Relationships between childhood abuse and eating disorders

A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Clinical Psychology

Submitted by

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Declaration

This thesis was carried out under the supervision of Dr. Caroline Meyer and Dr. Stephen Joseph, both of whom assisted with the design of the study and provided support with the statistical analyses. Aside from these collaborations, the thesis is all my own work. Authorship of any papers from this work will be shared with the above. The thesis has not been submitted for a degree to any other university. The literature review and main paper are being prepared for submission to the International Journal of Eating Disorders (Hawkins, Meyer & Joseph, in preparation). The brief paper is being prepared for submission to Child Abuse and Neglect (Hawkins, Joseph & Meyer, in preparation).

Overview

The general aim of this thesis was to examine links between childhood abuse and eating disorders. In the first chapter, research that investigates mediators in this relationship is reviewed. Very few studies that adhered to recommended means of testing for mediation were found, but preliminary findings suggested a potential mediating role for a number of variables, including core beliefs. In the second chapter, a factor analysis of the Childhood Abuse and Trauma Scale was performed. Support for a four factor structure was found as well as for the importance of considering subjective experiences of childhood abuse. Findings also suggested that researchers should look to investigate the impact of witnessing the abuse of other family members, as this emerged as a separate factor. In the third chapter, a non-clinical group of 135 undergraduate and nursing students completed standardised measures of childhood abuse, core beliefs and disordered eating attitudes. Mediational analysis provided support for a model where the relationship between childhood neglect and bulimia was perfectly mediated by subjugation beliefs and partially mediated by seven other beliefs (emotional deprivation, mistrust/abuse, social isolation, defectiveness/shame, emotional inhibition, entitlement and failure to achieve). In the final chapter, reflections on the process of conducting research as part of a clinical psychology doctorate are discussed.

Childhood abuse and eating disorders: A review of the evidence on mediational variables

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Abstract

Objective: To review research investigating mediational links within the childhood abuse-eating disorders relationship. **Method:** A literature search was conducted using the databases PSYCHINFO and Ingenta (including Medline) and the following combinations of search terms: 'abus*' and 'mediat*' and either 'eat*', 'bulim*' or 'anore*'. Three articles were found to have conducted analyses that matched recommended means of testing for mediational relationships (Baron & Kenny, 1986). In addition, another six studies were found that were consistent with the model but which had not fully adhered to it in some way. **Results:** Variability between the small numbers of studies found made it difficult to draw conclusions about the role of specific mediators. **Discussion:** Results are discussed in the context of support for the mediating role of general psychopathology, suggesting that clinicians should tackle both general psychological and eating distress during treatment. Further research using mediational and more complex procedures is recommended.

Introduction

Sexual abuse and eating disorders

In the field of eating disorders, the subject of childhood sexual abuse has received much attention (e.g. Fallon & Wonderlich, 1997; Rice, 1996; Smolak & Murnen, 2002). However, research has produced contradictory findings about whether such abuse plays a causal role in the development of eating disorders (e.g. Folsom, Krahn, Nairn, Gold, Demitrack & Silk, 1993; Pope & Hudson, 1992; Steiger & Zanko, 1990). As a result of such equivocal findings, most literature reviews (e.g. Connors & Morse, 1993; Everill & Waller, 1995; Wonderlich, Brewerton, Jocic, Dansky & Abbott, 1997) and meta-analyses (e.g. Rind, Tromovitch & Bauserman, 1998; Smolak & Murnen, 2002) have concluded that it is more helpful to view childhood sexual abuse as one of several risk factors that can be involved in the development and maintenance of eating and other disorders.

Other forms of abuse and eating disorders

In recent years, some researchers (e.g. Kent & Waller, 2000; Kent, Waller & Dagnan, 1999; Rorty, Yager & Rossotto, 1994) have broadened their focus to include the other forms of childhood abuse (childhood physical and emotional abuse and neglect) as defined by the Children Act (Department of Health, 1989).

In 2000, Kent & Waller found that, within eating disorders research, childhood sexual abuse had been the most widely researched area, followed by childhood physical abuse. They found that relatively little research had been conducted on childhood emotional abuse and even less on neglect. They highlight how this lack of research on other forms of abuse contrasts with other work that suggests that

childhood emotional abuse, for example, is not only the most prevalent but also potentially the most damaging form of childhood abuse (e.g. O' Hagan, 1993; 1995). They conclude, along with others (e.g. Briere & Runtz, 1990; Rorty et al., 1994; Thompson & Kaplan, 1996) that concentrating exclusively on childhood sexual abuse does not allow for full understanding of the experience of being abused.

The conclusion that childhood sexual abuse should be regarded as a risk factor for eating and other disorders, has led to an attempt to discover how else the childhood abuse-eating disorders relationship might be explained. In general, researchers have tackled this in two ways. Some have examined the correlates of childhood abuse in the eating disordered population (e.g. Fullerton, Wonderlich & Gosnell, 1995; Rorty et al., 1994; Waller, Ruddock & Cureton, 1995). That is, they have examined which other factors are associated with abuse and eating disorders. Others have sought to investigate potential mediators in this link. In other words, they have sought to investigate which of the factors that develop as a result of childhood abuse would need to be present in order for an eating disorder to develop. Correlational studies have a number of limitations, however. As a less sophisticated approach, for example, correlational methodology can only represent a preliminary investigation of connections between abuse and eating disorders (Reto, Dalenberg & Coe, 1996). Mediational testing also allows for a greater understanding of the key psychological aspects in the treatment and formulation of such cases (Kent et al, 1999).

Mediational testing

Baron & Kenny (1986) detail the steps involved in mediational testing. In Stage 1, the mediators must be regressed onto the independent variable. In Stage

2, the dependent variable must be regressed onto the independent variable. In Stage 3, the dependent variable must be regressed onto both the independent variable and the mediators simultaneously. Perfect mediation is supported if the relationship between the independent variable and the dependent variable is no longer significant in this final stage. Imperfect mediation is indicated if the relationship remains but is weakened. As this method has strong theoretical and statistical grounding, it will be used as the point of reference for all the studies reviewed in this paper.

Literature review

In all, nine studies were found to have tested for mediational links between childhood abuse and eating disorders, using methods identical or similar to those recommended by Baron & Kenny (1986). Three were found to have conducted analyses that exactly matched Baron & Kenny's (1986) recommendations. In addition, another six studies were found that were consistent with the recommendations but which had not fully adhered to the recommendations in some way. Both groups of study are summarised in Table 1.

The mediators considered were: shame, depression, anxiety, dissociation, borderline personality disorder, impulsiveness, core beliefs, substance misuse, body image concerns, self-concept and perfectionism.

Studies found to be in exact accordance with Baron & Kenny's (1986) model

Shame

Shame can be described as a self-conscious emotion associated with the belief that the self is inherently flawed and should be concealed from others (Gilbert, 1989; Murray, Waller & Legg, 2000). There is thought to be an evolutionary connection between shame and submission to those viewed as superior (Gilbert, 1989). Childhood abuse can reduce the victim to such submission and subordination (Andrews, 1997). Self-conscious feelings about the body have been thought to play a key role in eating disorders, so it seems plausible that there could be a connection between childhood abuse, shame and eating disorders (Andrews, 1997).

Andrews (1997) initially found that bodily shame acted as a mediator in the childhood abuse-bulimia link. However, further analysis of data on age of occurrence of abuse, bodily shame and bulimia showed that onset or exaggeration of bulimic symptoms followed abuse but was concurrent with bodily shame, calling into question the results of the mediational analysis.

This study used a non-clinical sample, which generally allows for the collection of a larger sample and more powerful data analysis. However, care must be taken if the aim is to generalise results to clinical populations as undergraduate samples can exclude those who have been most damaged by abuse (Reto et al., 1996). Self-selection, which often occurs with undergraduate samples, may also produce biased data. For example, those who do not wish to be questioned by clinicians, perhaps because they do not wish to disclose their eating disorder, will not volunteer to take part (Andrews, Valentine & Valentine, 1995). It is worth noting, however, that Smolak & Murnen (2002) found no difference between clinical and non-clinical abuse samples, suggesting that, with abuse, results may be generalisable across populations.

Depression, body image concerns, impulsivity, substance misuse, self-concept and perfectionism

Some authors have suggested that sexual abuse is linked to eating disorders as such abuse leads the individual to develop low self-esteem, body image concerns and perfectionistic dieting behaviour which then lead to the development of eating disorders (Agras, 1991; Fairburn, 1981). Others have focused more on impulsivity as being the feature that could best explain the link (Lacey & Evans, 1986; Lacey, 1993) as impulsivity can also serve to block awareness of psychological distress (Heatherton & Baumeister, 1991; Lacey, 1986). Impulsivity is often associated with borderline personality disorder (see below).

Wonderlich, Crosby, Mitchell, Thompson, Redlin, Demuth & Smyth (2001) found that impulsivity partially mediated the relationship between childhood sexual abuse and both weight dissatisfaction and purging/restricting. No other mediators were found in the childhood sexual abuse-weight dissatisfaction link, but substance misuse was also found to partially mediate the childhood sexual abuse-purging/restriction link. Impulsivity provided a stronger mediational effect than substance abuse and so the authors proposed that impulsivity acts as a primary mediator and substance misuse as a secondary mediator of the childhood sexual abuse-bulimia relationship. This contrasts with the approach that Waller, Meyer, Ohanian, Elliott, Dickson & Sellings (2001) used to determine primary and secondary mediational relationships. As Wonderlich et al.'.s (2001) conclusions about levels of mediation are not based on a specific model or means of analysis, this particular claim should be treated with caution.

Another caution about this piece of research, in addition to the small sample size, is that, in the control group, researchers relied only on parental assurances that children had not been abused. A strength, however, is that the authors attempted to reduce the effects of recall bias and variability associated with age at onset of abuse found in most studies, by investigating children, which reduces the length of time between first experience of abuse and recall found in adult studies.

Depression, impulsiveness, substance misuse and family psychopathology

Casper & Lyubomirsky (1997) found that both depression and impulsivity mediated the relationship between sexual abuse and bulimia. When bulimic and control groups were examined separately, although sample sizes meant that some regression paths failed to meet significance, the pattern of results were identical to that found in the previous analysis, suggesting that depression and impulsivity mediated the relationship between sexual abuse and unhealthy eating behaviour in both women with bulimia and controls.

Waller et al.'s (2001) and Casper & Lyubomirsky's (1997) studies both used a combination of clinical and non-clinical participants, which can be considered a strength. Although research based on clinical samples can be generalised more reliably to other clinical populations, caution needs to be exercised with such samples, too. Clinical samples allow for a greater analysis of psychopathology than would be possible with non-clinical samples, but can provide equally biased data. For example, certain borderline characteristics, such as impulsiveness or fear of abandonment, which may have led participants to seek treatment in the first place, may also mean that such participants are less reliable informants (Waller, 1993).

Data from participants with more complex psychopathologies will also not be generalisable to the general population (Waller, 1993).

Studies found to be consistent but not in exact accordance with Baron & Kenny's (1986) model

Shame

Murray & Waller (2002) found that internalised shame partially mediated the relationship between sexual abuse and bulimic attitudes and that internalised shame perfectly mediated the relationship between interfamilial sexual abuse and bulimic attitudes. In this study, two mediational analyses were conducted. In the first, any reported history of sexual abuse was treated as the independent variable. In the second, sexual abuse involving force, interfamilial abuse and age of onset of abuse were considered as independent variables. This study does follow the three stages recommended by Baron & Kenny (1986), however it does not fully adhere to their recommendations as a planned stepwise regression was used in the final stage, contrary to Baron & Kenny's (1986) recommendations.

Although both Murray & Waller (2002) and Andrews (1997) investigated the mediating role of shame, there are a number of differences between the two studies that warrant further consideration. One way in which they differ is in terms of data collection - Andrews' (1997) used semi-structured interview, whereas Murray & Waller (2002) used self-report measures. Although Smolak & Murnen (2002) argue that measures such as the Eating Attitudes Test (EAT; Garner & Garfinkel, 1979) or Eating Disorders Inventory (EDI; Garner, 1991) are unsuitable for diagnosing eating disorders or where the hypothesised effect of childhood sexual abuse is loss of

control or dissociation. However, they suggest that they may provide the most suitable means of assessing hypothesised effects of childhood sexual abuse, where it is hypothesised that such abuse will negatively influence body image and therefore dieting. Andrews et al. (1995) suggest that the anonymity provided by self-report measures is more likely to prompt responses to potentially shame-provoking behaviours, such as bingeing and purging, than face-to-face interview, although this was not the case in their own study, probably because of the relationship built up between the participants and the research team over some time. All the studies in the remainder of this review use a variety of different methods of data collection (see Table 1) and this should be borne in mind when comparing findings.

The two studies also differed in terms of sample sizes, with the numbers involved in Andrews' (1997) study being considerably smaller, especially when only women who had been abused were considered (n=20). This means that the results of this study should be treated with caution. However, the findings are lent some support by the findings of Murray & Waller's (2002) study.

One criticism of Murray & Waller's (2002) study is that perfect mediation was only found when interfamilial sexual abuse was considered as an independent variable. Treating interfamilial sexual abuse in this way conflicts with Kent et al.'s (1999) and Baron & Kenny's (1986) recommendations that factors such as age when first abused, relationship with abuser, gender of abuser and frequency of abuse should be considered as factors which moderate the influence of causal factors such as childhood abuse, as opposed to being considered as independent variables themselves.

Two studies did not claim to have followed Baron & Kenny's (1986) recommendations, but were consistent with their recommendations, except for the

omission of Stage 1 and the use of stepwise or hierarchichal regression in the final stage. The first, by Waller (1993) examined the mediating role of borderline personality disorder.

Borderline personality disorder

Borderline personality disorder is a term used to describe a disturbance of personality typified by extremely low self-esteem, self-regulatory deficits and great difficulty in maintaining stable relationships (Dennis & Sansone, 1997). It is thought that, in eating disorders, borderline personality disorder is related to childhood abuse in a number of ways: the pursuit of thinness can enhance self-esteem, bingeing can act as a self-soothing mechanism and purging may help regain a sense of self-control. Borderline personality disorder has been found to be a consequence of sexual abuse (e.g. McClelland, Mynors-Wallis, Fahy & Eisler, 1991; Waller, 1994) in women with eating disorders and so it would seem plausible that borderline characteristics could mediate between childhood abuse and eating disorders.

Waller (1993) found that the previously significant relationship between childhood sexual abuse and bingeing became non-significant when borderline personality disorder and childhood sexual abuse were regressed onto bingeing, suggesting that borderline personality disorder was likely to be acting as a mediator in their study.

The second of these studies by Reto et al. (1996) examined the mediating role of dissociation.

Dissociation

Dissociation can be viewed as a means of escaping from overwhelming thoughts and emotions associated with trauma, by reducing awareness of that trauma through processes such as depersonalisation, derealisation, absorption and amnesia (Carlson & Putnam, 1993; Reto et al., 1996). Some authors (e.g. Reto et al., 1996; Vanderlinden, Vandereycken, Van Dyck & Vertommen, 1993) report how bulimia is often described clinically as a means of escaping from the distress associated with trauma. They suggest that dissociative symptoms found in eating disorders may well have their roots in earlier traumatic experiences, such as childhood abuse. Kent & Waller (2000) propose that eating disorders may also serve to block awareness of anxiety and depression precipitated by factors such as childhood emotional abuse (Briere & Runtz, 1990; Gross & Keller, 1992).

Reto et al (1996) found that dissociation was not likely to be acting as a mediator between childhood physical abuse and either bulimia or impulsivity. It may be that, here, as with other studies which consider only childhood sexual abuse, the focus on one type of childhood abuse in this study has resulted in important findings about links between other types of childhood abuse and eating disorders being overlooked.

Clearly, one strength of this study is the inclusion of males in the sample. The majority of studies on eating disorders focus on women, as they are by far the most affected by eating disorders. Evidence from both clinical and non-clinical samples, however, suggests that men are increasingly becoming affected by eating disorders (Braun, Sunday, Huang & Halmi, 1999).

Another study that investigated the role of dissociation was that by Rodriguez-Srednicki (2001). In contrast to the other studies reviewed in this section thus far, this study does claim to have followed Baron & Kenny's (1986) recommendations.

However, only the use of Stage 3 was evident, meaning that there is no information on whether childhood sexual abuse predicts either dissociation or self-destructive behaviours. The omission of both these stages means that the study's claim about dissociation mediating the childhood sexual abuse-substance misuse relationship cannot be statistically supported. This is unfortunate, as the extremely large sample collected in this study would have meant that the mediational analysis would have been very powerful.

Depression, dissociation and anxiety

Another study which the authors stated had followed Baron & Kenny's (1986) recommendations and was consistent with their recommendations, except for the use of stepwise regression in the final stage, was that by Kent et al. (1999). They found that dissociation and anxiety perfectly mediated the relationship between childhood emotional abuse and unhealthy eating attitudes. They proposed that their results were compatible with a model where eating disorders serve to reduce the anxiety that results from childhood emotional abuse (with anxiety being a product of the uncertainty inherent in childhood emotional abuse). They also suggest that the lack of a clear outcome in incidences of childhood emotional abuse is likely to be associated with perceptions of personal vulnerability (usually associated with anxiety) rather than loss (usually associated with depression).

Clearly, one strength of both Kent et al.'s (1999) and Andrews' (1997) studies was the inclusion of a broader range of childhood abuse. Had only childhood sexual abuse been examined, no significant relationships would have been found. This highlights the importance of considering the full range of abusive experiences in future research.

Depression, dissociation and core beliefs

Recent research in the field of eating disorders has focused on the role of cognitions, building on the theory that eating disorders can serve to block awareness of both painful cognitions as well as emotions (e.g. Hartt and Waller, 2002; Meyer, Leung, Feary & Mann, 2001; Waller, 2003; Waller, Ohanian, Meyer & Osman, 2000).

In the initial analysis in Waller et al.'s study (2001) childhood sexual abuse was treated as the independent variable, core beliefs as mediators and depression, dissociation, bingeing and vomiting all treated as dependent variables. In the second analysis, those core beliefs found to act as mediators in the initial mediational analysis were treated as primary mediators, depression and dissociation as secondary mediators and bingeing and vomiting as the dependent variables.

This study does claim to have followed Baron & Kenny's (1986) recommendations but again, Stage 1 was not conducted. The results of Stage 3 indicated that the link between childhood sexual abuse and bingeing became non-significant when three core beliefs (abandonment, emotional inhibition and mistrust/abuse) were entered as mediators, in addition to childhood sexual abuse, suggesting that these beliefs were likely to be acting as mediators. The same support was found for the role of emotional deprivation in the childhood sexual abuse-depression link and for emotional deprivation and failure to achieve in the childhood sexual abuse-dissociation link. Only partial support was found for the role of defectiveness/shame beliefs in the childhood sexual abuse-vomiting link.

In the second mediational analysis, results were consistent with a model where depression acted as a mediator in the relationship between childhood sexual abuse, abandonment and mistrust/abuse beliefs and binge frequency and where the

childhood sexual abuse-emotional inhibition-bingeing link was not mediated by depression. In the case of frequency of vomiting, results were compatible with a model where depression and dissociation mediated the relationship between childhood sexual abuse, defectiveness/shame beliefs and vomit frequency and where depression also acted as a mediator in the relationship between childhood sexual abuse and vomiting.

One strength of this study is its attempt to uncover a more complex level of mediational relationship. This is in keeping with Baron and Kenny's (1986) reminder that, as researchers, we are usually attempting to uncover complex relationships that have multiple causes. They also suggest that it may be more realistic to look for mediators that only significantly reduce the relationship between independent and dependent variables, rather than those which eliminate it altogether. The use of a specific procedure to test for the effects of proposed primary and secondary mediators in Waller et al's study (2001) is in contrast to the approach used by Wonderlich et al. (2001), and is another strength of Waller et al.'s study (2001). This also fits with cognitive theory (e.g. Beck, 1976) that cognitions develop as a result of childhood experiences and that it is these cognitions that lead us to feel certain emotions and engage in particular behaviours.

Discussion

One unexpected outcome of this literature review has been the relative lack of research that complies with recommended methods for mediational testing. It appears that most existing studies have investigated correlational relationships, although conclusions about the mediational nature of the findings of such studies

have sometimes been drawn (e.g. Waller, 1996, Everill & Waller, 1995). While this does not necessarily mean that the correlates being investigated in such studies are not mediational, it is statistically incorrect to assume that they are. While mediational testing is still open to error (see below) such methods are clearly more reliable than those which examine relationships on a purely correlational level.

One criticism of all the studies reviewed above, is that, as retrospective studies, data is subject to recall bias. Rorty et al. (1994) discuss how research has shown that reliability of recollections of childhood abuse may be particularly vulnerable to processes such as reconstruction, repression or denial (e.g. Herman and Schatzow, 1987; Schwartz & Sudman, 1994; Summit, 1983). However, in contrast, other authors such as Newberger & DeVos (1988) and Sanders & Becker-Lausen (1995) warn that too great a focus on establishing the 'facts' about abuse can result in genuinely traumatic experiences being ignored. They stress that this can lead to valuable clinical and research evidence being overlooked.

Cross-sectional studies can also make it difficult to determine whether the hypothesised mediator or dependent variable actually post-date the hypothesised independent variable. Clearly, only longitudinal, prospective research can definitively establish causality. Without such data, it is essential that researchers remain open to alternative explanations for their findings. Waller et al. (2001) for example, suggest that vomiting may make women feel defective and that this may lead to the development of factors that are currently being considered as mediators, such as shame. It may also be that women with borderline personality disorder, for example, are more at risk of being abused or, conversely are more likely to report abuse. It is also possible that parents may increase emotional abuse in response to their child developing an eating disorder (Rorty et al., 1994). In the one study

reviewed above where some data about age at onset was collected (Andrews, 1997) this called into question the results of the mediational analysis. Clearly this is cause for concern and raises questions about the results of the other studies which did not collect this information. Waller et al. (2001) however, describe how, in spite of such concerns, cross-sectional studies play an important role in determining whether data is compatible with proposed models and in reinforcing the utility of applying the model in future prospective designs.

Some researchers have begun to address concerns about cross-sectional data. Andrews (1997), Rorty et al. (1994) and Wonderlich et al. (2001) asked participants about how old they were when the abuse first began. Andrews' (1997) recommends that collecting extensive information about past episodes and onset of symptoms from case notes would increase the reliability of mediational claims in future cross-sectional studies and Wonderlich et al. (2001) used children to reduce the effects of recall bias.

There is great variability in terms of type of abuse, mediator and eating disorder being studied between the studies that test for mediation. While this variability is to be expected, with so few studies, it becomes difficult to make comparisons and therefore draw conclusions about the relationships in question. Some support, however, for a range of mediators (shame, depression, anxiety, dissociation, borderline personality disorder, impulsiveness, core beliefs and substance misuse) was found. Some additional conclusions can also be made. We can say, for instance, that psychopathology in general does appear to act as a mediator in the childhood abuse-eating disorders relationship. In other words, eating disorders can be said to function as a means of reducing the negative psychological consequences of childhood abuse, such as dissociation or impulsiveness, as

proposed by Heatherton & Baumeister (1991) and Lacey (1986). This has important clinical implications as it provides support for the importance of tackling other forms of psychopathologies in individuals with eating disorders. This is in keeping with the idea that childhood sexual and other forms of abuse should be regarded as general risk factors (e.g. Connors & Morse, 1993; Wonderlich et al., 1997; Smolak & Murnen, 2002). This should not, of course, be taken to imply that everyone who has a history of childhood abuse will go on to develop an eating disorder or other psychopathology.

Clinical implications

Findings of the mediational analyses conducted to date provide support for the general role of mediators in the development and maintenance of eating disorders. This may well explain the conflicting results found in early correlational studies. One clinical implication is that clinicians working in the field of eating disorders should routinely assess for the existence of all potential mediators. However, as the range of potential mediators is currently very broad, this may prove to be impractical. At this stage, being aware of theories about potential mediators and following up on those which help to explain the function of each individual's eating disorder may be the best approach. This would fit with Kent & Waller's (2000) recommendations that formulation of each individual case should determine which area to tackle first. Everill & Waller (1995) recommend that clinicians should consider treating the consequences of abuse, mediators and eating disorders concurrently. This could be essential, as treating the eating disorder without treating its cause could result in the development of other behaviours. For example, if the

primary function of bingeing is to block awareness of abuse, then a decrease in bingeing after treatment, may only result in an increase in other blocking behaviours, such as drug or alcohol abuse (Everill & Waller, 1995; Miller, McCluskey-Fawcett & Irving, 1993).

Failing to be mindful of the possibility of co-morbid conditions, such as dissociation, may well result in an inability to participate in therapy or failure to engage in or remain in therapy (e.g. Fahy, Eisler & Russell, 1993; Johnson, Tobin & Demis, 1990; Ross-Gower, Waller, Tyson & Elliott, 1998; Sansone & Fine, 1992). Findings about the impact of abuse also highlight the need for pro-active approaches to the prevention and treatment of childhood abuse. This provides support for the continued development of child mental health promotion, prevention and early intervention initiatives currently being developed as part of child services (Day & Davis, 1999; Departments of Health & Education, 1996; NHS Health Advisory Services, 1995).

Research directions

In spite of a lack of consensus about the role of specific mediators in the childhood abuse-eating disorders relationship, the research conducted to date supports the theory that the psychological processes involved are highly complex and multiple factors are likely to be involved (Kent et al., 1996; Waller, 1996). Shame, anxiety, depression, impulsivity, borderline personality disorder, dissociation and core beliefs have all been implicated to date. Although the results of such studies are promising, the variability between studies and small sample sizes means that further replication and extension is required. Clearly much more research using

mediational models is required before any conclusions about specific mediators can be drawn. Research investigating several of these emotions, cognitions and behaviours, perhaps using a more complex design, such as that utilised in Waller et al.'s (2001) study could help move research in this area forward considerably.

Researchers should also look to gather additional data about dates of onset of any variables being examined, in order to support the results of mediational analyses. The clinical setting could prove to be an ideal forum in which to gather supporting evidence about date of onset of the factors identified above, through clinical interview and access to existing records. Individual cases, written up in the form of single case design studies, could provide direction for future larger scale mediational studies. The inclusion of longitudinal studies in this research base would provide the strongest support for the existence of any mediational links. In keeping with the idea of childhood abuse being a general risk factor for psychopathology, future research could also consider what factors prevent someone who has been abused developing an eating disorder or which factors lead to different psychopathologies. More complex research designs, utilising path analysis or covariance structure modelling would be required to reliably extend research designs in such a way.

Conclusions

In summary, within the abuse-eating disorders literature, relatively few studies have investigated mediational relationships between childhood abuse and eating disorders, with even fewer adhering to recommended procedures for testing for mediation (Baron & Kenny, 1986). Variability between these studies and small

sample sizes make it difficult to draw conclusions about the role of specific mediators in this relationship. There is, however, support for the mediating role of general psychopathology, suggesting that clinicians should look to tackle any such co-existing psychopathology when working with eating disorders. Further research using mediational and more complex procedures is recommended.

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Table 1: Summary of research investigating mediational links between abuse and eating disorders

Authors/Year	n	Sample	Mediators	Method of measurement	Results
Studies found to match Baron & Kenny's (1986) model exactly					
Andrews, 1997	69	NCL, F, T-A	Bodily shame, dissatisfaction	Semi-structured interview	Mediational testing indicated that bodily shame mediated between ca & bulimia, but qualitative data suggested that shame & bulimia may have developed concurrently
Wonderlich et al., 2001	40	MIX, F, C	Depression, body image concerns, impulsivity, substance misuse, self-concept, perfectionism	Self-report questionnaire	Impulsivity partially mediated between csa & both weight dissatisfaction & purging/restricting; substance misuse partially mediated between csa & purging/restriction

Casper & Lyubomirsky, 1997	153	MIX, F, A	Depression, impulsiveness, substance misuse, family psychopathology	Self-report questionnaire	Emotional distress & impulsivity mediated the relationship between sa & bulimia
Studies found to be consistent but not in exact accordance with Baron & Kenny's (1986) model					
Murray & Waller, 2002	214	NCL, F, A	Shame	Self-report questionnaire	Shame partially mediated between sa & bulimia; shame perfectly mediated between interfamilial sa & bulimia
Waller, 1993	100	CL, F, A	Borderline personality disorder	Semi-structured interview	Bpd mediated between csa & bingeing
Reto et al., 1996	183	NCL, M+F, A	Dissociation	Self-report questionnaire	Dissociation did not mediate between cpa & either bulimia or impulsivity

Rodriguez-Srednicki, 2001	441	NCL, F, A	Dissociation	Self-report questionnaire	Dissociation claimed to mediate between csa & substance misuse – however study lacked sufficient statistical evidence to support this claim
Kent et al., 1999	236	NCL, F, A	Depression, dissociation, anxiety	Self-report questionnaire	Anxiety & dissociation perfectly mediated between cea & overall unhealthy eating attitudes
Waller et al., 2001	61	CL, F, A	Depression, dissociation, core beliefs	Self-report questionnaire	Depression & dissociation mediated between csa, defectiveness beliefs & vomiting; depression mediated between childhood sexual abuse & vomiting; depression mediated between csa, abandonment & mistrust/abuse beliefs & bingeing; emotional inhibition mediated between csa & bingeing

Note: NCL=non-clinical; CL=clinical; MIX= clinical & non-clinical control group; F=female; M+F=mixed male & female group; A=adult; C=children; T-A=teens to adult; csa = childhood sexual abuse; ca = childhood abuse; cea = childhood emotional abuse, sa = sexual abuse; cpa = childhood physical abuse, bpd = borderline personality disorder.

The factor structure of the Child Abuse and Trauma Scale

Word count: 3193

Practice implications

This investigation into the factor structure of the Child Abuse and Trauma Scale (Sanders & Becker-Lausen, 1995) suggests that clinicians should be aware of the potential impact of witnessing family members being abused. They should also be aware that subjective experiences of abuse may differ from objective reports, therefore assessment should be conducted in such a way as to elicit clients' perceptions of such experiences.

Abstract

Objective: To investigate the factor structure of the Child Abuse and Trauma Scale (Sanders & Becker-Lausen, 1995). **Method:** Principle components analysis with varimax rotation was used to analyse the factor structure. **Results:** A four factor structure was found to be the best fitting solution. These four factors did not replicate those found in the original factor analysis, although some similarity between three of the new factors and three of the original factors existed. The original item configuration for each sub-scale was not supported in this study nor was the creation of an emotional abuse sub-scale. In addition, a new factor concerned with the witnessing of abuse of others within the family was found. **Conclusions:** The results are discussed in the context of support for a four factor structure and for the importance of considering subjective experiences of childhood abuse. Findings also suggest that researchers should look to investigate the impact of witnessing the abuse of other family members, as this emerged as a separate factor in this study.

Introduction

Recent advances in the definition of childhood emotional abuse (e.g. Hart & Brassard, 1991) have meant that progress has been made in terms of the measurement of childhood abuse. One such measure is the Child Abuse and Trauma Scale (CATS; Sanders & Becker-Lausen, 1995). The focus of this scale is the measurement of the respondent's evaluation of childhood events, as the authors were aware that different interpretations of trauma could result in differential outcomes (Newberger & DeVos, 1988; Mullen, Martin, Anderson, Romans & Herbison (1996). Items are phrased in a mild way in order to minimise the likelihood of either underreporting due to the stigma of admitting to an abusive childhood or overreporting, perhaps due to a complaining response style (Becker-Lausen, Sanders & Chinsky, 1995). Ross-Gower, Waller, Tyson & Elliott (1998) describe how this approach is more useful than focusing on more objective, legal definitions of abuse.

Sanders & Becker-Lausen (1995) originally designed the CATS to reflect experiences of sexual mistreatment, physical mistreatment and punishment, psychological mistreatment, physical or emotional neglect and negative home atmosphere (e.g. parental substance misuse or fighting). They determined the factor structure of the CATS using an oblique rotation, from data obtained from a sample of 897 male and female college students. These factors appeared to reflect 'negative home atmosphere/neglect', 'sexual abuse' and 'punishment'. The overall scale had strong internal consistency (Cronbach's alpha = 0.9), with that of the individual factors being 0.86 (negative home atmosphere/neglect), 0.76 (sexual abuse) and 0.63

(punishment). Intercorrelations between factors were low, (0.26, 0.37 and 0.12). The scale was also found to have good test-retest reliability. Sanders & Becker-Lausen (1995) then excluded items that loaded by more than 0.2 on more than one factor. This resulted in a negative home atmosphere/neglect sub-scale consisting of 14 items and sexual abuse and punishment sub-scales consisting of 6 items each.

Subsequently, Kent & Waller (1998) created a 7-item childhood emotional abuse sub-scale from items not included in the other sub-scales and one from the neglect sub-scale. All the items in this sub-scale were chosen purely because of their face validity for the construct of childhood emotional abuse rather than as a result of a factor analysis. In their study of 236 female university and nursing students, Kent & Waller (1998) found that this new sub-scale had an internal consistency of 0.88, with the other sub-scales having internal consistencies of 0.61 (sexual abuse), 0.8 (punishment) and 0.82 (negative home atmosphere/neglect). These findings were similar to those found originally, except that the sexual abuse sub-scale was somewhat less internally consistent and the punishment somewhat more. They found that intercorrelations between the four sub-scales were high, except for sexual abuse which only correlated reliably with emotional abuse.

Subsequently, some studies (e.g. Hartt & Waller, 2002; Kent, Waller & Dagnan, 1999) have utilised the CATS as a means of measuring the four types of childhood abuse as defined by the Department of Health (1989) - childhood sexual, physical and emotional abuse and neglect. Interest in the use of this scale is growing and some clinically relevant findings have been produced in the fields of eating disorders (Hartt & Waller, 2002; Kent et al.,

1999), dissociation (Pekala, Kumar, Ainsley, Elliott, Mullen, Salinger & Masten, 2000; Waller, Hamilton, Elliott, Lewendon, Stopa, Waters, Kennedy, Lee, Pearson, Kennerley, Hargreaves, Bashford & Chalkley, 2001), parenting (Harmer, Sanderson & Mertin, 1999) and social anxiety (Beth, 1999).

In summary, to date there is a paucity of research into the factor structure of the CATS. In addition, a new sub-scale that hasn't emerged as a result of any factor analysis has been created and utilised in consequent studies. It is therefore the aim of this study to further investigate the factor structure of the CATS in a non-clinical sample. It is hoped that the findings of this study will help determine whether the CATS should be regarded as a means of assessing childhood abuse as defined legally or whether it is measuring altogether different structures. It is hoped that this will guide the use of the scale in future clinical and research work.

Method

Participants

Participants were 135 female undergraduate and nursing students from two universities in the West Midlands. Their mean age was 22.9 years (SD = 7.6; range = 18 - 47).

Measures

The CATS (Appendix 3) is a 38-item self-report questionnaire which takes approximately 5 minutes to complete. Participants indicate on a 5 point scale (0:never; 4: always) how often they experienced a range of abusive

experiences during their childhood and adolescence. Item mean scores are used and higher scores reflect more abusive experiences.

Procedure

The CATS was administered to participants as part of a larger study investigating links between childhood abuse and eating disorders (Hawkins, Meyer & Joseph, in preparation). Following ethical approval from both Universities (Appendix 13), participants were recruited in lectures or from an unrelated research project. Participants were provided with an information sheet (Appendix 6) and those who agreed to participate signed consent forms (Appendix 7) before completing the questionnaire. A feedback sheet detailing how to access further support was also provided (Appendix 9).

Data analysis

Factor analysis

Items 29 and 35 were eliminated from the analysis due to zero variance (all participants had scored 0 on each item). Both were items found to measure childhood sexual abuse in Sanders & Becker-Lausen's (1995) factor analysis.

Exploratory principal components factor analyses with both orthogonal (varimax) and then oblique rotations were conducted on the remaining 36 items. Only the varimax rotation was completed by SPSS, indicating that a factor solution in which the factors were not allowed to correlate provided the best solution. Ten factors had an eigenvalue greater than 1 (Appendix 10).

Examination of the scree plot (Figure 1) indicated that a three or four factor solution would be more meaningful, however, and so rotations were conducted for both these solutions.

Results

Three factor solution

The first three factors explained 44% of the variance. The rotated component matrix (Appendix 11) for these three factors indicated that nineteen items had loadings of more than 0.4 on Factor 1, sixteen on Factor 2 and nine on Factor 3. Six of the items also loaded on one or more additional factors in Factor 1, eight in Factor 2 and five in Factor 3.

Four factor solution

The four factor solution explained 49% of the variance. The rotated component matrix (Table 1) for these four factors indicated that fourteen items had loadings of more than 0.4 on Factor 1, eleven on Factor 2, six on Factor 3 and five on Factor 4. One of the items also loaded on one or more additional factors in Factor 1, two in Factor 2, two in Factors 3 and 1 in Factor 4.

Discussion

As the three factor solution contained a high number of items loading on two or more factors, this was not considered to be an appropriate solution and so only the four factor solution was considered further.

With the four factor solution, Factor 1 appeared to be measuring harsh discipline/punishment (both verbal and physical). Factor 2 appeared to be measuring negative home atmosphere/neglect. Factor 3 appeared to be measuring sexual abuse/threat and Factor 4 to be measuring awareness or witnessing abuse of family members. The internal consistency of the full scale and Factors 1 – 4 was satisfactory with Cronbach's alpha being 0.92, 0.89, 0.87, 0.80 and 0.78 respectively (Appendix 12). The range of internal consistencies found in this study (0.89 - 0.78) is higher than those found in either previous study (0.86 - 0.63: Sanders & Becker-Lausen, 1995; 0.88 - 0.61: Kent & Waller, 1998), suggesting that the factors found in this study can be regarded as more reliable. As varimax rotation was used, none of the factors were correlated in this analysis.

Although three of these factors appear to be similar to those originally found by Sanders & Becker-Lausen (1995), the items within these factors are not all identical to those contained within the original sub-scales, nor are the factors themselves, especially Factor 4.

Although Sanders & Becker-Lausen (1995) did not originally design the CATS to measure objective, legal definitions of childhood abuse, in later studies (e.g. Hartt & Waller, 2002; Kent et al., 1999) it has been used in such a way. These findings support a return to the subjective assessment of childhood abuse, as reflected by the factors found in this study. This is in keeping with Sanders & Becker-Lausen's (1995) original intentions and the idea that it is the overall experience of childhood abuse that is clinically important (e.g. Kent & Waller, 2000). A return to a more subjective consideration of childhood abuse is supported by the findings of Reto,

Dalenberg & Coe (1994) who found that 42% of their sample did not label themselves as abused, despite multiple occurrences of parental discipline through burning, biting, kicking or beating.

The differences between the factors found in this study and Sanders & Becker-Lausen's (1995) and Kent & Waller's (1998) studies warrant particular consideration. The fourteen items in Factor 1 (harsh discipline/punishment) include the seven items found to form the original 'punishment' scale but also contain an additional seven items. Two of these items were not included in any of the sub-scales, but make clear reference to physical mistreatment ('Were you physically mistreated...', '... (was) your home ... charged with the possibility of unpredictable physical violence?'). Another two items were originally found to belong to the 'negative home atmosphere/neglect' sub-scale ('Did you ever think seriously about running away from home?', 'Did you ever think you wanted to leave your family...'). Four belonged to Kent & Waller's (1998) childhood emotional abuse sub-scale ('How often did your parents get really angry with you?', 'Did your parents yell at you?', 'Did your parents ever verbally lash out at you...?', 'Did your parents blame you for things you didn't do?'). These four fit well with the concept of harsh verbal discipline/punishment. Although the items originally included in the 'negative home atmosphere' sub-scale have less face validity, it could be that wanting to escape from home could result from overly-harsh discipline, although this could equally be said of any abuse. One of these items also loaded on Factor 3, and so could conceivably be omitted. The emergence of this factor would suggest that there may not be a difference between subjective experiences of verbal and physical forms of punishment.

The eleven items in Factor 2 (negative home atmosphere/neglect) included seven found in the original sub-scale of this name. Also included were two not originally found to belong to any factor ('Was your childhood stressful?', 'Did you feel comfortable bringing friends home...?') and two from the 'emotional abuse' sub-scale ('Did your parents insult you..?', 'Did your parents ridicule you?'). The first two would again appear to reflect consequences of any childhood abuse. The two original childhood emotional abuse items would seem to fit with the concept of a generally negative home atmosphere than discipline, as being insulted or ridiculed would less readily be conceptualised as discipline. This would fit with Hartt & Waller's (2002) theory that some forms of childhood abuse may be perceived as more fair than others because they are contingent on certain behaviours (as could be the case with both verbal and physical discipline but not so readily with being insulted or ridiculed).

Three of the six Factor 3 (childhood sexual abuse) items make reference to sexual abuse. Two of the other items also load on other factors and so, again, could conceivably be omitted. All three of the items that do not have face validity for the concept of childhood sexual abuse, could again be consequences of any childhood abuse.

Factor 4 (awareness/witnessing of abuse of family members) does not reflect any of the original sub-scales. Two of these items were originally contained within the 'negative home environment' sub-scale, one in the 'childhood sexual abuse' sub-scale and one did not belong to any. An additional item, which does not directly reflect the witnessing of abuse of others ('... did you feel disliked by ... your parents?') also loads on another

factor, again suggesting that this could be eliminated. The fact that these items have emerged as a separate factor is of particular interest, especially as all but one of the items loading solely on this factor have high face validity for the concept of the impact of witnessing or being aware of the abuse of others ('Did you witness the physical mistreatment of another family member?', Did your parents verbally abuse each other?', 'Were your parents unhappy with each other?', 'Did you ever witness the sexual mistreatment of another family member?'). None of the items in the negative home environment factor in this study (Factor 2) include items reflecting witnessing abuse, and this supports the idea that the experience of witnessing family members being abused is experientially different to that of being abused oneself. This is not an experience that has been considered separately within the literature and so it would be of great clinical and research interest to examine whether such experiences result in differential consequences.

The fact that none of the factors were correlated in this analysis is interesting, as one would expect that experiences of different forms of childhood abuse would not be entirely distinct. The finding that they are distinct suggests that experiences of harsh discipline and punishment, a negative and neglectful home atmosphere, sexual abuse and being aware of or witnessing the abuse of other family members may have differential outcomes for children who have a history of such experiences. Future research utilising these new factors could produce some very clinically relevant results. These findings should be interpreted with caution, however, due to the low ratio of cases per variable. It is recommended that there be a ratio of five cases to each variable (Kline, 1994) but in this study the ratio is

four to each variable. It is recommended that this study be replicated with a larger sample size. Extension of the design to clinical samples is also recommended. In this study, many participants were recruited from health and social sciences courses. This may also have resulted in biased data as any who were aware of work in this field could have altered their responses in a socially desirable way.

In conclusion, this study supported a four-factor solution to the Child Abuse and Trauma Scale. These four factors did not replicate those found in the original factor analysis, although some similarity between three of the new factors and three of the original factors existed. The original item configuration for each sub-scale was not supported nor was the creation of an emotional abuse sub-scale. In addition, a new factor concerned with the witnessing of abuse of family members was found, suggesting that the impact of this type of abuse needs to be investigated in future research. The importance of the conceptualisation and measurement of childhood abuse in terms of experiences that are subjectively distressing is also supported.

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Rotated Component Matrix[a]

	Component			
	1	2	3	4
24 When you were punished as a child or teenager, did you feel "the punishment fit the crime"?	.727			
20 How often did your parents get really angry with you?	.697			
5 When you were punished as a child or teenager, did you understand the reason you were punished?	.663			
28 Did your parents yell at you?	.634			
18 When you were punished as a child or teenager, did you feel the punishment was deserved?	.559			
37 Were you physically mistreated as a child or teenager?	.536			
21 As a child did you feel that your home was charged with the possibility of unpredictable physical violence?	.527			
14 Did you ever think you wanted to leave your family and live with another family?	.511			
16 Did you ever think seriously about running away from home?	.505		.488	
25 Did your parents ever verbally lash out at you when you did not expect it?	.492			
6 When you didn't follow the rules of the house, how often were you severely punished?	.484			
34 Did your parents ever hit or beat you when you did not expect it?	.439			
32 Did your parents blame you for things you didn't do?	.417			
4 Were you expected to follow a strict code of behaviour in your home?	.412			
36 As a child, did you have to take care of yourself before you were old enough?		.671		
8 Did your parents insult you or call you names?		.671		

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Rotated Component Matrix[a]

	Component			
	1	2	3	4
7 As a child did you feel unwanted or emotionally neglected?		.663		
1 Did your parents ridicule you?		.586		
31 How often were you left at home alone as a child?		.576		
38 Was your childhood stressful?		.569		
30 Did you ever wish for a friend to share your life?		.567		
27 Were you lonely as a child?		.551	.505	
19 As a child or teenager, did you feel disliked by either of your parents?		.514		.430
22 Did you feel comfortable bringing friends home to visit?		.501		
11 Were your parents unwilling to attend any of your school-related activities?		.455		
33 To what extent did either of your parents drink heavily or use drugs?				
13 Were there traumatic or upsetting sexual experiences when you were a child or teenager that you couldn't speak to adults about?			.818	
26 Did you have traumatic sexual experiences as a child or teenager?			.761	
9 Before you were 14, did you engage in any sexual activity with an adult?			.714	
23 Did you feel safe living at home?			.404	
17 Did you witness the physical mistreatment of another family member?				.758
3 Did your parents verbally abuse each other?				.674
10 Were your parents unhappy with each other?				.668
15 Did you ever witness the sexual mistreatment of another family member?				.633

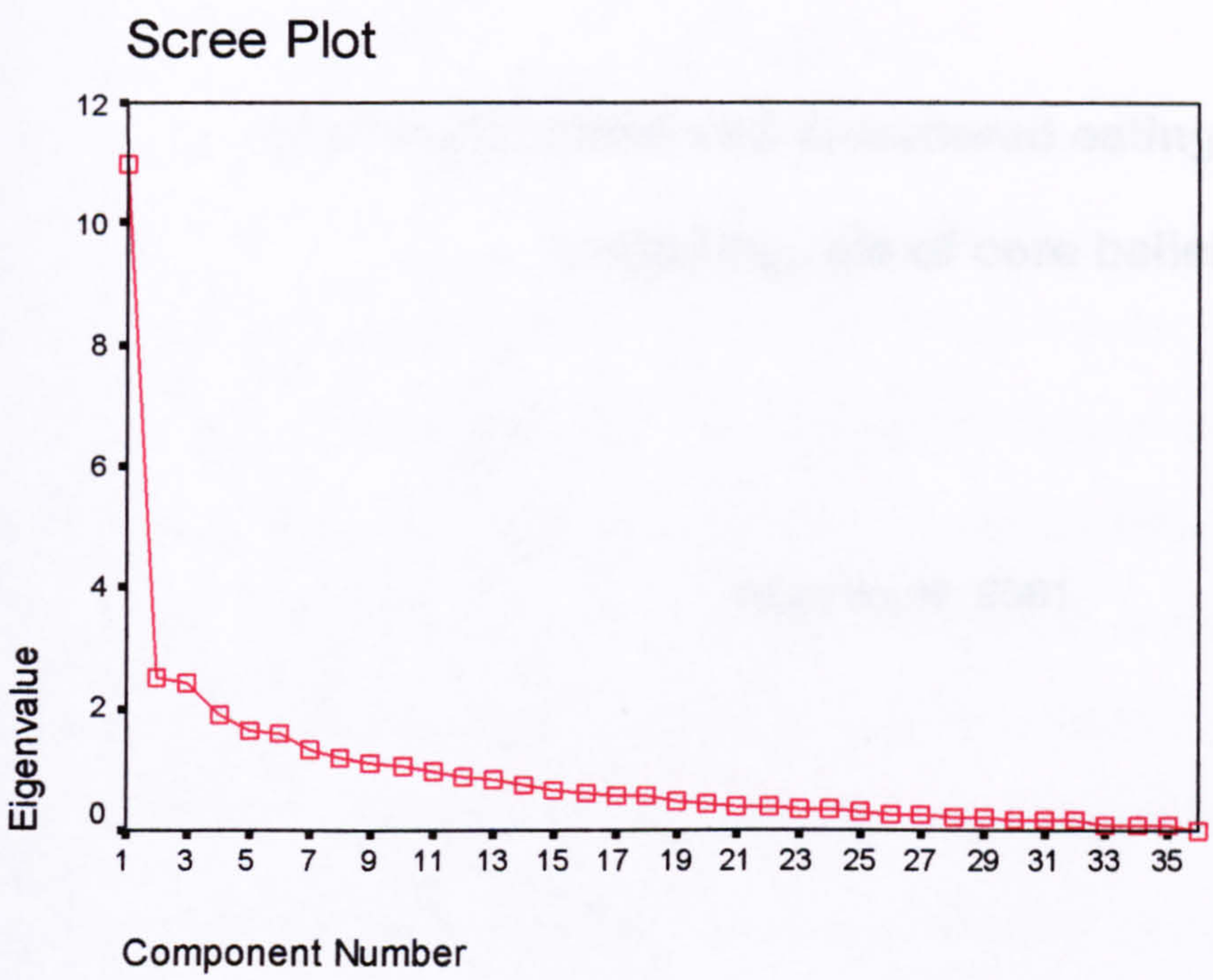
Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Rotated Component Matrix[a]

	Component			
	1	2	3	4
2 Did you ever seek outside help or guidance because of problems in your home?				
12 As a child were you punished in unusual ways (e.g. being locked in a closet for a long time or being tied up)?				

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 8 iterations.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Childhood abuse and disordered eating attitudes: the mediating role of core beliefs

Word count: 6081

Abstract

Objective: To examine whether core beliefs act as mediators in the relationship between childhood abuse and eating disordered attitudes and behaviours in a non-clinical sample of young women. **Method:** A sample of 135 female undergraduate and nursing students completed psychometrically sound measures of childhood abuse, core beliefs and eating disordered attitudes and behaviours. **Results:** The relationship between childhood neglect and bulimic attitudes and behaviours was perfectly mediated by subjugation beliefs and partially mediated by seven other beliefs (emotional deprivation, mistrust/abuse, social isolation, defectiveness/shame, emotional inhibition, entitlement and failure to achieve). **Discussion:** Although these results require replication within a clinical sample, the results provide further support for the importance of considering the full range of abusive experiences when working with bulimic women. The findings also support proposals that schema-focused therapy may be useful when working with this client group.

Introduction

In recent years, most literature reviews and meta-analyses within eating disorders literature (e.g. Connors & Morse, 1993; Everill & Waller, 1995; Rind, Tromovitch & Bauserman, 1998; Smolak & Murnen, 2002; Wonderlich, Brewerton, Jocic, Dansky & Abbott, 1997) have concluded that childhood sexual abuse should be viewed as one of several risk factors that can be involved in the development and maintenance of eating and other disorders.

Such conclusions have led other researchers (e.g. Kent, Waller & Dagnan, 1999; Rorty, Yager & Rossotto, 1994) to examine links between eating disorders and childhood physical and emotional abuse and neglect, in order to attempt to explain such conclusions. In addition, other authors (e.g. Briere & Runtz, 1990; Rorty et al., 1994 and Thompson & Kaplan, 1996) have concluded that an exclusive focus on childhood sexual abuse does not allow researchers to fully understand the concept of childhood abuse.

Research investigating the role of diverse types of childhood abuse and eating disorders has produced some interesting results. For example, Rorty et al. (1994) found that women with bulimia reported higher levels of childhood physical, emotional and multiple abuse than controls. Similarly, both Reto, Dalenberg and Coe (1996) and Andrews (1997) found that childhood physical abuse (in addition to childhood sexual abuse in Andrews' (1997) study) predicted bulimic attitudes and behaviours. In contrast, Kent et al. (1999) found that childhood emotional abuse was the only form of abuse that predicted unhealthy eating attitudes. Both Kent et al.'s (1999) and Rorty et

al.'s (1994) studies support Kent & Waller's (2000) view that childhood emotional abuse may be among the more damaging forms of childhood abuse.

The conclusion that childhood abuse (of any type) should be regarded as a risk factor for eating disorders, has led to the search for factors that might mediate or explain the abuse-eating disorders link. This approach has advantages over purely correlational methods as it allows for a greater understanding of the key psychological aspects in the formulation and treatment of such cases (Kent et al., 1999). Although few studies have as yet utilised mediational testing, a number of mediators have already been implicated, including shame (Andrews, 1997; Murray & Waller, 2002), dissociation and anxiety (Kent et al., 1999), impulsivity and substance misuse (Wonderlich, Crosby, Mitchell, Thompson, Redlin, Demuth & Smyth, 2001), emotional distress and impulsivity (Casper & Lyubomirsky, 1997), borderline personality disorder (Waller, 1993) and depression, dissociation and core beliefs (Waller, Meyer, Ohanian, Elliott, Dickson & Sellings, 2001).

Another recent line of enquiry has been the role of cognitions in the development and maintenance of eating disorders (e.g. Hartt and Waller, 2002; Meyer, Leung, Feary & Mann, 2001; Waller, 2003). The theory behind this approach is that eating disorders reduce awareness not only of painful emotions but also of cognitions (Waller, Ohanian, Meyer & Osman, 2000). Initially, research focused on specific, abuse-related beliefs (e.g. Pitts & Waller, 1993; Waller, Ruddock. & Cureton,1995). More recently, research has moved to consider general schemas or core beliefs, as researchers have

suggested that these often develop following trauma (Waller et al., 2001; Young, 1999).

Leung, Waller & Thomas (1999) found no associations between core beliefs and unhealthy eating attitudes in either women with anorexia or controls. However, they found that eating disordered attitudes were associated with core beliefs about abandonment, functional dependence, enmeshment, social undesirability, failure to achieve, subjugation, self-sacrifice and unrelenting standards in women with bulimia. In terms of unhealthy eating behaviours, frequency of vomiting was associated with beliefs about failure to achieve in bulimic anorexics and beliefs about subjugation were negatively associated with bingeing in bulimia. Similarly, Waller et al. (2000) found that three core beliefs (defectiveness/shame, insufficient self-control and failure to achieve) differentiated women with bulimia from controls. Emotional inhibition beliefs predicted severity of bingeing and defectiveness/shame beliefs predicted severity of vomiting in bulimic women. Defectiveness/shame beliefs were also found to predict bulimia in another study by Meyer et al. (2001). Waller (2003) found that abandonment beliefs differentiated women with bulimia from binge eaters and controls and that emotional inhibition and functional dependence/incompetence beliefs differentiated binge eaters. In contrast with Leung et al's (1999) findings, no association was found between any core beliefs and either bingeing or vomiting in women with bulimia, but five core beliefs (social isolation, vulnerability to harm, functional dependence, enmeshment and unrelenting standards) were associated with bingeing among binge eaters.

Building on this research on links between core beliefs and eating disorders and between childhood abuse and eating disorders, one recent study (Waller et al., 2001) has investigated whether core beliefs act as mediators in the childhood sexual abuse-bulimia relationship. Results of this study were consistent with a model where defectiveness beliefs acted as mediators in the link between childhood sexual abuse and vomiting. In addition, abandonment, mistrust/abuse and emotional inhibition beliefs acted as mediators in the link between childhood sexual abuse and bingeing.

Another recent study examined associations between all four types of childhood abuse, core beliefs and bulimia (Hartt & Waller, 2002). This study did not test a mediational model and no significant associations between any form of abuse and bulimia were found. However, results showed that childhood emotional abuse and neglect were associated with core beliefs about mistrust/abuse, vulnerability to harm and emotional inhibition. Childhood emotional abuse was also associated with a core belief about defectiveness/shame. Childhood sexual abuse was associated with core beliefs about mistrust/abuse, emotional inhibition, emotional deprivation and subjugation. Childhood physical abuse was associated with a core belief about emotional deprivation. As the sample size in this study was small, the authors recommended that the research be extended to larger clinical and non-clinical samples, which would allow for mediational models to be tested.

In summary, research to date has found support for links between a range of childhood abuse and eating disorders and between a range of core beliefs and eating disorders. However, results of such studies have failed to produce consistent findings or to explain exactly how the relationship between

these factors operates. There has also been a tendency to focus on specific forms of abuse, rather than considering a range of abusive experiences. One study which did investigate a broad range of abuse histories, core beliefs and bulimia found links between all four types of childhood abuse and a range of core beliefs but none between any form of childhood abuse and bulimia. The only study to have utilised mediational methodology to investigate links between childhood abuse, core beliefs and eating disorders found that the relationship between childhood sexual abuse and bulimia nervosa was mediated by several core beliefs.

Aims

Building on this research, it is the aim of the present study to examine the relationship between the different forms of child abuse and unhealthy eating attitudes and behaviours, in a non-clinical sample of young women, determining whether core beliefs act as mediators in that relationship. The model to be tested is summarised in Figure 1.

Hypothesis

In keeping with this model, it is hypothesised that high levels of maladaptive core beliefs will mediate the relationship between childhood abuse and unhealthy eating attitudes and behaviours. No research has yet examined whether unhealthy core beliefs mediate the relationship between all four types of abuse and a range of eating attitudes and behaviours in a non-

clinical sample, therefore no specific predictions about mediation will be made.

Method

Participants

Participants were 135 female undergraduate and nursing students from two universities in the West Midlands. Their mean age was 22.9 years (SD = 7.6; range = 18 - 47). Their mean body mass index (BMI; weight/height squared) was 22.4 (SD = 3.8; range = 16.5 - 40.0).

Procedure

Following ethical approval from both Universities, participants were recruited in lectures or following participation in an unrelated research project. Participants were provided with an information sheet which outlined the purpose and procedure of the investigation and addressed issues of anonymity, confidentiality and consent (Appendix 6). Those who agreed to participate then signed consent forms (Appendix 7) before completing the background information sheet (Appendix 8) and questionnaires (Appendices 3 - 5). Following completion, a feedback sheet was provided, which gave more details about the study and provided information about how to access further support, should any issues have been raised by participation in the study (Appendix 9).

Measures

Each participant completed three questionnaires that measured childhood abusive experiences, core beliefs and eating attitudes and behaviours. These questionnaires were: the Child Abuse and Trauma Scale (CATS; Sanders & Becker-Lausen, 1995), Young's Schema Questionnaire - Short Version (YSQ-S; Young, 1998) and the Eating Disorders Inventory Short Form (EDI-S; Garner, 1991). In addition, participants recorded their height, weight and age on a background information sheet (Appendix 8). The questionnaires were self-administered and took approximately 25 minutes to complete.

Childhood Abuse and Trauma Scale (Sanders & Becker-Lausen, 1995)

The CATS is a 38-item self-report questionnaire which measures subjective reports of childhood abusive experiences. Participants indicate on a 5 point scale (0:never; 4: always) how often they encountered such experiences during their childhood and adolescence. Originally, the CATS yielded, in addition to the total score, one 14-item negative home environment/neglect and two 6-item sexual abuse and punishment/physical abuse sub-scales. This original version has been demonstrated to have strong internal consistency and test-retest reliability and to correlate significantly with outcome measures such as dissociation, depression and interpersonal difficulties (Sanders and Becker-Lausen, 1995). Subsequently, Kent & Waller (1998) created an additional 7-item childhood emotional abuse sub-scale from items not included in the other sub-scales and one from the neglect sub-scale. All the items in this sub-scale were chosen purely because of their face validity for the construct of childhood emotional abuse rather than

as a result of a factor analysis. Kent & Waller (1998) found that this sub-scale also had acceptable levels of internal consistency and concurrent validity, as well as high face validity and clinical utility. Item mean scores are used and higher scores reflect more severely abusive experiences.

Young's Schema Questionnaire-Short Form (Young, 1998)

The YSQ-S is a 75-item self-report questionnaire which measures core beliefs. These core beliefs or 'early maladaptive schemas' (Young, 1999) are relatively stable, self-perpetuating beliefs about the self, others and the environment which develop as a result of dysfunctional childhood experiences (Beck, 1976; Young, 1999). The YSQ-S consists of scales measuring 15 core beliefs. Participants indicate on a 6-point scale (1: completely untrue of me; 6: describes me perfectly) how strongly they agree with statements about a range of core beliefs. Two studies (Lee, Taylor & Dunn, 1999; Schmidt, Joiner, Young & Telch, 1995) have demonstrated that the original, 205-item version of the questionnaire (Young, 1998) has acceptable psychometric properties, such as good retest reliability and internal consistency. The YSQ-S has been shown to have similar psychometric properties and greater clinical convenience than this version (Waller et al., 2001). The 15 YSQ sub-scales (which consist of 5 items each) are:

- abandonment (the belief that close relationships will end imminently);
- mistrust/abuse (the belief that one will be taken advantage of by others);
- emotional deprivation (the belief that one's emotional needs will not be satisfied);

- functional dependence/incompetence (the belief that one is not competent and cannot be independent);
- vulnerability to harm and illness (the belief that one has no control over the threat of disasters);
- enmeshment (lack of individual identity, due to over-involvement with others);
- defectiveness/shame (the belief that one is internally flawed);
- failure to achieve (the belief that one is incapable of performing well);
- subjugation (the belief that must submit to the control of others to avoid negative consequences);
- emotional inhibition (the belief that emotions should be inhibited in order to avoid adverse consequences);
- self-sacrifice (the belief that one must sacrifice one's own needs in order to help satisfy other's needs);
- unrelenting standards (the belief that one should strive for unrealistic standards);
- entitlement (the belief that one can act without consideration for others);
- insufficient self-control/self-discipline (the belief that one cannot control one's impulses or feelings);
- social isolation (the belief that one is different and isolated from the world).

Mean scores are calculated for each sub-scale, with a higher score reflecting a more dysfunctional level of the core belief.

Eating Disorders Inventory-Short Form (Garner, 1991)

The EDI-S is a 23 item self-report questionnaire which consists of three subscales (drive for thinness, bulimia and body dissatisfaction). Participants indicate on a 6 point scale (which ranges from 'always' to 'never') how often they currently experience a range of eating-related attitudes and behaviours. As well as using these scales separately, they also yield an overall eating disturbance scale (EDI-Eat). Higher scores on each scale denote greater levels of eating disturbance. Evidence for the validity of the EDI-S is demonstrated by sufficient correlations of each item to its subscale, its ability to discriminate between eating disordered and non-eating disordered groups and by its correlations with predicted constructs (Garner, 1991). Item mean scores are used, with higher sub-scale scores representing a greater level of eating psychopathology.

Data analysis

Correlational analyses (Pearson's r, one-tailed, $p<0.01$) were initially performed in order to investigate simple bivariate associations and to reduce the number of variables involved in the subsequent mediational analysis. Table 1 shows the results of correlations between CATS and EDI-S scores, Table 2 between CATS and YSQ-S scores and Table 3 between YSQ-S and EDI-S scores. Multiple regression (after Baron & Kenny, 1986) was then used to test for mediation. Baron & Kenny's (1986) method of mediational testing consists of three stages. In the first two stages, the independent variables (the different forms of childhood abuse) must separately be shown to predict the mediators (core beliefs) and the dependent variables (unhealthy eating

attitudes and behaviours). If these relationships are significant, in the final stage, the dependent variables are regressed onto both the independent variables and the mediators simultaneously. A perfect mediational model is supported if the relationship between the independent variable and the dependent variable is no longer significant. Imperfect mediation is indicated if the relationship remains but is weakened.

Results

Group characteristics

The mean overall CATS score was 0.8 (SD = 0.5; range = 0.15 – 2.58). The mean scores on the individual subscales were: childhood emotional abuse = 1.0 (SD = 0.7; range = 0.14 – 3.71), childhood sexual abuse = 0.2 (SD = 0.3; range = 0 – 1.83); childhood physical abuse = 1.1 (SD = 0.6; range = 0.17 – 3.50) and neglect (neg) = 0.9 (SD = 0.7; range = 0 – 2.71). The mean overall EDI-S score was 1.0 (SD = 0.9; range = 0 – 2.52). The mean scores on the individual subscales were: drive for thinness 1.0 (SD = 0.7; range = 0 – 3.14), bulimia 0.4 (SD = 0.5; range = 0 – 2.43) and body dissatisfaction 1.6 (SD = 0.9; range = 0 - 3). Mean YSQ-S scores are presented in Table 4. Scores are comparable with those found in other non-clinical populations (Kent et al., 1999; Meyer et al., 2001; Sanders & Becker-Lausen, 1995; Waller et al., 2000).

Associations between childhood abuse and unhealthy eating attitudes and behaviours

There were no significant associations between scores on three of the CATS sub-scales (childhood emotional, sexual or physical abuse) and any of the EDI-S sub-scales However, a significant association was found between overall childhood abuse and neglect and bulimia scores.

Childhood abuse and core beliefs associations

There were no significant associations between scores on six of the YSQ-S sub-scales (functional dependence, vulnerability to harm, enmeshment, self-sacrifice, unrelenting standards and insufficient self-control) and any of the CATS sub-scales. Significant associations were found between overall CATS and childhood emotional abuse scores and scores on seven of the YSQ-S sub-scales (emotional deprivation, mistrust/abuse, social isolation, emotional inhibition, entitlement, failure to achieve and subjugation). Overall CATS scores were additionally associated with scores on the defectiveness/shame sub-scale. Childhood sexual abuse scores were associated with two of the YSQ-S sub-scales (emotional deprivation and mistrust/abuse). Childhood physical abuse scores were correlated with just one of the YSQ-S sub-scales (emotional deprivation). Neglect scores were was associated with nine of the YSQ-S sub-scales (emotional deprivation, abandonment, mistrust/abuse, social isolation, defectiveness/shame, emotional inhibition, entitlement, failure to achieve and subjugation).

Core beliefs and unhealthy eating attitudes and behaviours associations

There were no significant associations between scores on two of the YSQ-S sub-scales (enmeshment and entitlement) and any of the EDI-S sub-

scales. Significant associations were found between overall EDI-S scores and scores on eleven YSQ-S sub-scales (emotional deprivation, abandonment, mistrust/abuse, functional dependence, vulnerability to harm, social isolation, defectiveness/shame, failure to achieve, subjugation, emotional inhibition and insufficient self-control). Significant associations were found between scores on the drive for thinness sub-scale and those of thirteen of the YSQ-S sub-scales (abandonment, mistrust/abuse, emotional deprivation, functional dependence, vulnerability to harm, social isolation, defectiveness/shame, failure to achieve, subjugation, unrelenting standards, emotional inhibition, insufficient self-control and self-sacrifice). Scores on the bulimia sub-scale were significantly correlated with those of ten of the YSQ-S sub-scales (emotional deprivation, abandonment, mistrust/abuse, vulnerability to harm, social isolation, defectiveness/shame, failure to achieve, subjugation, emotional inhibition and insufficient self-control). Body dissatisfaction scores were significantly correlated with scores on eight of the YSQ-S sub-scales (abandonment, mistrust/abuse, emotional deprivation, social isolation, defectiveness/shame, failure to achieve, subjugation and insufficient self-control).

<u>Mediational testing – do core beliefs act as mediators in the childhood abuse-unhealthy eating attitudes and behaviours relationship?</u>

As significant associations were found only between overall abuse/neglect and bulimia scores, only these were considered as independent and dependent variables in the subsequent mediational analysis (Appendix 14).

Stage 1: Does overall abuse or neglect predict bulimic attitudes and behaviours?

Overall abuse and neglect scores were found to have a significant predictive effect [F (2, 132) = 7.547; p = 0.001], accounting for 8.9% of the variance (adjusted R Square). However, only neglect scores had a significant effect (t = 2.764; *Standardised Beta* = 0.750; p = 0.007) and so only these scores were used in the rest of the analysis.

Stage 2: Does neglect predict core beliefs?

Here, only the scores from the nine YSQ-S sub-scales found to correlate with neglect were used in the analysis (emotional deprivation, abandonment, mistrust/abuse, social isolation, defectiveness/shame, emotional inhibition, entitlement, failure to achieve and subjugation). Each core belief was considered separately as the dependent variable, with neglect as the independent variable. All scores except those for the abandonment sub-scale were significantly predicted by neglect scores.

Neglect scores had a significant predictive effect on each YSQ-S sub-scale as follows: emotional deprivation [F (1, 133) = *50.664* ; p = 0.000], accounting for 27% of the variance; mistrust/abuse [F (1, 133) = 14.752; p = 0.000], accounting for 9.3% of the variance; social isolation [F (1, 133) = 9.763; p = 0.002], accounting for 6.1% of the variance; defectiveness/shame [F (1, 133) = 7.944; p = 0.006], accounting for 4.9% of the variance; emotional inhibition [F (1, 133) = 14.842; p = 0.000], accounting for 9.4% of the variance; entitlement [F (1, 133) = 10.584; p = 0.001], accounting for 6.7% of the

variance; failure to achieve [F (1, 133) = 14.727; p = 0.000], accounting for 9.3% of the variance; subjugation [F (1, 133) = 9.845; p = 0.002], accounting for 6.2% of the variance.

Stage 3: Is the relationship between neglect and bulimic attitudes and behaviours mediated by core beliefs?

In this final stage, bulimia scores were regressed onto neglect and emotional deprivation, mistrust/abuse, social isolation, defectiveness/shame, emotional inhibition, entitlement, failure to achieve and subjugation scores simultaneously. The previously significant relationship between neglect and bulimic attitudes and behaviours disappeared (t = 1.809; *Standardised Beta* = 0.167; p = 0.073). Further examination of significance levels indicated that this mediational effect was due to the significant effect of just one core belief (subjugation: t = 3.015; *Standardised Beta* = 0.383; p = 0.003) indicating that this core belief was acting as a perfect mediator of the neglect-bulimia relationship while the other seven core beliefs (emotional deprivation, mistrust/abuse, social isolation, defectiveness/shame, emotional inhibition, entitlement and failure to achieve) acted as partial mediators in that link.

Discussion

The aim of this study was to determine whether the relationship between childhood abuse and unhealthy eating attitudes and behaviours is mediated by core beliefs. The findings support the original hypothesis and indicate that the relationship between one aspect of childhood abuse (neglect)

and attitudes and behaviours consistent with bulimia was perfectly mediated by subjugation beliefs and partially mediated by seven other beliefs (emotional deprivation, mistrust/abuse, social isolation, defectiveness/shame, emotional inhibition, entitlement and failure to achieve). The relationship between these variables has not been investigated in such a way by any previous studies. However, this finding does provide support for a model whereby some forms of childhood abuse (in this case, neglect) only have an impact on eating disordered psychopathology, through the action of certain core beliefs (e.g. Waller et al, 2001).

The finding that subjugation beliefs act as the only reliable mediators of the neglect-bulimia link is interesting and warrants further consideration. Subjugation belongs to a category of core beliefs described by Young (1999) as 'other-directedness' (an excessive focus on others at the expense of oneself, often in order to gain love and approval or maintain one's sense of connection). Subjugation, in particular, involves surrendering to others, usually to avoid anger, retaliation or abandonment. It may be that the experience of being neglected leads the child to suppress their own needs and emotions in the hope of gaining such love and approval from those who have been neglectful. The link to bulimia is less clear, as suppression would appear to have more face validity for restriction than bulimia. However, it may be that the impulsivity inherent in acts such as bingeing or purging (e.g. Casper & Lyubomirsky, 1997; Wonderlich et al., 2001) functions as the means of suppressing unacceptable feelings, such as anger, that have developed as a result of childhood neglect. Women who have experienced neglect may develop the belief that they must subjugate their own needs, which results in a

build up of emotions such as anger. As such emotions are perceived as unacceptable, this then leads to attempts to block awareness of such intolerable emotional states by means of bingeing or purging.

Findings about associations between childhood abuse and unhealthy eating attitudes and behaviours in this study support Hartt & Waller's (2002) findings that childhood sexual, physical and emotional abuse were not associated with bulimia. They also support Kent et al.'s (1999) findings that childhood sexual and physical abuse did not predict EDI scores. Additionally, support is provided for previous findings that associations between childhood abuse and eating disorders are much stronger in bulimia than anorexia or other eating disorders (e.g. Fallon & Wonderlich, 1997; Fullerton, Wonderlich and Gosnell, 1995; Hastings & Kern, 1994; Wonderlich et al., 1997; Wonderlich, Fullerton, Swift & Kline, 1994).

While the findings of this study suggest an important role for an aspect of childhood abuse that has often been overlooked, they must be treated cautiously, until supported by further clinical and research evidence. They add weight, however, to the view that the impact of a broad range of childhood abuse must be taken into consideration in order to avoid the danger of concluding that no abusive history has been experienced, particularly in the case of bulimia.

Findings about associations between childhood abuse and core beliefs in this study also provide support for some of Hartt & Waller's (2002) findings about associations between childhood abuse and core beliefs. Both studies found that childhood emotional abuse and neglect were associated with mistrust/abuse and emotional inhibition, childhood sexual abuse with

mistrust/abuse and emotional deprivation and childhood physical abuse with emotional deprivation.

Mistrust/abuse is described by Young (1999) as an expectation that others will be manipulative or abusive and the perception of unfair treatment. Hart & Waller (2002) suggest that this belief may be associated with childhood sexual and emotional abuse and neglect because childhood physical abuse may be less likely to be perceived as unfair as it is often contingent on certain behaviours, unlike the other forms of abuse. They also suggest that the association of emotional inhibition with these three same forms of childhood abuse may come about because it is more acceptable and less confusing to be upset about childhood physical abuse/punishment than other forms of abuse, and so, when these other types are experienced, emotions become inhibited. Explanations for associations between childhood sexual and physical abuse and emotional deprivation are less clear, however, the association of childhood sexual abuse and mistrust/abuse would appear to have extremely high face validity.

Findings about associations between core beliefs and unhealthy eating attitudes and behaviours in this study also provide support for previous findings of associations between abandonment and failure to achieve beliefs (Leung et al., 1999), abandonment, emotional inhibition, insufficient self-control, social isolation and emotional deprivation beliefs (Waller et al., 2001) and defectiveness/shame, failure to achieve, insufficient self-control and emotional inhibition beliefs (Waller et al., 2000) in bulimia.

Findings about associations between core beliefs and eating disorders therefore currently remain inconclusive. This may be because core beliefs in

general may function as mediators in links between childhood abuse and eating disorders, rather than specific beliefs being implicated. Such findings could also be argued to provide support for the idea that different beliefs are active on different occasions. However, it could also be that more consistent patterns will emerge once further research has been conducted in this field.

Although the findings of this study do provide support for the existence of a mediational relationship between neglect and bulimia, they should be treated with caution, as data from cross-sectional studies cannot be used to imply causality. Findings from such non-clinical studies should also not automatically be generalised to clinical groups, although Smolak & Murnen (2002) found that, in the case of childhood abuse, results can be generalisable across clinical and non-clinical populations. Undergraduate samples, in particular, can exclude those who have been most damaged by abuse (e.g. Reto et al., 1996) resulting in biased data. In this study, many participants were recruited from health and social sciences courses and it is possible that this may have biased the data. Some participants, for example, may have been aware of work in this area and may have altered their responses in a way that they perceived to be socially desirable in the context of such research.

The use of self-report measures, such as those utilised in this study, has also been criticised (e.g. Wonderlich et al., 2001) for not being a rigorous enough means of assessment. However others (e.g. Andrews, 1997; Hartt & Waller, 2002) suggest that the anonymity provided by such questionnaires actually allows for relatively honest responses. In addition, with retrospective studies, data can be subject to recall bias. However, it has been argued (e.g.

Newberger & DeVos, 1988; Sanders & Becker-Lausen, 1995) that too great a focus on establishing the 'facts' about abuse can result in genuinely traumatic experiences being ignored.

Clinical implications

The findings of this study support previous conclusions (e.g. Hartt & Waller, 2002; Waller et al., 2001) that clinicians should be focusing on schema-level work with women with bulimia who have experienced childhood abuse. Schemas appear not only to be associated with such abuse and eating disorders, but to act as mediators in certain pathways. Support is also provided for the importance of assessing for a broad range of childhood abuse in order to gain a full understanding of the experience of being abused (Briere & Runtz, 1990; Rorty et al., 1994; Thompson & Kaplan, 1996). Indeed, simply focusing on childhood sexual abuse could lead the clinician to conclude that no abuse had occurred, when, in fact, this was not the case.

Future directions

Although the findings of this study have provided support for some previous findings, they have also failed to provide support for others. The findings do, however, clearly support the idea that eating disorders are a result of a complex interaction between many factors (e.g. Everill & Waller, 1995; Rind, Tromovitch & Bauserman, 1998; Smolak & Murnen, 2002). At present, links between these factors are in the early stages of enquiry,

however, it is likely that more consistent findings will emerge once these studies have been replicated and extended, and so this is one recommendation for future research. The majority of studies focus on bulimia, and so it would be useful if more research could be conducted on relationships between other forms of clinical and sub-clinical eating disorders (including anorexia and binge-eating) and childhood abuse. Results support the continued investigation of a broad range of childhood abuse as, again, no relationship was found between childhood sexual abuse and core beliefs/eating disorders whereas this was not the case with other forms of abuse. Finally, the inconsistent cross-study findings about the role of core beliefs does not yet provide any more clues as to why childhood abuse leads to particular outcomes in only some cases or why eating disorders are linked to childhood abuse only some of the time. Expanding research designs to include other forms of childhood trauma, core beliefs and other psychopathologies (such as anxiety, depression and borderline symptomatology) would certainly help move research in this field forward considerably.

Conclusions

In summary, this study found that neglect was the only form of childhood abuse associated with attitudes and behaviours consistent with bulimia in this non-clinical sample of women. This relationship was perfectly mediated by subjugation beliefs and partially mediated by seven other beliefs. Although the findings require replication with a clinical group, this study

suggests that clinicians conducting assessments of bulimic women would be wise to consider a history of neglect and that intervention should be focused at the level of core beliefs, and, in particular, core beliefs about submitting to the control of others.

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Table 1: Correlations between childhood abuse and unhealthy eating attitudes and behaviours (*p<0.01)

	CATS				
EDI	Total	CEA	CSA	CPA	NEG
Total	0.12	0.12	0.08	-0.09	0.17
DT	0.11	0.14	0.06	-0.08	0.16
BN	0.23*	0.20	0.19	-0.04	0.28*
BD	0.05	0.04	0.04	-0.10	0.10

Note: DT = drive for thinness; BN = bulimia; BD = body dissatisfaction; CSA = childhood sexual abuse; CPA = childhood physical abuse; CEA = childhood emotional abuse, NEG = neglect.

Table 2: Correlations between childhood abuse and core beliefs (*p<0.01)

	CATS				
YSQ	Total	CEA	CSA	CPA	NEG
Emotional deprivation	0.50*	0.42*	0.30*	0.26*	0.53*
Abandonment	0.15	0.09	0.18	-0.07	0.21*
Mistrust/abuse	0.27*	0.21*	0.26*	0.04	0.32*
Social isolation	0.25*	0.26*	0.15	0.08	0.26*
Defectiveness/shame	0.21*	0.19	0.18	0.01	0.24*
Failure to achieve	0.30*	0.27*	0.10	0.16	0.32*
Functional dependence	0.04	0.03	0.06	-0.13	0.09
Vulnerability to harm	0.16	0.17	0.17	-0.06	0.19
Enmeshment	0.09	0.09	0.06	-0.01	0.10
Subjugation	0.24*	0.23*	0.08	0.08	0.26*
Self-sacrifice	0.14	0.08	-0.03	0.14	0.17
Emotional inhibition	0.30*	0.27*	0.19	0.10	0.32*
Unrelenting standards	-0.03	-0.02	0.06	-0.08	-0.02
Entitlement	0.24*	0.24*	0.10	0.06	0.27*
Insufficient self-control	0.08	0.06	-0.01	-0.10	0.16

Note: CSA = childhood sexual abuse; CPA = childhood physical abuse; CEA = childhood emotional abuse, NEG = neglect.

Table 3: Correlations between core beliefs and unhealthy eating attitudes and behaviours (*p<0.01)

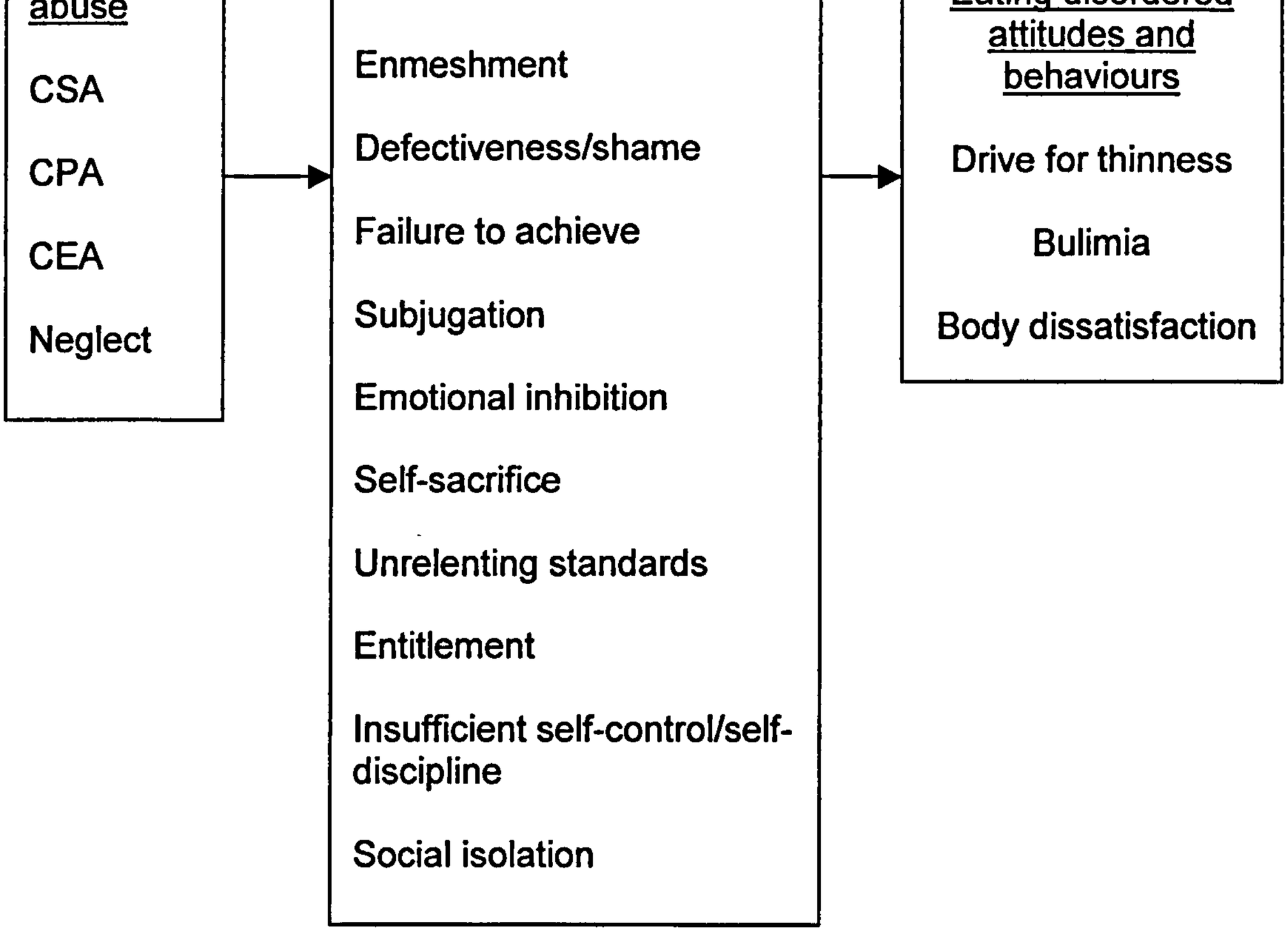
	EDI			
YSQ	Total	DT	BN	BD
Emotional deprivation	0.27*	0.26*	0.30*	0.20*
Abandonment	0.32*	0.31*	0.30*	0.25*
Mistrust/abuse	0.36*	0.42*	0.34*	0.22*
Social isolation	0.34*	0.37*	0.36*	0.21*
Defectiveness/shame	0.46*	0.47*	0.42*	0.34*
Failure to achieve	0.54*	0.57*	0.36*	0.44*
Functional dependence	0.24*	0.23*	0.20	0.19
Vulnerability to harm	0.31*	0.35*	0.33*	0.19
Enmeshment	0.12	0.11	0.19	0.05
Subjugation	0.43*	0.46*	0.47*	0.28*
Self-sacrifice	0.19	0.22*	0.07	0.16
Emotional inhibition	0.25*	0.27*	0.30*	0.14
Unrelenting standards	0.19*	0.23*	0.13	0.13
Entitlement	0.05	0.09	0.19	-0.05
Insufficient self-control	0.30*	0.22*	0.37*	0.27*

Note: DT = drive for thinness; BN = bulimia; BD = body dissatisfaction.

Table 4: Mean YSQ-S scores

YSQ subscale	Mean	SD
Abandonment	2.5	1.4
Mistrust/abuse	2.4	1.1
Emotional deprivation	2.1	1.1
Functional dependence	2.0	1.0
Vulnerability to harm	2.0	0.9
Enmeshment	1.6	0.8
Defectiveness/shame	1.8	1.1
Failure to achieve	2.4	1.3
Subjugation	2.2	1.2
Emotional inhibition	2.1	1.1
Self-sacrifice	3.4	1.1
Unrelenting standards	3.7	1.3
Entitlement	2.1	0.7
Insufficient self-control	2.6	1.1
Social isolation	2.1	1.1

Figure 1. Model to be tested showing abuse-eating links and core beliefs as mediators



Note: CSA = childhood sexual abuse; CPA = childhood physical abuse; CEA = childhood emotional abuse.

Conducting clinical psychology doctorate research:

Reflections on process

Word count: 2127

This paper outlines some of my personal reflections about the process of conducting research as part of the clinical psychology doctorate. It is not an attempt to provide a definitive account of the experience, as it is not yet complete. It is, however, an attempt to reflect on some of the issues that have arisen over the past two years, as I prepare to submit my thesis and think about viva preparation, writing for submission and beyond. I hope that this will enable me to learn from the research process and, hence, to apply what I have learnt when carrying out research in future years.

At the beginning of the whole process, I found myself feeling somewhat lost and anxious about what subject matter to choose. This was the most difficult part of the whole experience for me as my anxieties about finding a suitable topic led to me trying to find a solution by myself. I had developed all sorts of ideas about what I 'should' be doing and the fact that I wasn't managing to achieve this meant that I was left feeling a failure before I had even begun. I found it impossible to decide on an area to research when, in the context of the wider course, I was feeling very much like a 'jack of all trades, master of none'. I was also enjoying having the opportunity to learn about a range of new areas and found myself feeling reluctant to commit to just one area. Unlike some of my fellow trainees, I had relatively little research experience and had always struggled with the statistical component of psychology. At this stage, I found myself struggling with the notion that research was an integral part of the role of the clinical psychologist (Department of Health, 1990) and, indeed, was one of the core competencies (Division of Clinical Psychology, 1998). I also didn't

have a specific area of interest which I could develop into a research project. Although I can now see that these interests develop at different times for different people, I had allowed myself to believe that I should have developed a strong interest in one or more areas in order to begin researching. I think that this links in to one of the inherent difficulties of training; that the time restraints of the course mean that topics must be chosen when areas of special interest may not have developed, perhaps because of not covering certain subjects until the second or third years.

Eventually the situation resolved itself when I was able to discuss my fears and approached potential supervisors. That was the point when I realised that I was putting myself under unnecessary pressure to come up with a clinically relevant piece of research entirely by myself. I realised that this stage of research is a process in itself and one that is likely to be most productive when it is collaborative and takes place over time. During the course of training, I have found that this has been reflected in my clinical work, where often the best interventions have developed as a result of a sharing of ideas with supervisors and other team members.

In contrast, the next period of research was characterised by very different emotions. Once I had discussed potential areas to conduct research in, I enjoyed the process of finding out about a new area and it was exciting trying to come up with something that built on existing research but would be an original and clinically relevant contribution. This process of reading, reflecting and discussing these ideas helped me to put the stress I had been feeling previously behind me and allowed me to start to feel that I could make a real contribution to research. The whole thing

seemed much more 'doable' and, as the idea became more refined, I felt that I owned it more. At this stage, more decisions had to be made, such as whether to design a qualitative or quantitative study or to use a clinical or non-clinical sample. Each decision left me feeling less anxious, as the design became more clearly defined, but I was also aware of some feelings of regret at not being able to explore other ideas or use different approaches while I was within the supportive environment of training.

Other stressful periods came and went in the period between completing my research proposal and reaching the block of time designated to write up my research. Stressors ranged from the more practical, such as organising data collection and scoring questionnaires, to the more personal, such as those which tapped into my underlying insecurities about my abilities as a researcher, such as losing contact with my original supervisor for some time, due to ill health.

The period of weeks that I had designated solely to write up my research was a particularly significant one, as it was the only time when I was able to focus my attention purely on research. Previously, academic and placement requirements had meant that there would be periods when I was unable to be so focused. Overall, having this time to concentrate only on research was beneficial, as I had nothing else to distract me, however, I also found it harder to 'switch off' at the end of the day or to redirect my attention to other tasks such as pre-placement visits, job applications or even everyday tasks at home. I am aware that I usually work best if I can leave work aside at times and return to it with a more

objective eye. This was more difficult during the write-up period; but was possible, to some extent, by switching between papers on different days.

Eventually, it was time to face the second most difficult challenge of the research process – statistical analysis. As someone who had not regarded herself as a statistician and who had not yet managed to integrate the concept of being a researcher with that of being a clinical psychologist – this was to be a challenge. Again, I found myself feeling periodically overwhelmed with helpless and anxious feelings, as I pictured myself drowning in a sea of mathematical formulae and SPSS output. I was unsure how to approach this challenge at first, but soon began a painstaking process of reading basic, then more complex, statistics textbooks, pouring through research papers, attempting to use SPSS and checking all this out in supervision.

Again, to my great delight, I found that I was able to move from a position of feeling lost to one of relative confidence. I felt a great sense of achievement at having accomplished this without having to be shown exactly what to do at every stage, as I had convinced myself I would have to be. I was reminded of when I had been through a similar process when revising for my additional maths 'O' level, some years ago. I had forgotten that, although not my strongest area, I had the ability to understand statistics if I was able to concentrate on it for long enough.

This has undoubtedly been the biggest achievement of the whole process, for me, and has helped me to challenge my doubts about my competence as a researcher. I know that I still have a lot to learn, for

instance if I was to use a different design next time, but at least I know that I can work out what to do in future.

I realise that I could be criticised for leaving this part of research until the stage that I did. In part, this was due to being without supervision for a time and because I was concentrating on other aspects, such as data collection and developing my literature review, until then. I had not thought thoroughly about this part of the project initially, as my main paper had developed out of existing research that used a particular method of data analysis. I had been able to describe this process in my research proposal without fully understanding what it would entail. I had also found that the statistical teaching on the course did not seem to mesh very well with my needs as an inexperienced and nervous researcher and so I was left feeling incompetent at not being able to understand what we were taught. This led to the development of a somewhat self-fulfilling prophecy, where I would think 'I'm useless at statistics', then feel incompetent and avoid the subject entirely, resulting in the outcome that I could, indeed, be described as 'an incompetent researcher' at that time.

Before starting the course, I was aware of how stressful it potentially could be and was determined to try to be proactive in preventing myself from becoming too stressed. This has meant, for me, realising that I can't do everything at once and that I should try to be a 'good enough' clinical psychologist, rather than an expert in all areas. The main way I have gone about achieving this has been to prioritise my workload and this is another reason I tackled the statistical analysis in the way that I did.

Time restraints of training itself also meant that there had to come a time when I stopped doing various parts of research. Had I been doing this research purely as a qualified clinician, for example, I would not have had the same time restrictions placed upon me and so I could have collected more data or investigated alternative means of data analysis, or even decided to use a clinical sample with the same research design. Although any research, certainly within the NHS, will certainly have restraints placed upon it, there has ended up being a difference between the research that I am about to submit now, and the same research, had I not had such a deadline to work to. While I am obviously experiencing a great sense of satisfaction and relief at the imminent submission of my thesis, I am also left with the feeling that I could have continued to work on it. I am aware, though, that this is also always going to be the case when I finish training, too.

Despite the issues I have highlighted above, it could also be argued that I took the approach that worked best for me at the time, especially as this was the first piece of research I have ever conducted on such a scale. Indeed, Cree, Kay & Tisdall (2002) would argue that:

"it seems likely that there are no answers to the questions raised, but that the act of posing the questions may contribute to the development of better, more reflexive research".

I would certainly agree with this view after considering the process of conducting research in preparation for writing this paper, as it has allowed me to consider the importance of reflexive practice in research (e.g. Smith, 1995) and, as a result, this is likely to inform my future practice.

I have certainly learnt a lot from this process and would have a much clearer idea how to approach any research I undertake in the future. Overcoming many of my doubts and insecurities about my research abilities has been a huge achievement and will mean that I can approach the next piece of research in a much more organised, knowledgeable and self-aware way. It has also allowed me to see that research is relevant to the role of clinical psychologist and that research is an integral part of this role, rather than it being at one end of the continuum with clinical practice at the other. It has certainly led me to think more critically about my clinical work and to ask questions such as: 'why I am intervening in this way?' or 'how else might I do this?' I think that that has been the most valuable outcome of the whole process for me.

In summary, the process of conducting this research has been both stressful and rewarding at different times. It has enabled me to develop as a clinical psychologist and, in particular, to develop in areas that I found personally challenging. I have gained confidence as well as knowledge and feel much more equipped to take my place as a clinical psychologist as I prepare to complete the course and face new challenges ahead.

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Baker, F.M., & Lightfoot, O.B. (1993). Psychiatric care of ethnic elders. In A.C. Gaw (Ed.), Culture, ethnicity, and mental illness (pp. 517-552), Washington, DC: American Psychiatric Press.

McNeil, C.B., Eyberg, S., Eisenstadt, T.H., & Newcomb, K. (1997). Marital status and living arrangements. In W.W. Hartrup & Z. Rubin (Eds.), APA Proceedings No. 512 (pp. 1-25), Washington, DC: American Psychiatric Press.

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3. **Articles on Clinical Practice:** Case studies (but not single cases), commentaries, process and program descriptions, clinical audit and outcome studies, original clinical practice ideas for debate and argument.

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Submission Requirements: Four (4) complete copies of the manuscript should be submitted. All manuscripts must be typed on standard-sized white paper with ample margins on all sides, on one side only, in English, French, or Spanish.The entire manuscript, including abstract, tables, and references, must be double-spaced throughout, using no smaller than 10 pt. type size. A letter requesting review must be included, noting that the manuscript has not been previously published, and is not under simultaneous review elsewhere; authors are welcome to suggest names (with contact information) of two potential reviewers. Authors are responsible for obtaining written permission from the copyright owners to reprint any previously published material included in their article. The editors reserve the right to refuse any manuscript submitted, whether on invitation or otherwise, and to make suggestions and modifications before publication. Submitted papers should be in final form ready for publication. Manuscripts will be returned for reworking or retyping that do not conform to requirements.

Where To Send Papers: Send all manuscripts to The Editor, *Child Abuse & Neglect*, The International Journal, 205 Whitney Avenue, Ste. 100, New Haven, CT 06511, USA. Please specify type of submission. Questions? E-mail: mary.roth@yale.edu or call 203-764-9170.

Style and Manuscript Order: Manuscripts must be prepared following the general style guidelines set forth in the Publication Manual of the American Psychological Association (5th ed.). Submitted papers should be in final form ready for publication. Manuscripts will be returned for reworking or retyping that do not conform to requirements.

First Title Page: To facilitate blind reviews, all indication of authorship must be limited to this page. Title page should include (1)full article title;(2)name, affiliation including city and state/country for each author at the time of the work;(3) name, mailing address, telephone, fax and e-mail of corresponding author;(4) name and complete address for reprint requests;(5) 3-5 keywords for indexing purposes; and (6) any acknowledgments or support notes.

Second Title Page: Type only the title and remove other obvious indications or author identity.

Practice Implications: Authors should provide a 100 word paragraph describing the practice implications of their manuscripts to help translate research into clinical practice. This page should include the title of the manuscript and be labeled "Practice Implications." Please do not incorporate this page into the text of the paper itself.

Abstract: A structured abstract not to exceed 250 words in length covering the main factual points and statement of objective or problem, method, results, and conclusions. Use complete sentences, and spell out acronyms at first mention.

Main Text: Should be clearly organized, with headings and sub headings as needed (3 weights of headings maximum). If human subjects are involved, you must report approval by an institutional review board and the informed consent or participants. Avoid the use of first person (we, our, I). Footnotes should be incorporated into the text or deleted.

References: Bibliographic citations in the text and the reference section must adhere strictly the Publication Manual of the American Psychological Association (4th ed.). The Journal uses an alphabetical style rather than a numeric style, both in the text and bibliography. No abbreviations of journal titles or use of et al. is permitted in the bibliography.

Tables/Figures: Cite each table/figure clearly in text. Tables should be arranged one to a page, with a self-contained title that is understandable without reference to the text. Figures should be computer generated or professionally drawn, one per page, with legends on a separate sheet.

Copyright: Upon acceptance of the manuscript, authors must complete a Transfer of Copyright Agreement as well as provide additional information requested by the editorial office. Authors will be asked to submit a disk copy of their manuscript in any IBM compatible format and a corrected printout of the entire paper, including all tables and/or figures.

Review, Editing, and Production: Initial submissions are acknowledged on receipt (but not revisions or final versions). Peer review is generally double-blind, although it is sometimes clear to one or the other who is involved. Scheduling and production processes currently take about 6-8 months one the manuscripts are accepted and all required information is in-house. The publisher and editor reserve the right to copy edit manuscripts to conform to journal style. The corresponding author will receive page proofs for correction of typographical errors only. No rewriting of the original manuscript as accepted is allowed in the proof stage. Authors must return proofs within 48 hours of receipt: late corrections cannot be guaranteed.

Twenty five free reprints are provided: orders for additional reprints must be received before printing in order to qualify for lower pre-publication rates (co-author requirements must be included on this form).

Appendix 3: CATS

This questionnaire seeks to determine the general atmosphere of your home when you were a child or teenager and how you felt you were treated by your parents or principal caretaker. (If you were not raised by one or both of your biological parents, please respond to the questions below in terms of the person or persons who had the primary responsibility for your upbringing as a child.) Where a question enquires about the behaviour of both of your parents and your parents differed in their behaviour, please respond in terms of the parent whose behaviour was the more severe or worse.

In responding to these questions, simply circle the appropriate number according to the following definitions:

0 = never, 1 = rarely, 2 = sometimes, 3 = very often, 4 = always

To illustrate, here is a hypothetical question:
Did your parents criticise you when you were young? 0 1 2 3 4
If you were rarely criticised, you should circle number 1.

Please answer all the questions.

1)	Did your parents ridicule you?	0 1 2 3 4
2)	Did you ever seek outside help or guidance because of problems in your home?	0 1 2 3 4
3)	Did your parents verbally abuse each other?	0 1 2 3 4
4)	Were you expected to follow a strict code of behaviour in your home?	0 1 2 3 4
5)	When you were punished as a child or teenager, did you understand the reason you were punished?	0 1 2 3 4
6)	When you didn't follow the rules of the house, how often were you severely punished?	0 1 2 3 4
7)	As a child did you feel unwanted or emotionally rejected?	0 1 2 3 4
8)	Did your parents insult you or call you names?	0 1 2 3 4
9)	Before you were 14, did you engage in any sexual activity with an adult?	0 1 2 3 4
10)	Were your parents unhappy with each other?	0 1 2 3 4
11)	Were your parents unwilling to attend any of your school-related activities?	0 1 2 3 4
12)	As a child, were you punished in any unusual ways (e.g. being locked in a closet for a long time or being tied up)?	0 1 2 3 4
13)	Were there traumatic or upsetting sexual experiences when you were a child or teenager that you couldn't speak to adults about?	0 1 2 3 4
14)	Did you ever think you wanted to leave your family and live with another family?	0 1 2 3 4
15)	Did you ever witness the sexual mistreatment of another family member?	0 1 2 3 4

16)	Did you ever think seriously about running away from home?	0 1 2 3 4
17)	Did you witness the sexual mistreatment of another family member?	0 1 2 3 4
18)	When you were punished as a child or teenager, did you feel the punishment was deserved?	0 1 2 3 4
19)	As a child or teenager, did you feel disliked by either of your parents?	0 1 2 3 4
20)	How often did your parents get really angry with you?	0 1 2 3 4
21)	As a child did you feel that your home was charged with the possibility of unpredictable violence?	0 1 2 3 4
22)	Did you feel comfortable bringing friends home to visit?	0 1 2 3 4
23)	Did you feel safe living at home?	0 1 2 3 4
24)	When you were punished as a child or teenager, did you feel "the punishment fits the crime?"	0 1 2 3 4
25)	Did your parents ever verbally lash out at you when you did not expect it?	0 1 2 3 4
26)	Did you have traumatic sexual experiences as a child or teenager?	0 1 2 3 4
27)	Were you lonely as a child?	0 1 2 3 4
28)	Did your parents yell at you?	0 1 2 3 4
29)	When either of your parents was intoxicated, were you ever afraid of being sexually mistreated?	0 1 2 3 4
30)	Did you ever wish for a friend to share your life?	0 1 2 3 4
31)	How often were you left at home alone as a child?	0 1 2 3 4
32)	Did your parents blame you for things you didn't do?	0 1 2 3 4
33)	To what extent did either of your parents drink heavily or abuse drugs?	0 1 2 3 4
34)	Did your parents ever hit or beat you when you did not expect it?	0 1 2 3 4
35)	Did your relationship with your parents ever involve a sexual experience?	0 1 2 3 4
36)	As a child, did you have to take care of yourself before you were old enough?	0 1 2 3 4
37)	Were you physically mistreated when you were a child or teenager?	0 1 2 3 4
38)	Was your childhood stressful?	0 1 2 3 4

Appendix 4: YSQ-S

Listed below are statements that a person might use to describe himself or herself. Please read each statement and decide how well it describes you. Where you are not sure, base your answer on what you emotionally <u>feel</u>, not on what you <u>think</u> to be true. Circle the number from 1 – 6 that describes you.

Rating scale:

1 = completely untrue of me
2 = mostly untrue of me
3 = slightly more true than untrue
4 = moderately true of me
5 = mostly true of me
6 = describes me perfectly

1)	Most of the time, I haven't had someone to nurture me, share him/herself with me, or care deeply about everything that happens to me.	1 2 3 4 5 6
2)	In general, people have not been there to give me warmth, holding and affection.	1 2 3 4 5 6
3)	For much of my life, I haven't felt that I am special to someone.	1 2 3 4 5 6
4)	For the most part, I have not had someone who really listens to me, understands me, or is tuned into my true needs and feelings.	1 2 3 4 5 6
5)	I have rarely had a strong person to give me sound advice or direction when I'm not sure what to do.	1 2 3 4 5 6
6)	I find myself clinging to people I'm close to, because I'm afraid they'll leave me.	1 2 3 4 5 6
7)	I need other people so much that I worry about losing them.	1 2 3 4 5 6
8)	I worry that people I feel close to will leave me or abandon me.	1 2 3 4 5 6
9)	When I feel someone I care for pulling away from me, get desperate.	1 2 3 4 5 6
10)	Sometimes I am so worried about people leaving me that I drive them away.	1 2 3 4 5 6
11)	I feel that people will take advantage of me.	1 2 3 4 5 6
12)	I feel that I cannot let my guard down in the presence of other people, or else they will intentionally hurt me.	1 2 3 4 5 6
13)	It is only a matter of time before someone betrays me.	1 2 3 4 5 6
14)	I am quite suspicious of other people's motives.	1 2 3 4 5 6
15)	I'm usually on the lookout for other people's	1 2 3 4 5 6

ulterior motives.

16)	I don't fit in.	1 2 3 4 5 6
17)	I'm fundamentally different from other people.	1 2 3 4 5 6
18)	I don't belong; I'm a loner.	1 2 3 4 5 6
19)	I feel alienated from other people.	1 2 3 4 5 6
20)	I always feel on the outside of groups.	1 2 3 4 5 6
21)	No man/woman I desire could love me once he/she saw my defects.	1 2 3 4 5 6
22)	No one I desire would want to stay close to me if she/he knew the real me.	1 2 3 4 5 6
23)	I'm unworthy of the love, attention and respect of others.	1 2 3 4 5 6
24)	I feel that I'm not lovable.	1 2 3 4 5 6
25)	I am too unacceptable in very basic ways to reveal myself to other people.	1 2 3 4 5 6
26)	Almost nothing I do at work/in class is as good as other people can do.	1 2 3 4 5 6
27)	I'm incompetent when it comes to achievement.	1 2 3 4 5 6
28)	Most other people are more capable than I am in areas of work and achievement.	1 2 3 4 5 6
29)	I'm not as talented as most people are at their work.	1 2 3 4 5 6
30)	I'm not as intelligent as most people when it comes to work or study.	1 2 3 4 5 6
31)	I do not feel capable of getting by on my own in everyday life.	1 2 3 4 5 6
32)	I think of myself as a dependent person, when it comes to everyday functioning.	1 2 3 4 5 6
33)	I lack common sense.	1 2 3 4 5 6
34)	My judgement cannot be relied upon in everyday situations.	1 2 3 4 5 6
35)	I don't feel confident about my ability to solve everyday problems that come up.	1 2 3 4 5 6
36)	I can't seem to escape the feeling that something bad is about to happen.	1 2 3 4 5 6
37)	I feel that a disaster (natural, criminal, financial or medical) could strike at any moment.	1 2 3 4 5 6
38)	I worry about being attacked.	1 2 3 4 5 6
39)	I worry that I'll lose all my money and become destitute.	1 2 3 4 5 6

40)	I worry that I'm developing a serious illness, even though nothing serious has been diagnosed by a physician.	1 2 3 4 5 6
41)	I have not been able to separate myself from my parent(s), the way other people my age seem to.	1 2 3 4 5 6
42)	My parent(s) and I seem to be overinvolved in each others' lives and problems.	1 2 3 4 5 6
43)	It is very difficult for my parent(s) and me to keep intimate details from each other, without feeling guilty.	1 2 3 4 5 6
44)	I often feel as if my parent(s) are living through me – I don't have a life of my own.	1 2 3 4 5 6
45)	I often feel that I do not have a separate identity from my parent(s) or partner.	1 2 3 4 5 6
46)	I think that if I do what I want, I'm only asking for trouble.	1 2 3 4 5 6
47)	I feel that I have no choice but to give in to other people's wishes, or else they will retaliate or reject me in some way.	1 2 3 4 5 6
48)	In relationships, I let the other person have the upper hand.	1 2 3 4 5 6
49)	I've always let others make choices for me, so I don't really know what I want for myself.	1 2 3 4 5 6
50)	I have a lot of trouble demanding that my rights be respected and that my feelings be taken into account.	1 2 3 4 5 6
51)	I'm the one who usually ends up taking care of the people I'm close to.	1 2 3 4 5 6
52)	I'm a good person because I think of others more than of myself.	1 2 3 4 5 6
53)	I'm so busy doing for the people that I care about, that I have little time for myself.	1 2 3 4 5 6
54)	I've always been the one who listens to other people's problems.	1 2 3 4 5 6
55)	Other people see me as doing too much for others and not enough for myself.	1 2 3 4 5 6
56)	I am too self-conscious to show positive feelings to others (e.g. affection, showing I care)	1 2 3 4 5 6
57)	I find it embarrassing to express my feelings to others.	1 2 3 4 5 6
58)	I find it hard to be warm and spontaneous.	1 2 3 4 5 6
59)	I control myself so much that other people think I am unemotional.	1 2 3 4 5 6
60)	People seem me as uptight emotionally.	1 2 3 4 5 6
61)	I must be the best at most of what I do; I can't accept second best.	1 2 3 4 5 6

62)	I try to do my best; I can't settle for 'good enough'.	1 2 3 4 5 6
63)	I must meet all my responsibilities.	1 2 3 4 5 6
64)	I feel there is constant pressure for me to achieve and get things done.	1 2 3 4 5 6
65)	I can't let myself off the hook easily or make excuses for my mistakes.	1 2 3 4 5 6
66)	I have a lot of trouble accepting 'no' for an answer when I want something from other people.	1 2 3 4 5 6
67)	I'm special and shouldn't have to accept many of the restrictions placed on other people.	1 2 3 4 5 6
68)	I hate to be constrained or kept from doing what I want.	1 2 3 4 5 6
69)	I feel that I shouldn't have to follow the normal rules and conventions other people do.	1 2 3 4 5 6
70)	I feel what I have to offer is of greater value than the contributions of others.	1 2 3 4 5 6
71)	I can't seem to discipline myself to complete routine or boring tasks.	1 2 3 4 5 6
72)	If I can't reach a goal, I become easily frustrated and give up.	1 2 3 4 5 6
73)	I have a very difficult time sacrificing immediate gratification to achieve a long-range goal.	1 2 3 4 5 6
74)	I can't force myself to do things I don't enjoy, even when I know it's for my own good.	1 2 3 4 5 6
75)	I have rarely been able to stick to my resolutions.	1 2 3 4 5 6

Appendix 5: EDI-S

The following items ask about your current attitudes, feelings and behaviour. Some of the items relate to food or eating. Other items ask about your feelings about yourself.

For each item, decide if the item is true about you ALWAYS (A), USUALLY (U), OFTEN (O), SOMETIMES (S), RARELY (R) or NEVER (N). Circle the letter that corresponds to your rating. For example, if your rating for an item is OFTEN, you would circle the letter (O) for that item. Respond to all of the items, making sure that you circle the letter for the rating that is true about you. If you need to change an answer, make an 'X' through the incorrect letter and then circle the correct one.

1)	I eat sweets and carbohydrates without feeling nervous	A U O S R N
2)	I think my stomach is too big	A U O S R N
4)	I eat when I am upset	A U O S R N
5)	I stuff myself with food	A U O S R N
7)	I think about dieting	A U O S R N
9)	I think that my thighs are too large	A U O S R N
11)	I feel extremely guilty after overeating	A U O S R N
12)	I think that my stomach is just the right size	A U O S R N
16)	I am terrified of gaining weight	A U O S R N
19)	I feel satisfied with the shape of my body	A U O S R N
25)	I exaggerate or magnify the importance of my weight	A U O S R N
28)	I have gone on eating binges where I have felt that I could not stop	A U O S R N
31)	I like the shape of my buttocks	A U O S R N
32)	I am preoccupied with the desire to be thinner	A U O S R N
38)	I think about bingeing (overeating)	A U O S R N
45)	I think my hips are too big	A U O S R N
46)	I eat moderately in front of others and stuff myself when they're gone	A U O S R N
49)	If I gain a pound, I worry that I will keep gaining	A U O S R N
53)	I have the thought of trying to vomit in order to lose weight	A U O S R N
55)	I think that my thighs are just the right size	A U O S R N
59)	I think my buttocks are too large	A U O S R N
61)	I eat or drink in secrecy	A U O S R N
62)	I think that my hips are just the right size	A U O S R N

Appendix 6

An investigation into links between childhood experiences, self-beliefs and eating attitudes

Information sheet

I am a trainee clinical psychologist at the Universities of Coventry and Warwick and am conducting a research thesis as part of my studies. I will be inviting over 100 people to help me with this study and would be grateful if you could take part. Participation is entirely voluntary and, if you choose to take part, you may withdraw at any point.

Purpose of the investigation
The purpose of this research is to examine the relationship between different types of childhood experiences, eating attitudes and self-beliefs.

Method and procedure
If you decide that you would like to take part in the study, you will be asked to complete a background sheet giving information about your age, weight and height and three questionnaires about your childhood experiences, eating attitudes and self-beliefs. This will take approximately 25 minutes to complete.

Questionnaires
The questionnaires used in this study have all been researched and validated in previous work. The source of each questionnaire is available on request.

Confidentiality
All information gained from this research will be treated with the utmost confidentiality. The data obtained will be statistically analysed on a group basis and will be submitted for publication in a reputable psychology journal. The identity of participants will not be revealed under any circumstances.

Informed consent
If you would like to take part in this study, please read and sign your agreement on the attached 'Declaration of Informed Consent Form.

If you have any questions about this study, please feel free to contact the researcher at the address below. If you do decide to take part in this study, please do not discuss the questionnaires with anyone as they may also be participating in this study.

Thank you very much for your time,

Debbie Hawkins
Trainee Clinical Psychologist, Universities of Coventry and Warwick Clinical Psychology Doctorate, Warwick University, Coventry, CV4 7AL.

Appendix 7

Declaration of Informed Consent

If, having read the information sheet, you decide you would like to take part in this study, please read the following. Remember, participation is entirely voluntary and you are free to withdraw from the study at any time.

I hereby give my consent to participate in this research on childhood experiences, eating attitudes and self-beliefs. I consent to the publication of the results of this study as long as the information is anonymous and disguised so that no identification can be made. I also confirm that:

1 I have been informed of the general purpose of this study i.e. to examine the relationship between different types of childhood experiences, eating attitudes and self-beliefs.

2 I have been informed that my participation in this study will only involve completing a background information sheet and three questionnaires.

3 I have been informed that the investigator will answer any questions I may have regarding the procedures of this study.

4 I have been informed that all information is completely confidential and that I am free to withdraw from the study at any time.

The investigator is Debbie Hawkins, a trainee clinical psychologist at the Universities of Coventry and Warwick, working under the supervision of Dr Caroline Meyer at Warwick University. Both are willing to answer any concerns that you may have about any aspect of this study and can be contacted at the Clinical Psychology Department, Warwick University, Coventry, CV4 7AL.

Name of participant (please print) _____

Signature of participant _____

Signature of investigator _____

Appendix 8

Background information sheet

Participant number

Age

Height metres

Weight kilograms

Appendix 9

Feedback sheet

Thank you for participating in this study.

The aim of this study was to build on existing research in the field of eating disorders by examining the relationship between different types of adverse childhood experiences, eating attitudes and self-beliefs.

More specifically, this study has four aims. The first is to investigate whether childhood abuse is associated with unhealthy eating attitudes and behaviours. The second aim is to examine whether core beliefs are associated with childhood abuse. The third aim is to determine whether core beliefs are associated with unhealthy eating attitudes and behaviours. Finally, the fourth aim is to investigate whether the relationships between childhood abuse and unhealthy eating attitudes and behaviours is mediated by core beliefs.

It is hoped that this information may help therapies for people with eating disorders to become more effective.

All data obtained from this study will be statistically analysed on a group basis and will be submitted for publication in a reputable psychology journal. The identity of participants will not be revealed under any circumstances.

If you feel that you would like to talk to someone about any personal issues that may have been raised by this study, please contact either Debbie Hawkins or Caroline Meyer who can put you in contact with someone who will be able to offer support. Debbie can be contacted at Coventry University on 02476 887806 and Caroline can be contacted at the University of Warwick on 02476 573895.

Thank you once more for your time,

Debbie Hawkins
Trainee Clinical Psychologist, Universities of Coventry and Warwick Clinical Psychology Doctorate.

Appendix 10: Factor analysis – initial eigenvalues

Total Variance Explained

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	10.998	30.549	30.549
2	2.534	7.039	37.588
3	2.420	6.722	44.310
4	1.903	5.287	49.597
5	1.654	4.594	54.191
6	1.584	4.400	58.591
7	1.316	3.655	62.246
8	1.181	3.279	65.525
9	1.092	3.034	68.560
10	1.039	2.886	71.446
11	.972	2.701	74.147
12	.897	2.491	76.638
13	.822	2.285	78.923
14	.751	2.085	81.008
15	.641	1.780	82.788
16	.611	1.698	84.486
17	.588	1.632	86.118
18	.553	1.537	87.655
19	.483	1.341	88.996
20	.450	1.249	90.245
21	.400	1.112	91.358
22	.382	1.060	92.418
23	.358	.994	93.412
24	.342	.949	94.361
25	.307	.853	95.214
26	.257	.713	95.927
27	.244	.679	96.606
28	.234	.651	97.257
29	.202	.561	97.818
30	.186	.518	98.336
31	.170	.472	98.808
32	.155	.432	99.239
33	.107	.297	99.537
34	8.276E-02	.230	99.767
35	7.855E-02	.218	99.985
36	5.495E-03	1.526E-02	100.000

Extraction Method: Principal Component Analysis.

Appendix 11: Rotated component matrix for three factor solution

Rotated Component Matrix[a]

	Component		
	1	2	3
CATS28	.670		
CATS24	.628		
CATS37	.625		
CATS21	.580		
CATS20	.578		
CATS5	.548		
CATS3	.546		
CATS25	.544		
CATS6	.544		
CATS14	.516	.481	
CATS34	.478		
CATS4	.472		
CATS16	.472	.427	.411
CATS32	.450		
CATS12	.406		
CATS11			
CATS33			
CATS27		.675	
CATS7		.666	
CATS22		.654	
CATS8	.404	.630	
CATS13		.595	.488
CATS30		.579	
CATS36		.564	
CATS1		.558	
CATS26		.552	.525
CATS23		.491	
CATS18	.437	.490	
CATS38	.430	.475	
CATS31		.448	
CATS17			.805
CATS15	.418		.664
CATS9			.565
CATS2			.492
CATS19		.466	.479
CATS10			.436

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 23 iterations.

Component Transformation Matrix

Component	1	2	3
1	.648	.639	.415
2	.732	-.372	-.570
3	.210	-.673	.709

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Appendix 12: Internal reliability analysis for four factor solution

Reliability

****** Method 2 (covariance matrix) will be used for this analysis ******

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	CATS1	.7462	.9344	130.0
2.	CATS2	.7231	1.0927	130.0
3.	CATS3	1.0077	1.0819	130.0
4.	CATS4	1.7462	1.2092	130.0
5.	CATS5	.7385	.8765	130.0
6.	CATS6	1.4385	.8979	130.0
7.	CATS7	.8769	1.0856	130.0
8.	CATS8	.5615	1.0566	130.0
9.	CATS9	.0769	.3436	130.0
10.	CATS10	1.5154	1.3073	130.0
11.	CATS11	.6538	1.0093	130.0
12.	CATS12	.0385	.2613	130.0
13.	CATS13	.4769	1.0055	130.0
14.	CATS14	.6615	.9197	130.0
15.	CATS15	.0385	.2297	130.0
16.	CATS16	.5000	.8376	130.0
17.	CATS17	.0462	.2447	130.0
18.	CATS18	1.4615	.9657	130.0
19.	CATS19	1.0769	1.3446	130.0
20.	CATS20	1.4462	.6233	130.0
21.	CATS21	.3923	.8671	130.0
22.	CATS22	1.2692	1.4509	130.0
23.	CATS23	.6462	1.2567	130.0
24.	CATS24	1.0769	.9286	130.0
25.	CATS25	.9615	.9836	130.0
26.	CATS26	.3846	.8838	130.0
27.	CATS27	1.0615	1.1189	130.0
28.	CATS28	1.4077	.9376	130.0
29.	CATS30	.9385	1.0979	130.0
30.	CATS31	.7308	.9047	130.0
31.	CATS32	.8769	.8717	130.0
32.	CATS33	.5000	.8826	130.0
33.	CATS34	.2846	1.1762	130.0
34.	CATS36	.6154	.9991	130.0
35.	CATS37	.1846	.5251	130.0
36.	CATS38	1.3154	1.2074	130.0

N of Cases = 130.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	28.4769	320.2049	17.8943	36

Item Means	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.7910	.0385	1.7462	1.7077	45.4000	.2153

Item Variances	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.9483	.0528	2.1052	2.0525	39.8927	.2354

Inter-item Covariances	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.2270	-.0933	1.0658	1.1590	-11.4277	.0335

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.2486	-.1625	.7957	.9581	-4.8970	.0226

Reliability Coefficients 36 items

Alpha = .9189 Standardized item alpha = .9225

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	CATS24	1.1061	.9591	132.0
2.	CATS20	1.4621	.6349	132.0
3.	CATS5	.7727	.9213	132.0
4.	CATS28	1.4318	.9586	132.0
5.	CATS18	1.4848	.9845	132.0
6.	CATS37	.2045	.5761	132.0
7.	CATS21	.4318	.9262	132.0
8.	CATS14	.6894	.9582	132.0
9.	CATS16	.5227	.8602	132.0
10.	CATS25	.9773	.9921	132.0
11.	CATS6	1.4394	.9101	132.0
12.	CATS34	.2955	1.1770	132.0
13.	CATS32	.8939	.8846	132.0
14.	CATS4	1.7652	1.2160	132.0

Correlation Matrix

	CATS24	CATS20	CATS5	CATS28	CATS18
CATS24	1.0000				
CATS20	.3702	1.0000			
CATS5	.5458	.3245	1.0000		
CATS28	.3483	.5601	.4231	1.0000	
CATS18	.5514	.3471	.5180	.3912	1.0000
CATS37	.2229	.4492	.2752	.3917	.1872
CATS21	.3261	.3201	.4201	.4934	.2709
CATS14	.3684	.4636	.3172	.5627	.4036
CATS16	.2746	.4488	.3533	.5758	.3294
CATS25	.3074	.5258	.3284	.6445	.3943
CATS6	.2435	.3593	.1837	.3583	.2375
CATS34	.1952	.2756	.2243	.2920	.1982
CATS32	.1933	.3326	.3355	.5765	.2962
CATS4	.1590	.2702	.1360	.2776	.1787

	CATS37	CATS21	CATS14	CATS16	CATS25
CATS37	1.0000				
CATS21	.3053	1.0000			
CATS14	.4479	.4017	1.0000		
CATS16	.4142	.4427	.6986	1.0000	
CATS25	.3688	.4261	.4663	.5865	1.0000
CATS6	.4533	.2441	.3240	.2992	.2817
CATS34	.2704	.3372	.2445	.2911	.3719
CATS32	.3425	.4569	.5282	.6552	.5539
CATS4	.4178	.2602	.3497	.2058	.1727

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	CATS36	.6269	1.0309	134.0
2.	CATS8	.5672	1.0652	134.0
3.	CATS7	.8657	1.0816	134.0
4.	CATS1	.7687	.9412	134.0
5.	CATS31	.7239	.9044	134.0
6.	CATS38	1.3284	1.2126	134.0
7.	CATS30	.9254	1.0943	134.0
8.	CATS27	1.0597	1.1422	134.0
9.	CATS19	1.0672	1.3444	134.0
10.	CATS22	1.2388	1.4415	134.0
11.	CATS11	.6493	1.0057	134.0

Correlation Matrix

	CATS36	CATS8	CATS7	CATS1	CATS31
CATS36	1.0000				
CATS8	.5229	1.0000			
CATS7	.4335	.6279	1.0000		
CATS1	.5535	.6343	.4789	1.0000	
CATS31	.4209	.4292	.2385	.4190	1.0000
CATS38	.6341	.4485	.5327	.3899	.2684
CATS30	.3417	.3656	.3536	.2751	.1462
CATS27	.5107	.4107	.5178	.3556	.2344
CATS19	.4414	.5613	.6940	.4521	.2009
CATS22	.3994	.3714	.4114	.2793	.1605
CATS11	.3225	.3275	.4610	.3505	.1821

	CATS38	CATS30	CATS27	CATS19	CATS22
CATS38	1.0000				
CATS30	.2169	1.0000			
CATS27	.4906	.4367	1.0000		
CATS19	.5075	.2028	.5506	1.0000	
CATS22	.3936	.2545	.4434	.2982	1.0000
CATS11	.3849	.2288	.2998	.2011	.2034

	CATS11
CATS11	1.0000

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

N of Cases = 134.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	3.0597	15.0942	3.8851	6

Item Means	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.5100	.0746	1.0299	.9552	13.8000	.0989

Item Variances	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.8905	.1147	1.5439	1.4292	13.4618	.2446

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.4067	.1560	.7183	.5623	4.6044	.0213

Reliability Coefficients 6 items

Alpha = .7752 Standardized item alpha = .8044

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	CATS19	1.0526	1.3389	133.0
2.	CATS17	.0451	.2420	133.0
3.	CATS3	1.0075	1.0695	133.0
4.	CATS10	1.5038	1.2947	133.0
5.	CATS15	.0376	.2272	133.0

Correlation Matrix

	CATS19	CATS17	CATS3	CATS10	CATS15
CATS19	1.0000				
CATS17	.4135	1.0000			
CATS3	.3542	.2914	1.0000		
CATS10	.3342	.3622	.7523	1.0000	
CATS15	.2674	.7958	.3106	.2957	1.0000

N of Cases = 133.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	3.6466	10.1999	3.1937	5

Item Means	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.7293	.0376	1.5038	1.4662	40.0000	.4321

Item Variances	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.9446	.0516	1.7927	1.7411	34.7373	.7191

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.4177	.2674	.7958	.5284	2.9758	.0351

Reliability Coefficients 5 items

Alpha = .6712 Standardized item alpha = .7820

Appendix 13: Ethical clearance

COVENTRY UNIVERSITY - SCHOOL OF HEALTH AND SOCIAL SCIENCES

STUDENT SUBMISSION TO SCHOOL RESEARCH ETHICS COMMITTEE

1. Student's name: DEBBIE HAWKINS 2. Course: CLINICAL PSYCHOLOGY DOCTORATE

(BLOCK CAPITALS)

3. Title of project: CORE BELIEFS AS MEDIATORS IN THE LINK BETWEEN CHILDHOOD ABUSE (EMOTIONAL, SEXUAL + PHYSICAL ABUSE + NEGLECT) + EATING DISORDERED PSYCHOPATHOLOGY (ANOREXIA + BULIMIA).

4. Summary of the project in jargon-free language and in not more than 120 words:

Sample: UNDERGRADUATE STUDENTS

Research site: COVENTRY UNIVERSITY

Design (eg experimental):

Methods of data collection: BY ADMINISTRATION OF 3 QUESTIONNAIRES: CHILD ABUSE + TRAUMA SCALE, YOUNG'S SCHEMA QUESTIONNAIRE + EATING DISORDER INVENTORY

- SEE ATTACHED SUMMARY OF RESEARCH PROPOSAL FOR MORE DETAILS + FOR INFORMATION ON CONFIDENTIALITY, INFORMED CONSENT, FEEDBACK, ETC.

Access arrangements (if applicable):

5.	Will the project involve patients(clients) and/or patient(client) data?	Yes [ ]	No [✓]
6.	Will any invasive procedures be employed in the research?	Yes [ ]	No [✓]
7.	Is there a risk of physical discomfort to those taking part?	Yes [ ]	No [✓]
8.	Is there a risk of psychological distress to those taking part?	Yes [✓]	No [ ]
9.	Will specific individuals or institutions (other than the University) be identifiable through data published or otherwise made available?	Yes [ ]	No [✓]
10.	Is it intended to seek informed consent from each participant (or from his or her parent or guardian)?	Yes [✓]	No [ ]

Student's signature: Debbie Hawkins **Supervisor's signature:** [signature] **Date:** 11/01/02

FOR COMMITTEE USE:

Immediate approval	[✓]	Referral to full School Committee	[ ]
Referral to local Hospital Ethics Committee	[ ]	Decision pending receipt of further information (specify below)	[ ]

Committee Member's signature: David Giles **Date:** 16/02/02

THE UNIVERSITY OF WARWICK **Internal Memorandum**

From: **John Pickering, Tel: 23151, email: j.pickering@warwick.ac.uk**

To: **Caroline Meyer & Debbie Hawkins**

Date: **4/02/02**

Ethics Committee Report on: **Debbie Hawkins' research proposal.**

There were some minor concerns here.

The rationale of the study is not an issue.

What drew attention was the description in the paragraph headed 'Procedure' on page 4 describing how the potential problems might be handled. Page 9 gives Caroline Meyer as a potential contact but then only as referral to further support. Were something acute to arise as a result of participation, there could be some delay in getting help.

Is it possible to give Debbie the role of referral?

The phrase "Participants will be contacted through university staff" on page 4 is unclear. Does this mean that staff will refer individuals to the study? If so, care may need to be taken to ensure that they don't feel victimised or singled out.

Given the sensitivity needed, it is assumed that the questionnaire will be administered face-to-face.

Assuming these points can be met, we have no further concerns.

John Pickering.

Chair, Ethics Committee.

John Pickering
Ethics Committee
Warwick University

28/04/02

Thank you for your comments on my research proposal dated 04/02/02. I am writing to confirm that I will be making the changes suggested in your report.

Please do not hesitate to contact either myself or Caroline should you require any further information about the proposal.

Debbie Hawkins
Universities of Coventry & Warwick Clinical Psychology Doctorate

Copy: Caroline Meyer, Warwick University

Regression

Appendix 14: Mediational analysis

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	CATSN, CATSTOT[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: EDIBNMEA

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.320[a]	.103	.089	.4655

a. Predictors: (Constant), CATSN, CATSTOT

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.271	2	1.635	7.547	.001[a]
	Residual	28.602	132	.217		
	Total	31.872	134			

a. Predictors: (Constant), CATSN, CATSTOT

b. Dependent Variable: EDIBNMEA

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.257	.079		3.236	.002
	CATSTOT	-.463	.257	-.489	-1.804	.074
	CATSN	.555	.201	.750	2.764	.007

a. Dependent Variable: EDIBNMEA

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	CATSN[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: YSQED

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.525[a]	.276	.270	.9595

a. Predictors: (Constant), CATSN

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	46.647	1	46.647	50.664	.000[a]
	Residual	122.454	133	.921		
	Total	169.101	134			

a. Predictors: (Constant), CATSN

b. Dependent Variable: YSQED

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.325	.136		9.765	.000
	CATSN	.896	.126	.525	7.118	.000

a. Dependent Variable: YSQED

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	CATSN[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: YSQAB

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.210[a]	.044	.037	1.3940

a. Predictors: (Constant), CATSN

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.978	1	11.978	6.164	.014[a]
	Residual	258.439	133	1.943		
	Total	270.417	134			

a. Predictors: (Constant), CATSN

b. Dependent Variable: YSQAB

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.160	.197		10.958	.000
	CATSN	.454	.183	.210	2.483	.014

a. Dependent Variable: YSQAB

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	CATSN[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: YSQSI

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.262[a]	.068	.061	1.0184

a. Predictors: (Constant), CATSN

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.127	1	10.127	9.763	.002[a]
	Residual	137.953	133	1.037		
	Total	148.080	134			

a. Predictors: (Constant), CATSN

b. Dependent Variable: YSQSI

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.730	.144		12.009	.000
	CATSN	.417	.134	.262	3.125	.002

a. Dependent Variable: YSQSI

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	CATSN[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: YSQMA

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.316[a]	.100	.093	1.0155

a. Predictors: (Constant), CATSN

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.213	1	15.213	14.752	.000[a]
	Residual	137.157	133	1.031		
	Total	152.370	134			

a. Predictors: (Constant), CATSN

b. Dependent Variable: YSQMA

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.977	.144		13.765	.000
	CATSN	.512	.133	.316	3.841	.000

a. Dependent Variable: YSQMA

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	CATSN[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: YSQDS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.237[a]	.056	.049	1.0295

a. Predictors: (Constant), CATSN

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.419	1	8.419	7.944	.006[a]
	Residual	140.956	133	1.060		
	Total	149.375	134			

a. Predictors: (Constant), CATSN

b. Dependent Variable: YSQDS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.510	.146		10.367	.000
	CATSN	.381	.135	.237	2.819	.006

a. Dependent Variable: YSQDS

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	CATSN[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: YSQEI

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.317[a]	.100	.094	1.0022

a. Predictors: (Constant), CATSN

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.907	1	14.907	14.842	.000[a]
	Residual	133.579	133	1.004		
	Total	148.485	134			

a. Predictors: (Constant), CATSN

b. Dependent Variable: YSQEI

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.677	.142		11.831	.000
	CATSN	.506	.131	.317	3.853	.000

a. Dependent Variable: YSQEI

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	CATSN[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: YSQSB

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.263[a]	.069	.062	1.1230

a. Predictors: (Constant), CATSN

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.417	1	12.417	9.845	.002[a]
	Residual	167.736	133	1.261		
	Total	180.152	134			

a. Predictors: (Constant), CATSN

b. Dependent Variable: YSQSB

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.755	.159		11.048	.000
	CATSN	.462	.147	.263	3.138	.002

a. Dependent Variable: YSQSB

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	CATSN[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: YSQET

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.271[a]	.074	.067	.7174

a. Predictors: (Constant), CATSN

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.447	1	5.447	10.584	.001[a]
	Residual	68.450	133	.515		
	Total	73.897	134			

a. Predictors: (Constant), CATSN

b. Dependent Variable: YSQET

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.828	.101		18.020	.000
	CATSN	.306	.094	.271	3.253	.001

a. Dependent Variable: YSQET

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	CATSN[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: YSQFA

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.316[a]	.100	.093	1.2622

a. Predictors: (Constant), CATSN

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.463	1	23.463	14.727	.000[a]
	Residual	211.889	133	1.593		
	Total	235.352	134			

a. Predictors: (Constant), CATSN

b. Dependent Variable: YSQFA

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.900	.179		10.643	.000
	CATSN	.635	.166	.316	3.838	.000

a. Dependent Variable: YSQFA

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	YSQEI, CATSN, YSQET, YSQFA, YSQMA, YSQSI, YSQED, YSQSB, YSQDS[a]	.	*Enter*

a. All requested variables entered.

b. Dependent Variable: EDIBNMEA

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.529[a]	.280	.228	.4284

a. Predictors: (Constant), YSQEI, CATSN, YSQET, YSQFA, YSQMA, YSQSI, YSQED, YSQSB, YSQDS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.929	9	.992	5.405	.000[a]
	Residual	22.944	125	.184		
	Total	31.872	134			

a. Predictors: (Constant), YSQEI, CATSN, YSQET, YSQFA, YSQMA, YSQSI, YSQED, YSQSB, YSQDS

b. Dependent Variable: EDIBNMEA

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.260	.131		-1.979	.050
	CATSN	.124	.068	.167	1.809	.073
	YSQED	-2.526E-03	.050	-.006	-.051	.960
	YSQMA	1.619E-02	.050	.035	.322	.748
	YSQSI	1.952E-02	.054	.042	.364	.716
	YSQDS	.108	.069	.234	1.577	.117
	YSQFA	-4.859E-02	.050	-.132	-.976	.331
	YSQSB	.161	.053	.383	3.015	.003
	YSQET	7.587E-02	.056	.116	1.366	.174
	YSQEI	-7.061E-02	.055	-.152	-1.282	.202

a. Dependent Variable: EDIBNMEA