] 4 Our father was sometimes closer to this sibling
[ ] 5 Our father was usually closer to this sibling

78) Did you think your father was closer to you or this sibling?
[ ] 1 Our father was usually closer to me
[ ] 2 Our father was sometimes closer to me
[ ] 3 Our father was equally close to both of us
[ ] 4 Our father was sometimes closer to this sibling
[ ] 5 Our father was usually closer to this sibling

79) How much did you know about this sibling's ideas?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

80) How much did this sibling know about your ideas?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

81) How much did you and this sibling lead similar lifestyles?
[ ] 1 Hardly At All [ ] 2 A Little [ ] 3 Somewhat [ ] 4 Very Much [ ] 5 Extremely Much

Appendix I

Study Number

SIBLING COMPARISON RATING SCALE

Please place a mark on each line at a point which best describes the way in which you see yourself in comparison to your sibling.

***In relation to my sibling, I feel:**

Inferior	1	2	3	4	5	6	7	8	9	10	Superior
Incompetent	1	2	3	4	5	6	7	8	9	10	More competent
Unlikeable	1	2	3	4	5	6	7	8	9	10	More likeable
Left out	1	2	3	4	5	6	7	8	9	10	Accepted
Different	1	2	3	4	5	6	7	8	9	10	Same
Untalented	1	2	3	4	5	6	7	8	9	10	More talented
Weaker	1	2	3	4	5	6	7	8	9	10	Stronger
Unconfident	1	2	3	4	5	6	7	8	9	10	More confident
Undesirable	1	2	3	4	5	6	7	8	9	10	More desirable
Unattractive	1	2	3	4	5	6	7	8	9	10	More attractive
An outsider	1	2	3	4	5	6	7	8	9	10	An insider

Appendix J

Study Number

OAS SCALE

DIRECTIONS: Below is a list of statements describing feelings or experiences that you may have from time to time or that are familiar to you because you have had them for a long time. Most of these statements describe feelings and experiences that are generally painful or negative in some way. Some people will seldom or never have any of these feelings. Everyone has had some of these feelings at some time, but if you find that these statements describe the way that you feel a good deal of the time, it can be painful just reading them. Try to be as honest as you can in responding.

Read each statement carefully and circle the number to the right of the item that indicates the frequency with which you find yourself feeling or experiencing what is described in the statement. Use the scale below.

SCALE

0 = NEVER 1 = SELDOM 2 = SOMETIME 3 = FREQUENTLY 4=ALMOST ALWAYS

1. I feel other people see me as not good enough.	0 1 2 3 4
2. I think that other people look down on me.	0 1 2 3 4
3. Other people put me down a lot.	0 1 2 3 4
4. I feel insecure about others opinions of me.	0 1 2 3 4
5. Other people see me as not measuring up to them.	0 1 2 3 4
6. Other people see me as small and insignificant.	0 1 2 3 4
7. Other people see me as somehow defective as a person.	0 1 2 3 4
8. People see me as unimportant compared to others.	0 1 2 3 4
9. Other people look for my faults.	0 1 2 3 4
10. People see me as striving for perfection but being unable to reach my own standards.	0 1 2 3 4
11. I think others are able to see my defects.	0 1 2 3 4
12. Others are critical or punishing when I make a mistake.	0 1 2 3 4
13. People distance themselves from me when I make mistakes.	0 1 2 3 4
14. Other people always remember my mistakes.	0 1 2 3 4
15. Others see me as fragile.	0 1 2 3 4
16. Others see me as empty and unfulfilled.	0 1 2 3 4
17. Others think there is something missing in me.	0 1 2 3 4
18. Other people think I have lost control over my body and feelings.	0 1 2 3 4

Appendix K

Study Number

Sibling put-down and shaming

This questionnaire lists various attitudes and behaviours of siblings. Please place a tick in the most appropriate brackets next to each question.

	Very like My sibling	Moderately like my sibling	Moderately unlike my sibling	Very unlike my sibling
My sibling told me I was stupid or foolish				
My sibling made me feel inadequate				
My sibling put me down				
My sibling made me feel embarrassed about myself				

Appendix L

BDI-II

Date:

Name: _____ Marital Status: _____ Age: Sex:

Occupation: _____ Education: _____

Instructions: This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick out the one statement in each group that best describes the way you have been feeling during the past two weeks, including today. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 (Changes in Appetite).

1. Sadness

0 I do not feel sad.
1 I feel sad much of the time.
2 I am sad all the time.
3 I am so sad or unhappy that I can't stand it.

2. Pessimism

0 I am not discouraged about my future.
1 I feel more discouraged about my future than I used to be.
2 I do not expect things to work out for me.
3 I feel my future is hopeless and will only get worse.

3. Past Failure

0 I do not feel like a failure.
1 I have failed more than I should have.
2 As I look back, I see a lot of failures.
3 I feel I am a total failure as a person.

4. Loss of Pleasure

0 I get as much pleasure as I ever did from the things I enjoy.
1 I don't enjoy things as much as I used to.
2 I get very little pleasure from the things I used to enjoy.
3 I can't get any pleasure from the things I used to enjoy.

5. Guilty Feelings

0 I don't feel particularly guilty.
1 I feel guilty over many things I have done or should have done.
2 I feel quite guilty most of the time.
3 I feel guilty all of the time.

6. Punishment Feelings

0 I don't feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.

7. Self-Dislike

0 I feel the same about myself as ever.
1 I have lost confidence in myself.
2 I am disappointed in myself.
3 I dislike myself.

8. Self-Criticalness

0 I don't criticize or blame myself more than usual.
1 I am more critical of myself than I used to be.
2 I criticize myself for all of my faults.
3 I blame myself for everything bad that happens.

9. Suicidal Thoughts or Wishes

0 I don't have any thoughts of killing myself.
1 I have thoughts of killing myself, but I would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.

10. Crying

0 I don't cry anymore than I used to.
1 I cry more than I used to.
2 I cry over every little thing.
3 I feel like crying, but I can't.

_____ Subtotal **Page 1**

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