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including a thesis entitled:**

**Body Image, Disordered Eating and Emotional Processing in
Adolescent Females**

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Discuss the importance of the therapeutic relationship across the lifespan, but with particular reference to working with adults and older adults.

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Introduction

The quality of the therapeutic relationship has consistently been found to be the best predictor of successful treatment outcome across all forms of psychological therapy, (Horvath, Gaston, & Luborsky, 1993, Horvath & Greenberg, 1994, In Safran). The therapeutic relationship has been considered across the lifespan (including adulthood and older age) and within different client groups (for example personality disorder and substance abuse problems). Whilst the positive role of the alliance, whether in individuals, couples or family therapy, has received growing empirical support (Alexander & Luborsky, 1986; Horvath & Symonds, 1991), the accumulated body of evidence also indicates that there exists a diversity of definitions and measurements of the construct itself (Frieswyk et al, 1986; Kokotovic & Tracey, 1990).

This essay will therefore begin with a consideration of the conceptualisation of the therapeutic relationship and how it is measured. The research that has found it to be an important predictor of outcome will then be discussed. The importance of the therapeutic relationship will be considered in terms of how our understanding of the construct can be useful in clinical work when using different psychological models and working across the lifespan. The focus will be on the therapeutic relationship in adulthood although many points made refer to therapy within different client groups across the lifespan.

History and development of the concept of the ‘therapeutic relationship’

The relationship between people has been significant in all healing since the time of Hippocrates and Galen (Clarkson 1989). The concept of the therapeutic relationship within psychological therapy has been defined in a variety of ways.

Psychoanalytically, the focus has been on transference i.e. the displacement of affect from one object/person to another. Freud (1912), asserted that the analyst should maintain “serious interest in, and sympathetic understanding of, the client” so that the client forms a positive attachment to the analyst, viewing the analyst as an authority and believing in his/her interpretations. The ability to form such a positive relationship is thus thought to depend on clients’ previous experience.

Ferenczi (1932) adds that it is essential for the patient to relive the past in a therapeutic relationship and to consider the role of the analyst’s personality and experience in the treatment process i.e. countertransference. Object–relationists also proposed that the client develops the ability to form a positive relationship with the therapist through the process of therapy. This understanding of the concept differed from Freud’s because the attachment between client and therapist is qualitatively different from their former ones, therefore the alliance and transference are thought to be distinct constructs.

Thus within the psychoanalytic schools there are differing views regarding whether all aspects of the therapist–client relationship are manifestations of transference. This dispute leads to the practical issue of whether the alliance is dependent on the here-and-now motivation, skill and fit of the client and the therapist, or whether it is predestined by the client's unconscious projections based on their past experiences (Gelso & Carter, 1985; Gutfreund, 1992). Hatcher (1990) concludes that the therapeutic alliance is based on the quality of the current interpersonal connection of therapist and client as well as a reflection of the client's previous unresolved relationships.

Rogers (1957) was influential in conceptualising the therapeutic relationship, describing ‘necessary and sufficient (or core) conditions’ for therapeutic change. He suggested that effective therapy occurs only within a relationship whereby the client perceives the therapist as accepting, empathic and congruent. Rogers appeared to agree with the psychoanalytic view that the therapeutic alliance is not merely a means to a set of therapeutic ends, but is empowering and valuable in its own right.

Individuals with 'emotional problems in living' will have experienced relationships where there was no acceptance, value and trust; therefore it is only in a relationship with these values that a positive alteration of the self-concept will occur (Rogers 1957).

An association between Rogers' core conditions and the alliance components is supported by Salvio, Beutler, Wood, & Engle, 1992. Rogers has been criticised for not adequately considering the client's ability and motivation to respond to the therapist's offer of such a relationship. Thus there is a presumption "of a fated response to the correct attitude of the therapist" (Horvath & Luborsky, 1993). Although research has found that high levels of acceptance, empathy and congruence lead to better outcome results, some have found that the importance of these factors vary across different therapy modalities (e.g. Orlinsky & Howard, 1986).

Evidence has indicated that it is the client's perception of the therapist as an empathic individual, rather than the actual therapist behavior, that was most related to outcome. There is evidence of a moderate-to-strong correlation between client-perceived empathy and some aspects of the alliance, particularly in early stages of therapy (Greenberg & Adler, 1989; Horvath, 1981; Jones, 1988; Moseley, 1983). However, in each of these investigations, the alliance was more predictive of outcome than empathy alone.

In contrast to Rogers' exclusive emphasis on the therapist's role in the relationship, research by social theorists looked at various social dimensions. They explored the client's judgments of the therapist's attributes and found that the client's impression of the therapist as expert, trustworthy and attractive provides the helper with the "social influence" to promote change (LaCrosse, 1980). The impact of these variables on therapeutic outcome have been contested and found to be quite modest and inconsistent across therapy modalities (Greenberg & Adler, 1989; Horvath, 1981).

Luborsky (1976) suggested that the alliance is a dynamic rather than a static entity responsive to the changing demands of different phases of therapy and identified two types of helping alliances. Type 1 is based on the patient receiving the therapist as supportive, caring, sensitive and helpful and is more evident at the beginning of therapy.

Type 2 refers to joint working and joint responsibility and is more typical of later phases of treatment. These two types of alliances were found to be associated with the likelihood of improvement in psychodynamic therapy.

Type 1 alliance may be influenced by levels of perceived warmth and care (e.g. empathy), external features (e.g. attractiveness), contextual information (e.g. expertness), and the client's past experiences in similar relationships (LaCrosse, 1980). These factors are thought to influence the formation of a reciprocal relationship (Luborsky et al., 1985).

Bordin (1976, 1980, and 1989) proposed an influential conceptualisation of the working alliance emphasising the client-therapist positive collaboration. He identified tasks, bonds and goals as the three components of the alliance. Tasks refer to the behaviors and cognitions or activities that the client and therapist engage in. In a positive relationship, tasks must be perceived by both as appropriate and useful and both must accept the responsibility to perform these tasks. The goals should be agreed and therefore represent what the client wishes to gain from therapy. Bonds refer to the quality of the interpersonal relationship and include issues such as mutual trust, acceptance and confidence. To establish a good alliance it is important for the therapist to negotiate the immediate and medium-term expectations and link these to the client's. The presence of a strong alliance helps the patient to deal with the immediate discomforts associated with the revealing of painful issues in therapy, as this may be part of the task leading to the overall goal of treatment. The therapist needs to maintain an awareness of the client's commitment to these activities and effectively intervene if it wanes.

Some common themes within the diverse conceptualisations

Bordin's conceptualisation highlights the complex, dynamic, multidimensional and interdependent nature of the relationship where the changing factors of the therapist, patient and the approach specific factors all affect the therapeutic relationship at a given time.

Any intervention will have an impact on the quality of the bond depending on the idiosyncratic meaning the patient will give it and the experience of any intervention will depend on the bond that has been established.

It appears that the conceptualisations highlight the importance of how the patient views the therapist and therapy, including their expectations of therapy, and are ultimately interactive rather than merely responsive to therapist factors (Hill & O'Grady, 1985; Horvath, Marx, & Kamann, 1990). Importantly, the results of these investigations do not imply that approval of a therapist's style will necessarily result in a stronger alliance. Furthermore, different patients will feel that different parts of the relationship are most important to them.

A qualitative phenomenological study by Bachelor (1995), geared toward identifying the core content and essential features of the alliance as experienced by the clients themselves, established three alliance typologies. These were 'nurturant', characterised by trust and generated by therapist attitudes i.e. respectful, non-judgemental attentive, friendly and empathic; 'insight orientated', through self-revelation and therapist clarification type activities; and finally 'collaborative', being actively involved in the tasks of therapy including evaluation of the conduct of therapy. These were thought to represent trait-like interactional styles.

Bachelor (1995) concluded that theoretician-defined alliance variables are not equally relevant for clients and that some crucial features of the perceived working relationship are not accounted for in current alliance theory and need further work. Furthermore, clients cannot be viewed as a homogeneous group with regard to their perceptions of the quality of the therapy relationship. Clients perceive the positive alliance differentially, attaching significance to different components i.e. some deem essential the quality of the therapy climate, others are more concerned with acquiring self-understanding and still others attend most to collaboration with the therapist or to participation in the work and conduct of therapy.

The implicit assumption, which is reflected in the aggregation of subscales or dimensions to provide a single summary score of the equal contribution of these to the alliance, runs counter to the finding of differential relevance to clients of individual relationship qualities. It was suggested that future work could pursue the development of "alliance profiles" that are based on differential combinations of perceived alliance-relevant characteristics.

It appears that what links the conceptualisations and hence the measurements (discussed below) are attachment between the therapist and patient and their collaboration or “willingness to invest in the therapy process” (Horvath and Luborsky, 1993). It appears that in the complex interchange involved in any therapy interaction many factors may play a role in the establishment of a positive therapeutic relationship. It therefore seems likely that reducing this to a single factor such as empathy, or oversimplifying the diversity of factors and their interaction, will not do the area justice. Many theorists also conclude that the therapy relationship is important in its own right (e.g. Freud, 1912, Rogers, 1957).

Measurements of Therapeutic Alliance

Researchers have attempted to create scales that measure the concept of the alliance based on the various understandings considered above and it is currently estimated that there are at least 11 alliance assessment methods. These include the Pennsylvania scales (HAr, HAcs, HAq) from Luborsky et al (1983); the Vanderbilt Therapeutic Alliance Scale (VPPS/VTAS) by Strupp and colleagues; The Toronto Scales (TARS) created by Marziali and her colleagues, which combines items generated from the two scales above; and the Working Alliance Inventory (WAI), (Horvath 1981, 1982). Additionally, there are the California Scales (CALPAS/ CALTARS) based on Marziali & Marmars TAR and the Therapeutic Bond Scales (TBS) by Saunders, Howard, Orlinsky (1989). These scales are considered to have acceptable psychometric properties and are reliable, with the therapist based measures the most stable (Horvath and Symonds 1991).

The variance between these scales can be explained by the fact that the different measurement instruments were devised from different conceptualisations of the construct. The Penn scales were created to test Luborsky’s (1984) psychodynamic concept of the helping alliance measuring Type 1 and Type 2 as described above. The Vanderbilt scales and the Toronto scales combined dynamic and integrative conceptualisations of the alliance. The working alliance inventory was based on Bordins’ three concepts and wanted to connect the alliance measure to a general theory of therapeutic change. The VPPS, VTAS and TARS attempt to measure more eclectic blends of the alliance construct than the others.

The emphasis given to the different components measured varies. Furthermore, the scales use different rating systems to assess the alliance; these vary from 5 point rating systems (e.g. VPPS) to 21 point rating systems (e.g. TBS). The number of items in the measures also varies across the measurement instruments from 7 (in the HAcS) to 80 (in the VPPS). It appears that the instruments differ in their subscales as they attempt to capture distinct components of the alliance, making meaningful comparisons between scales invalid.

The therapists' alliance scales have been found to lead to poorer predictions of outcomes than client's assessments (Horvath & Symonds, 1991). This potential misperception on the part of the therapists makes it imperative that the patients' view of the therapeutic alliance is considered. This has been highlighted by newer conceptualisation papers, e.g. Bachelor (1995), noted above.

Evidence of the importance of the therapeutic alliance from outcome studies in the most recent meta-analytic review and within different client groups

Due to the consistent finding that the therapeutic alliance is related to better outcome across different psychotherapies and that all psychotherapies have been found to be effective (Lambert & Bergin, 1994), the therapeutic alliance has been referred to as the "quintessential integrative variable" of therapy, (Wolfe & Goldfried 1988 p449). Martin et al. (2000) used 79 studies for their meta-analysis. They attempted to reanalyse Horvath and Symonds (1991) previous comparisons e.g. the relation of alliance-outcome correlation with the type of treatment, type of rater and time of alliance rating, and the relationship of alliance-outcome with the type of alliance measure. The study also assessed whether there was a publication bias or file drawer problem (where non-significant results are not published) and a uniformity of effect was sought.

Mark (2000) found that the relationship between therapeutic alliance and outcome was moderate but consistent, and was not influenced by the type of outcome measure used, the outcome rater, the time of alliance assessment, the treatment provided or the publication status of the study.

It was concluded that the direct association found between the alliance and outcome is supportive of the view that the alliance may be therapeutic in, and of, itself (Henry & Strupp, 1994) and therefore the strength of the alliance is predictive of outcome whatever the mechanism underlying the relation. All alliance measures were found to be reliable, however TARS was not found to be associated with outcome so it was advised that this should be avoided. It was also felt that there were enough alliance measures and that more would be superfluous.

When the therapeutic alliance was considered in relation to substance abuse treatment, Meier (2005) found that the early therapeutic alliance was a consistent predictor of engagement and retention in drug treatment. The early alliance influenced early improvements during treatment, but it was an inconsistent predictor of post-treatment outcomes. Neither clients' demographic factors nor diagnostic pre-treatment characteristics appeared to predict the therapeutic alliance, whereas modest but consistent relationships were reported for motivation, treatment readiness and positive previous treatment experiences. It was concluded that not enough is known about what determines the quality of the relationship between drug users and counsellors, thus creating an avenue for further study.

Luborsky, McLellan, Woody, O'Brien, and Auerbach (1985) also found that higher levels of the alliance were associated with better outcomes for methadone-maintained opiate-dependent outpatients. Barber, Luborsky, Gallop, Christoph, Frank, Weiss & Thase, (1999) found that the reports from cocaine-dependent patients of the alliance, as measured by the Helping Alliance questionnaire (HAq-II; Luborsky et al., 1996) predicted drug outcomes after one month of treatment but not at the six-month termination assessment. In addition, the California Psychotherapy Alliance Scales (CALPAS; Gaston & Marmar, 1994; Marmar, Gaston, Gallagher, & Thompson, 1989) but not the HAq-II predicted attrition.

Finally, there was preliminary evidence of an interaction effect such that those patients who remained in treatment longer and rated the alliance relatively high early in treatment had better outcomes. This appears to be consistent with findings across the therapeutic alliance research.

Upon review, it appears that there is a scarcity of literature that considers the therapeutic alliance with specific client groups. Lingiardi, Fillipucci & Baiocco (2005), supported the finding that early alliance leads to more positive results i.e. less dropout (e.g. Horvath et al, 1994). Furthermore, they found that DSM-IV 'cluster A' patients had difficulty establishing working alliances. This was not surprising as these individuals are considered the most disturbed, characterised by withdrawal, detachment, refusal of relationships and beliefs that others are hostile or threatening. The therapists were found to evaluate the alliance with 'cluster B' patients negatively. These individuals (with antisocial, borderline, histrionic, narcissistic personality disorders) are impaired in basic trust and interpersonal relationships. Again it was found that the therapists' evaluations were always lower than the patients' evaluations.

Therapy alliance and older adults

The therapeutic alliance does not appear to have been widely discussed in relation to older adults, however the trends in understanding the therapeutic alliance in general suggest that this construct also has value with older clients. First, the therapeutic alliance is largely formed in the first sessions of therapy (Saunders, 2000). Thereafter, the therapeutic alliance is associated with different patterns of therapeutic activity, emotions and verbal content, with high and low-alliance bonds showing distinct developmental paths during the early, middle and late course of brief therapy (Saunders, 2000). Monitoring of the therapeutic alliance and negotiating ruptures in the alliance is considered to be as important in older adults as in younger adults as it is more likely that older adults may drop out of therapy (Hyer et al 2004). As in younger adulthood the clients with better quality object relations are better able to withstand a weaker therapeutic alliance than those with poorer object relations, (Saunders, 2000).

Importance of Therapeutic Relationship in Cognitive Behavioural Therapy and Personal Construct Psychotherapy: how the research findings are applied to effective clinical work

The conceptualisations explored above have influenced psychological models of therapy. All psychotherapies recognise the importance of the therapeutic relationship. Due to the plurality of models the Cognitive Behavioural Therapy model (CBT) and the Personal Construct Psychotherapy model (PCP) will be considered here in relation to the importance of the therapeutic relationship. CBT therapists have concluded that a good therapeutic relationship is essential for the successful implementation of any form of therapy and describe this as including an atmosphere of openness and trust; the instillation of hope in the client's potential for change; empathy; a calm and objective manner; an emphasis on the collaborative nature of therapy; flexibility and spontaneity in the treatment plan; and making work in sessions relevant to the client's everyday life experiences, (Overholser and Silverman, 1998).

In CBT, the schemas that the client has may be maladaptive and therefore at the core of the individual's particular dysfunction. Negative schemas such as rejection and abandonment will have formed during the individual's early life but continue to affect the person's relationships including that with the therapist. These beliefs and well ingrained associated behaviours may interfere with the process of collaborative empiricism.

The client's expectations/perceptions are distorted to remain consistent with their beliefs. If these beliefs and their potential impact are not addressed it may result in resistance and non-compliance. An over-focus on distorted thinking was associated with poorer outcomes, but this finding disappeared when alliance levels were controlled for. The therapist will therefore need to practise challenging distortions as is appropriate in the interpersonal context.

CBT has considered a variety of factors that may impinge on the therapeutic relationship and consequently therapy progress. These can be client factors and the clients' problem(s) or therapist factors. As regards the client factors and factors related to the clients problem it is important for the CBT therapist to appreciate that the client may lack appropriate skills or have difficulty with the therapeutic alliance if previous negative experiences with parents or teachers influence their current interpersonal style.

There may also be fears around changing due to what others will think or how others may react, i.e. secondary gain. Certain styles are also important to note such as a negative attitude, a lack of motivation, a narcissistic style, unrealistic expectations about what therapy will achieve which, may lead to frustration, and the client perceiving their new role as low status, i.e. that seeing a therapist means they are crazy. Certain problems such as paranoia, limited energy in depression, substance misuse (state dependent learning may occur here) or problems with trust or autonomy may make collaboration harder to achieve. Furthermore, individuals that are impulsive are accustomed to acting without thinking so self-monitoring may be particularly problematic. The clients' cognitive ability must also be considered and therapy directed at their level. Other client factors include poor social and family relationships, defensiveness, limited psychological mindedness, having a low expectation of success and a history of poor object relations (Horvath et al, 1991). However, it is not known whether these factors affect the alliance only at the beginning phase of treatment or throughout therapy.

Therapist factors that will be important to achieving an optimal therapeutic alliance include the therapist experience, knowledge and skills and the therapists' ways of thinking, i.e. if they are the same as the client's this could lead to the therapist maintaining the problem. The client needs to be socialised into the model used, otherwise they will not know what is expected of them. Furthermore, the client may have certain cognitions about collaboration and may actively work to thwart the therapist i.e. anger, fear or competition. It is important for the therapist to be alert to these and deal with them collaboratively. It is vital that appropriate information is gathered before applying treatments and theory and that intervention is well timed as premature intervening may lead to drop-out/non-compliance.

The therapist must also be aware of their own narcissism and not forget their humanity and empathy. Explaining the therapy rationale is one of the most important ways of negotiating the therapy alliance in CBT. The therapist needs to respond to how the individual is experiencing any intervention at all points in the therapy.

PCP is a process of reconstruction by firstly achieving a good therapeutic relationship. This is achieved by demonstrating acceptance, attempting to use the clients' constructions (belief systems) and being credulous (taking what the client says at face value). Respect is conveyed by conducting therapy in an invitational mood rather than prescribing better ways of thinking and behaving. The client works with the therapist as a co-experimenter, formulating and testing hypothesis. 'Primary transference', which refers to the therapist being construed in a particular way by the client, is not encouraged. A 'secondary transference', which refers to previous role constructs being transferred onto the therapist, is allowed in order to test out hypothesis.

Early sessions in PCP are an important opportunity for the therapist to explain the expectations of therapy, i.e. that the client would ultimately take the initiative in solving their problems. Therapists would also point out that the therapeutic relationship is different from other relationships which the client has previously experienced and that this situation is one where they can feel free to express issues without risk of criticism. This is done early, which is in keeping with evidence that suggests that early establishment of alliance leads to better outcome. As regards working with people across the lifespan, it was not advised that adults discuss the sessions with anyone other than their therapist. This is because constructs that they were working on may not be ready for use to make decisions. With regards to children, it was accepted that they could speak with their parents if they so wished, (Winter, 1992).

Conclusion

Hyer, Kramer & Sohnle (2004) emphasised that a great deal of research has been conducted on the therapeutic alliance.

Only 15% of the variance in therapeutic effectiveness owes to the particular theory-based techniques (Horvath 2002), even though over 200 therapeutic models and 400 techniques have been formulated (Martin, 2000). In contrast, “non-specific factors” play a most important role in therapeutic effectiveness.

The importance of a good therapeutic relationship as related to its effect on clinical outcome has thus been found across client groups and psychological methods of working. Conversely, negative outcomes in therapy have been found to occur where there are greater negative interpersonal processes such as hostile (i.e. interactions that were on one level helpful but on another critical) and complex interactions between therapist and client in comparison to better outcome cases (e.g. Binder & Strupp 1997 in Safran). Safran (2000) concluded that there is now a consensus that negative process and ruptures in the alliance are inevitable so that one of the most important skills a therapist must learn is how to deal therapeutically with this (e.g. Binder & Strupp 1997 in Safran).

This consensus regarding the importance of the therapeutic relationship led to an attempt to teach therapists how to achieve this positively. However, attempts to manualise this information were full of difficulties as manuals can be an artificially constraining way of conducting therapy, reducing flexibility and creativity. Therefore adherence did not relate to better outcome.

Strupp and Anderson (1997) found that when they trained therapists in a manualised form of psychodynamic treatment, the training process was filtered through the therapists pre-existing personality type. The therapists that were assessed as more self-controlling and self-blaming were more likely to adhere to the treatment manual and more likely to be less warm, friendly and more hostile, i.e. critical (negative processes), and that they had the poorest outcomes. It appeared that for many therapists, despite their attempts to use appropriate skills conducive to better therapeutic outcome, it was not an appropriate fit. If they were not personally integrated with their client in the room because they felt conscious of following the manual, then they may have been missing out on doing one of the most important parts of establishing a positive therapeutic relationship, which is being-in-the-room with the person.

Understanding what constitutes a positive therapeutic relationship is invaluable in effective therapy, but training in a manualised way may be problematic. Therapists need time to grow and need to be encouraged to become self aware in a way that allows them to be intuitive and creative, flexible and context aware (Ducket, Pilgrim, Ross, Adams, Donne, 2005). There is reflection-in -action and on-action, whereby new cases are looked at as unique so theories and techniques are elaborated and refined to fit the particular client. Ducket et al also asserted that reflective practice needs another person as a professional supervisor to ensure that it is constructive. Reflective practise involves self-awareness, honesty and insight into our own values. This will be shaped by our professional stance as clinical psychologists including training, theoretical models and technical skills as well as our personal styles, issues and our demographics.

These will influence how we filter information and effect how we understand/use the skills implicit in a positive therapeutic relationship. Clinicians need to be aware of their own feelings towards the individuals they see.

From the conceptualisations discussed above it appears that the attachment of the therapist and client and their collaboration, whether that be on goals and tasks or the being in a positive therapeutic relationship in itself, is vital for good a outcome, (e.g. Henry et al 1994). If an alliance is established between the patient and therapist, then the patient will experience the therapy as therapeutic. Research suggests that different patients will feel that different aspects of the relationship are important to them (Bachelor, 1995) and how the individual sees their therapist will be vital. Furthermore, the expectations the individual comes with and the personal meaning they attach to any intervention will also be important.

A consistent finding is that individuals who rated the therapy relationship better at an earlier stage had a better outcome (e.g. Meier, 2005). Klein, (2003) showed that early therapy alliance significantly predicted improvement in depressive symptoms. Martins' (2000) meta-analysis also concluded that because the clients tend to view the alliance consistently through treatment they are therefore more likely to view the relationship positive at the end if they did so at the start.

One might expect that if individuals begin their therapy more positive about the therapeutic alliance at the outset they are consequently more likely to have a better rupture-repair cycle and better results at the end. This highlights the necessity of establishing a good rapport at the outset of therapy.

Butler and Strupp (1986) said that because therapy involves such a multitude of contextual contingencies, finding out which specific therapy techniques reliably affect the alliance across a broad range of situations is very difficult. It is difficult to make generalisations from individuals as each has such a unique relationship with their therapist. Therapist and client factors have been discussed above and numerous factors have been found to impact on the establishment of a good therapy alliance. So far however, patient-therapy matching has not been supported. Patient-therapy matching on the basis of race was not found to significantly affect overall functioning outcome, service retention and total number of sessions attended for African-American and Caucasian-American adult populations in mental health services in a recent meta-analysis, (Shin, 2005).

Finally, how the client perceives the therapist is of primary importance for establishing a positive therapeutic relationship. The clients' predisposing schemas, as well as their expectations of therapy and their agreement and understanding of goals and tasks, must be assessed and monitored throughout therapy. It is agreed that establishing a positive alliance at the outset of therapy is associated with better outcome and thus the relationship is considered as important in its own right.

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Discuss the use of systemic and psychodynamic approaches for people with learning disability. What are the potential dilemmas and challenges faced by a clinical psychologist when using these two approaches with learning disabled people, and how can they be addressed?

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Introduction

Historically there has been little psychotherapeutic work using either systemic or psychodynamic models with people with learning disability. Learning disability is defined as 'a state of arrested or incomplete development of mind which includes significant impairment of intellectual and social functioning, an IQ below 70 with childhood onset or before', (ICD-10, 1993). This dearth was largely due to the prevalent view for the majority of the twentieth century that talking treatments were not appropriate or relevant for people with learning disability due to their limited intellectual/verbal abilities (Hodges, 2003). Therefore until recently a learning disability diagnosis was most often an exclusion criterion for psychotherapy, despite many of the estimated 300,000 children and adults with severe learning disabilities in the UK, and the one million with a mild learning disability having co-existing difficulties with a psychological basis or consequence. For example biological issues include cognitive deficits and additional physical disabilities; emotional/ psychological difficulties include adjustment to the disability for the individual and the system, attachment issues, abandonment, rejection, grief and trauma; social issues may include powerlessness, stigmatisation and poverty (Hollins, 2000).

Over the past ten years psychotherapy for people with learning disabilities has been increasingly advocated and a survey of the interventions used by clinical psychologists working in learning disabilities in the UK found that 31% of respondents used humanistic/person centred and 17% used psychodynamic methods. Moreover, 41% considered themselves to have some competency in working psychodynamically with these clients (Nagel and Leiper, 1999). A survey carried out by the Royal College of Psychiatrists' working group on psychotherapy in learning disability (2002) found that 83% of respondents said that there was a moderate or high demand for psychotherapy for people with learning disabilities. Despite this advance it still remains the case today in Britain that provision of psychotherapeutic services, such as systemic therapy, offered to this client group remain patchy (Baum and Lynggaard, 2006).

This essay will firstly discuss how systemic approaches can be used with people with learning disability. Then the potential dilemmas and challenges faced by clinical psychologists' when using this approach with this client group will be outlined and ways in which these can be addressed will be explored. The second part of this essay will discuss the psychodynamic model using the same structure.

The use of Systemic approaches in Learning Disability

In the 70's and 80's most individuals labelled with learning disability were living in institutions. Systemic approaches at this time focused most commonly on the nuclear family and not the wider system, hence systemic ideas may not have been thought applicable to this group. The concept of 'Normalisation', which followed institutionalisation, held that it is society that disables people by limiting their experiences and the way to overcome this is to increase people's social status. As the ethos of normalisation conflicted with the systemic ideas prevalent at this time, which were of 'dysfunction' i.e. the first order cybernetic view that focused on how families became 'stuck' in repetitive loops of redundant behaviour or in unbalanced hierarchical structures this type of work may again not have connected with the learning disability client group and therefore not been seen as applicable (Fredman in Baum, 2006).

By the 90's the influence of normalisation led to the development of a range of client focused therapies to address the emotional and mental health difficulties of those with learning disability which came to include systemic approaches. At this time systemic theory focused on context (family, work, group home, and day centre), relationships (informed by people's culture, ethnicity, race, age, ability, sexuality and gender), communication (not just verbal) and interaction between people rather than within people. These ideas from second order cybernetics (e.g. Campell, Draper and Huffington, 1989), emphasised how systems were changing rather than how they were 'stuck'. As people with learning disability often live within a complex network of carers, family and support staff who may often have competing ideologies about the type of care that should be offered, working systemically to enable the individual to feel heard and to get their wishes met can be achieved by applying the systemic theory (Fiddel, 2000).

Furthermore connections' in relationships i.e. how what one person does has an effect on other people in the system, was thought to help with "working with" clients rather than "on them". This was a significant advance in terms of shifting the problem away from the individual and fitted much more with the political rhetoric of normalisation.

The second order cybernetics focused on how therapists constructed the world through their own personal and therefore subjective view and on collaboration, curiosity about multiple perspectives, and attention to differential power, choice and competence. These concepts are central to inclusion, empowerment, engagement and person-centred practice relevant to most recent government papers such as 'Valuing People' (Department of Health, 2001). As many relevant people from the clients' network of concern as possible, are included in the reflective process whereby everyone is the expert and all their contributions are important in finding a way to go on. The focus on competences can be maintained using a narrative approach offering an antidote to the labelling, diagnosing and stigmatising way that problems have been located inside the person, consequently overshadowing or obscuring their abilities (Fredman, 2004).

Issues important to systemic work include the transitions in the family life-cycle that are seen in all families including those with learning disability such as the birth of a child, going to school, leaving home, family illness and death; transitions that may be out of synchrony in families with a learning disabled member may include a much later move out of the family home than what would take place with a non learning disabled person (Goldberg, Magrill, Damaskindou, Paul and Tham, 1995). Other issues that can be worked with systemically include grief and loss which can be bought up by life events, unresolved issues in the parents for the "perfect child who has not arrived" (Bicknell, 1983 p168) or when the perceived loss of an ordinary life can effect the parents response to the child with learning disability. Parents may be over-protective or the person with learning disability may want to protect their parents from the consequences of their old age. Often families seek professional help when this protection is failing or is counterproductive (Goldberg et al 1995). This life-cycle framework (Carter and McGoldick, 1989), may aid the understanding of different families' potential stressors, their crisis points and their reactions and needs at a particular point.

The individual parents' responses to their learning disabled offspring will depend on their individual beliefs and those of their extended family, society and culture. Some parents may become perpetual carers setting up a life long dependency.

Dilemmas and challenges in using systemic approaches and suggestions for solutions

In this section I will discuss some dilemmas and challenges when applying this approach to work in learning disability and then explore solutions to the issues. One of the dilemmas faced when working with learning disabled clients is dealing with the fact that their emotional needs and their voices have historically been ignored (Sinason, 1992). How this makes the therapist feel, and how the therapist decides to position themselves, i.e. the intra- and interpersonal conflicts posed by being both "part of and or distant from the wider professional system" presents a dilemma for the practitioner (Pote, 2002 in Baum, 2006 p 171). Reflection and supervision will be crucial for therapists dealing with this dilemma, so that they can use themselves effectively within the system (Cecchin, Lane and Ray, 1992).

Making psychotherapy more accessible is essential, the client with learning disability needs to know that their voice will be valued and that therapy provides a positive, non-blaming atmosphere from the outset. If an individual with learning disability has been seen as the problem by their family, family therapy may inadvertently perpetuate scapegoating or stigmatisation. The practitioner therefore faces the dilemma of risking alienating the family members if they work to empower the learning disabled client or colluding with the scapegoating. The former may increase the likelihood of termination of therapy as it is the family who usually 'bring' the client to therapy, (Fidell, 2000). Fidell (2000) suggests that therapists should observe and analyse the power shifts in therapy and how these relate to outcome. Fiddell does not suggest how a clinical psychologist can go about doing this. The person in power is the person whose view predominates so it may be important for the clinician to consider the differing views and hold these in mind without 'marrying' any one.

A triangular pattern of protection against distress, between practitioners, parents and the person with learning disability is common (Goldberg et al, 1995; Pote, King and Clegg, 2004). Pote (2004) used an interpretative phenomenological approach to analyse seven interviews with professionals working with individuals with learning disability. These interviews highlighted the tensions that the protection triangle can create such as feelings of anger from the protector if they feel that their protection is not effective which can lead to blaming the protected individual or others in the system. These tensions may then make it hard for the professional to work systemically, maintaining a curious and non-blaming attitude towards all the system members, when their priority is to give the client a voice.

Pote suggested the “problem-determined” system as a systemic idea that may be helpful in addressing the ‘alignment’ dilemma described. This involves developing a clear understanding of the relationship each system member has to each of the others, to the presenting problems and to the practitioner themselves as well as to how they each affect the system and how they are organised by it. Furthermore, developing a “decisional subsystem” and sharing systemic ideas and formulations within the system has also been suggested (Bloomfield, Nielson and Kaplan, 1984). The use of systemic models of consultation may also be useful to help practitioners remain neutral within the system i.e. by understanding that organisational change and new ideas are interpreted according to the system’s and the individual member’s existing beliefs and assumptions and developing the connections between these belief sets (Campbell, 1995).

Approaches such as narrative therapy developed by White and Epston (1990), are based on an analysis of power and its effects on people’s lives. Drawing out new narratives is key to the therapy. Language is however privileged and narrative therapy excludes those without advanced language skills from participating fully in shaping constructions which may disempower these individuals further. Attempts can be made to use simplified language or other expressive mediums such as drawings or role-plays to enable the use of this approach with those without developed language skills.

For those with learning disabilities the relationship to therapeutic and other services is often ongoing and long-term due to the difficulties inherent in and associated with having a learning disability. Thus there may be a struggle for both practitioners and families in ending therapy (Pote, 2004). The risk of the client and/or family becoming dependent on the therapist may be greater because for these individuals the dependent position may be one that they are used to being in. Views about this differ, some say that therapy should be open-ended and others maintain that boundaries need to be adhered to by having a definite ending with a concluding session that helps the clients to see what they have achieved (Fidel, 2000). Pote (2004) suggests that defining successful outcomes at the start of therapy would promote empowering practitioners and families in successful conclusion to their therapeutic relationship. Techniques from De Shazer's (1985) solution-focused model have been further suggested.

The professional systems involved and the extent to which they are incorporated in the decision-making process, for example about when the client leaves home, or where they may live, exemplifies the potential intrusiveness of the professional system into what are usually decisions made within the immediate family (Fidell, 2000). Finding a balance between offering assistance in decision-making and empowering the individual and family to do this together can be difficult to manage successfully. As these families are likely to have faced and overcome serious adversities already, it is respectful and appropriate to take a wholly collaborative rather than an expert stance (e.g. Fidell, 2000).

Understanding the family's agenda and dealing with this from the outset is vital for collaboration and confronting potential dilemmas related to their politicization. Specifically those in the higher socio-economic groups may be harder to engage and be resistant to change because they behave towards the therapist in a way that is more conscious of their political role in the wider world rather than in a way that relates to their family based problem, (Fidell, 2002). The agenda will therefore need to be clearly agreed with this in mind, amongst all before embarking on any intervention.

Another issue related to empowering the individual is giving them responsibility. This is potentially a challenging dilemma i.e. in the case of violence, should individuals with learning disability be responsible for displaying their emotions using violence? Fidell (2002) asks whether it is equitable to encourage them to take responsibility for their actions with all the distress and grief this may entail, when they have few rights to go alongside these responsibilities, a lower tolerance to stress and frustration and fewer coping resources (Janssen, Schuengel & Stolk, 2002). Conversely it may be empowering for people with learning disabilities to think that they are actually in control of their violence rather than their violence being in control of them.

Adapting therapeutic skills and techniques is vital for overcoming some challenges in using psychotherapy with this client group. Giving the clients a voice and making them feel empowered may be difficult due to both their cognitive and language limitations and to them not ever having had a voice. Using simplified language, finding out how the client will make it known when they want the session to end/ want to take a break, using drawings and role-plays may facilitate understanding. Moreover the pace of therapy is normally slower; this is not always due to the level of understanding of the client but to numerous other factors such as the amount and quality of the issues presented e.g. multiple losses (Goldberg et al 1995).

Although it is purported that the systemic approach has much to offer (Baum and Lynggaard, 2006), appropriate ways of evaluating its theoretical ideas and therapy outcomes need to be developed. Research into the systemic approaches will need to satisfy the demands of clinical governance and the evidence based culture of clinical psychology services, and to help develop ethical services for individuals with learning disabilities. Randomised controlled trials have been complicated by issues such as obtaining consent and capacity in this client group (Oliver, Piachaud, Done, Regan, Cooray and Tyrer, 2002). Furthermore, clients may have difficulty understanding questionnaires, a higher tendency to acquiesce or say what they think the listener wants to hear (Fidell, 2000).

The use of Psychodynamic approaches with people with learning disability

In this section I will discuss how psychodynamic approaches can be used with people with learning disability. As mentioned above the use of psychotherapy with individuals with learning disability came about after a climate change involving a shift in policy development. Significant contributions to this change included the Education Act (1971) that stated that no child was 'ineducable', Wolfenberger's (1972) work on Normalisation and the development of advocacy groups. People with learning disability have historically been devalued members of society and were not considered to have the same feelings as 'normal' people, therefore it was not regarded as worthwhile to offer them a talking therapy (Hodges, 2003).

A key psychodynamic concept relevant to working with these individuals is the unconscious, built up of object relations that impact on people's daily lives. When conflict occurs, defences are mobilised and these conflicts and defences can lead to emotional difficulties. These need to be identified and understood by the therapist through transference and countertransference (Hodges, 2003). Hodges (2003) also points out that thought should be given to the person's life stage e.g. in adolescence failing to gain separation, in adulthood not gaining meaningful employment, a partner or children, and the relationships made and lost.

Sinason (1992), one of the long standing advocates of using psychodynamic therapy with individuals with learning disabilities, proposed that there are two elements that underlie one's IQ score. One is the organic limit of intelligence and the other is 'secondary handicap', which results from attacks on skills and intelligence as a way of coping with the handicap. Psychodynamic psychotherapy involves making contact with the client's emotional experience in the here and now, by closely observing the client's behaviour, including their speech if any and by the therapist observing within themselves the feelings that are evoked in them by their client. Transference allows a living memory of the patient's early relationships with important figures, experienced in the here and now to effect change and development (Simpson and Miller, 2004).

There are many issues that the psychodynamic perspective may be of value for. These include working on the existence of the disability itself within the individual, loss of the normal self, sexuality, dependency, attachment and fear (being part of a group that society wishes to eliminate) (Hollins, 2000). Furthermore, much has been written from this perspective on grief and trauma. Hollins (2000) describes how emotional distress or mental illness may be disguised or expressed behaviourally. Hence experience and skill are needed to put into words what someone cannot say for themselves and a willingness to see whether the person can understand more than they can communicate in words is essential.

The psychodynamic model holds that past trauma has a major role in shaping the person with learning disabilities' interpersonal behaviours (Sinason, 2002). Trauma is common in learning disability and includes physical, sexual, emotional and financial abuse as well as neglect and discrimination (Emerson, Hatton, Felce and Murphey, 2001). The perceived difference between 'them' (with learning disability) and 'us', allows the development of negative projections. The process of 'being there', holding and containing the person's experience and providing the opportunity for a non-abusive attachment is thought to allow the person to introject this ability (Corbett, Cottis and Morris, 1996). Corbett et al identified the therapeutic task in this case to be to 'witness, protest and nurture'. To witness is to bear to hear or think about the client's experiences, to protest is to clearly acknowledge and communicate that the abuse is wrong and to nurture is to provide a safe and secure new relationship. Moreover, often the pattern of responses following a disclosure of abuse is similar to those following bereavement, such that denial, anger, weeping and numbness are all common responses.

This perspective holds that the person's psychological and emotional development is affected by the presence of intellectual impairment and by the sensory and physical disabilities that may accompany this. The quality and reciprocity of communication and physical contact with the primary care-giver can be impaired to varying degrees, potentially resulting in fragility of emotional attachment, delayed development of self and object constancy and impairment of symbol formation and of separation-individuation of self from care-giver (Banks, 2003).

Dilemmas and challenges in using psychodynamic approaches and suggestions for solutions

A dilemma identified by Hodges and Sheppard (2004, p24 in Simpson and Miller) concerns how much a therapist should challenge the defences of a person with learning disability. The defence mechanisms of splitting and projection can help to protect a person from the pain of a disability but as a result may prevent effective mourning of the loss of ability or health and lead to psychological distress. Interventions that use interpretation of defences as a means to develop deeper understanding of unconscious processes at play need to accommodate the reality of the individual with learning disability's experiences, and the therapist will need to modify their style accordingly (Hodges et al p26). It has been suggested that catastrophic anxiety may lie behind the defences so the protective nature of the defences should be respected and not challenged too harshly (Emmanuel, 1990). Furthermore, these authors also suggest that the use of interpretations, (defined as the explanation of material which is then formulated and communicated in a way that makes sense to the patient, Rycroft, 1967 in Simpson et al, 2004) also needs to be done carefully.

Another challenge that faces therapists that work with individuals with learning disability is the feelings that they engender in them. The therapeutic relationship may be harder to achieve and manage due to the individual's potential attachment problems (i.e. the disappointment a mother may experience when her expectation of a healthy baby is not realised), losses, experience of abuse and interpersonal problems. These issues are found in this population very often as discussed above. The inadequate mourning by the mother of the 'perfect child' may mean that the mother projects her disappointment and loss onto her offspring which in turn will be played out in the transference and counter-transference. Simpson et al (2004) wrote about the learning disability as a "refuge from knowledge". If the individual believes that curiosity will evoke in the therapist what it has evoked in the mother e.g. shame, guilt or admonishment, they will be inhibited and fearful.

Furthermore a common tendency in people with learning disability “is to feel bound to fit in with a view of themselves that originates in their parents’ minds as handicapped but perpetually child-like...in this state, curiosity and knowledge are prohibited” Simpson et al (2004) p81.

Working with people with learning disability requires that the therapist is receptive to the primitive feelings evoked in themselves, such as the wish to be rid of the patient, feeling invaded or overwhelmed, deadened or cut-off, and to face their limitations and feelings of despair when there is no hope of change (Simpson et al (2004) p132). Simpson likens this situation to that of the mother with a disabled infant.

Another potential difficulty may be the ending of therapy or of the relationship developed between the therapist and the person with learning disability. The process of grieving can be particularly important for these individual’s, who may be sensitised to loss because of multiple losses in the past. This may make these individual’s feel wary of forming new relationships. A sensitively planned ending whereby the ending is talked about well in advance is essential for clients to be able to trust and become close to others (Mattison and Pistrang, in Simpson et al, 2004). This may be difficult to do if the individual has severe learning disability or autism whereby they may not have a clear sense of time.

If the person with learning disability has not experienced maternal containment and its internalisation during infancy, this is thought to have profound implications for therapy (Lee, in Simpson, 2004). Containment (of the patient’s anxieties) therefore becomes a crucial aim of therapy allowing the person to develop the capacity to recognise themselves and their emotional experience. A fragile sense of self that people with learning disability often have, together with the two-dimensional alliance (i.e. when there is no space to reflect and develop insightful interpretations) they often create makes understanding and interpretation difficult (Lee, in Simpson, 2004). There are many factors relevant to individuals with learning disability that make them more likely to be dependent on the therapist leading to a two-dimensional alliance.

The factors include the very term 'learning disability' which could be said to freeze the individual in the position of inferiority and dependence on others; a position considered lifelong, no matter how much personal progress is made (Simpson et al, 2004. p112).

Stavrakaki & Klein (1986) suggested that the therapist should use the therapeutic relationship as a secure relationship and a new experience in social learning for the client by being aware of negative countertransference feelings due to the client's sensitivity to non-verbal communications. It was suggested that negative countertransference may arise as a consequence of verbal language difficulties and therefore an assessment of the learning disabled client's receptive and expressive language should be done at the outset to guide the therapist in the use of verbal and non-verbal techniques. They suggested that directive techniques of suggestion, persuasion and reassurance should be used rather than non-directive methods.

Hurley, Tomasulo and Pfadt (1998) suggested various adaptations to overcoming the difficulties apparent in working with individuals that have intellectual limitations. These included simplifying therapy by reducing the usual technique in complexity; breaking down the interventions into smaller chunks, and having a shorter length of sessions. Furthermore, they suggested reducing the level of vocabulary, sentence structure and using shorter sentences and simpler words. They also recommended augmenting typical techniques with activities to deepen change and learning i.e. adding drawings. The developmental level needs to be integrated into the presentation of techniques and material (e.g. by using games and extra 'visual' guides) and their development regarding social issues needs to be assessed.

Directive methods are suggested for cognitive limitations as well as an outline of treatment goals, progress, and assigning homework or rehearsals at home with the help of staff or family who should be encouraged to help with change. Lastly, Hurley et al (1998) suggest that transference/countertransference will need to take into account that attachments can be stronger, quicker and that the therapist's reactions can be similar to the parental view. They suggest rehabilitation approaches should address issues of disability within treatment and support a positive self-view.

Conclusion

Although systemic and psychodynamic therapies are used more widely than ever before with individuals with learning disability, there are many potential challenges. These include the primary issue of dependency which is perhaps more relevant to this client group than to others. The psychodynamic perspective holds that the term learning disability itself renders the person in a position of inferiority and dependence. The systemic approach would add that if the position of dependence has been the most familiar one to a person it will lead the therapist into a constant struggle to reach a balance between giving the individual a voice and not perpetuating the stigmatisation and scapegoating that may already be a problem in the system versus not alienating the family or wider system. The therapist will need to be mindful of the power shifts at all times. The issue of dependency can have implications for the therapeutic relationship, transference/counter-transference i.e. what the individual with learning disability may engender in the therapist due to the projections of their parents and societies treatment as well as endings which may trigger grieving.

The psychodynamic idea of a fragile sense of self and the two-dimensional alliance makes reflection and interpretation difficult. This may occur more often for those with learning disabilities because their lives are more often marked by abandonment, abuse, social stigmatisation and inadequate development of coping mechanisms that in turn result in fragile emotional states. These factors again relate to dependency where the therapist and client become stuck in an alliance where there is no capacity for meaning. If the individual is therefore considered to be at an increased risk of having less ability to contain their feelings it becomes difficult for the psychodynamic therapist to know how much they should challenge the defences of and make interpretations of these individuals' processes, as the risk may be a catastrophic and perhaps overwhelming anxiety.

There are however many suggestions for dealing with the challenges involved with working with this client group, including using reflection and supervision (i.e. a reflective team in systemic work) to balance the different voices or agenda's, enabling the individual to participate by simplifying language and using the idea of scaffolding where the individual moves at their own pace, step by step (Vygotsky, 1978). Communication can be through drawing, showing, writing, using photos, videos and objects rather than only verbal.

Finally more research is needed in the use of both therapies both to elucidate better ways of applying these approaches to best meet the needs of this group and to ensure government funding is made available to continue this work.

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Small Scale Service Related Project

How Multi-disciplinary Staff View Ward Rounds

Student number: 05108136

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ABSTRACT

Aim:

The aim of this study was to explore staff views about the meetings where each inpatient's care is discussed, long-known as 'ward rounds'.

Method:

The study ascertained the views of staff members from different professional groups (i.e. psychology, psychiatry, nursing and social work and occupational therapy) regarding:

1. How ward rounds should best be conducted
2. How they function currently

A questionnaire was devised based on a ward round code, Open Mind (1997), recognised by the Department of Health in 2003 as 'good practice'.

Results:

The standards taken from the best practice guidelines were rated as either 'very important' or 'quite important' by:

- 95% of Clinical Psychologists
- 89% of Social Workers and Occupational Therapists
- 84% of Nurses
- 79% of Psychiatrists.

As regards, how ward rounds in the trust are conducted, this appears variable. For example:

- 42% said that there was a named person responsible for the smooth running of the ward round and 42% said that there was not
- 35% said that an explanation regarding confidentiality is given and 35% said that it is not

- 36% stated that voluntary attendance was explained and 36% said that it was not

Discussion:

The study highlighted that the trust does not have best practice guidelines for their ward rounds despite staff rating standards for them as important. The guidelines referred to in this study have been approved by the Department of Health. The development and use of such guidelines aims to make the meetings less intimidating and more respectful of the individual at the heart of them. The results from this study suggest variability in how ward rounds are conducted. As this is not audited we cannot know whether such variability is beneficial to service users or staff. Therefore it may be useful to adopt/adapt these best practice guidelines and audit their efficacy.

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INTRODUCTION

Background

‘Ward rounds’ are held in a wide variety of physical and mental health settings. Their primary function is to communicate and make decisions about the service user’s/patient’s care (Baker, 2005). Baker’s study looked at how staff and patients view ward rounds in a forensic setting and concluded on commonalities in the views of the patients and professionals as regards how ward rounds can work best. However, although there has been some research that has considered ward round best practice by ascertaining the different professionals’ and patients’ points of views, e.g. Wolf (1997) and Baker (2005), there has been no research that has looked specifically at whether multi-disciplinary views regarding ward rounds differ i.e. whether members of one professional group hold different views to others they work with.

Baker (2005) found that the majority of both users and staff expressed negative feelings about ward rounds, with just under 40% of users feeling anxious and 16% angry. Of the staff that participated, 45% felt frustrated, angry or bored. Feeling ignored, medical dominance and concern for the experience of the service user were cited as the reasons for the way staff felt. Staff suggested that there was a need to redefine ward rounds as a truly multi-disciplinary rather than medically led activity, including changing the name of the meeting and rotating the chairing. The recommendations from the service users included increasing the amount of time that they had in ward round, being given appointment times, being more involved in discussions perhaps by being present throughout the meeting, and having the opportunity to meet with their consultant outside of the ward round. Moreover, inviting other people involved in their care i.e. advocates to be part of the meeting and being offered refreshments were also suggested.

Individual authors from different professional disciplines have published opinions regarding ward round practice. One article in the form of a letter written by a consultant psychiatrist expressed very negative views about the way ward rounds are conducted highlighting the lack of a pharmacist in many mental health ward rounds and the emotional effects on the patients, (Palin, 2005). In another study the nursing team in a paediatric hospital expressed dissatisfaction with many aspects of the ward round, (Birtwistle, 2003). Birtwistle's article highlighted that the perceived inequality of roles in ward rounds is not confined to psychiatry, reporting that nurses expressed dissatisfaction with many aspects of the surgical ward round. There were numerous additional articles that highlighted the experience of nurses not feeling able to participate in decision-making activities in ward rounds due to the dominance of doctors e.g. Manias (2001).

Another suggestion about how ward rounds can best be conducted was to have a communal ward round in which all available staff and all the team inpatients (usually between six and ten) attend, (Price, 2005). This had been piloted and the advantages included saving time as welcoming/introductions and explanations of drug actions, side effects and other matters, which often affect more than one patient, only had to be done once. Moreover, patients did not feel as anxious because no-one had to go in and confront the team alone and no-one had to wonder whether they would be summoned at all. It was also found that the individual could hear the view of their fellow patients and that this was often more powerful than the advice of the staff. The disadvantages included problems with confidentiality e.g. the fact that it was not judged appropriate for family members to attend, meaning they were seen separately. The author found that most patients preferred the communal meetings, however this may have been because the unit was run on group lines and that if this were not the case the patients may not have been as receptive.

Certain professionals have been found to be under-represented in ward round attendance e.g. psychology and pharmacy services, (Hodgson, 2005). Therefore the views of these professionals may not be as recognised and it remains unknown whether they differ from other professionals.

Furthermore, there is evidence that therapists, social workers and nurses can be reluctant to voice their opinions in multi-disciplinary teams and thus conformity may dominate the culture (Atwal and Caldwell, 2005). This may be a potential problem with ward rounds as multi-disciplinary collaboration is seen as vital for co-ordinating patient care. Difficulties achieving such true collaboration may be due to competing ideologies and aims, inequalities in power relations, communication and role confusion between the different professionals (Caldwell, 2003).

A study which examined the experiences that carers of people with dementia had of inpatient ward rounds in an old-age psychiatry service found no difference in stress levels for spouses than other carers. Most carers found attending the ward round was a positive experience although they needed to know more about the purpose and composition of the ward round in advance (Bains and Vassilas, 1999).

Various factors have been identified as necessary for an atmosphere of care and respect between mental health service users and their multi-disciplinary support teams (Wolf, 1997). These can be divided under the following headings:

- 1) Preparation for the meeting i.e. appropriate information needs to be given to the service user in advance
- 2) Only the people that need to be present should attend
- 3) Appointment times should be given and punctuality adhered to
- 4) Seating arranged so that the service user is part of the circle not in the centre of it
- 5) Refreshments offered to staff should also be offered to patients
- 6) Questioning should be done in a respectful manner by the appropriate person
- 7) The teams should monitor the adherence to best practice guidelines

The ward round code published by Open Mind, (Wolf, 1997), was put together by the service users that were part of the user group based on their experiences of ward rounds. The aim was to compose a list of how these and similar meetings could be made less intimidating and more respectful of the individual at the heart of them.

Aim of current project

This study will therefore aim to ask the different professionals that are involved in the ward rounds in the locality to complete a questionnaire. There are no ‘best practice’ guidelines regarding ward rounds available from where the data was collected (the North Essex Mental Health Partnership NHS Trust). Therefore best practice guidelines originally put together by Westminster user groups and published by Open Mind (1997), were sought for assistance. This ward round code was recognised officially by the Department of Health in 2003 as “good practice”. Furthermore, this code has become trust policy in various trusts (including Brent, Kensington, Chelsea and Westminster Mental Health NHS Trust) and has been presented to the all party parliamentary group for mental health, House of Parliament, where support was given.

The study aimed to explore the views of staff members from different professional groups i.e. Psychology, Psychiatry, Nursing and ‘Other’ which included Social Work and Occupational Therapy. Moreover, the study aimed to compare the views of the different professionals in order to ascertain whether there were commonalities or differences across professional groups. The author hypothesised that there would be differences in opinion regarding best practice of ward rounds.

Research questions

This study aims to answer the following questions:

1. What factors are considered most and least important in best ward round practice amongst the professionals?
2. Is there a difference in views regarding the above question across different professional groups?
3. What current practice did professionals observe at the last ward round they attended?
4. How do the professionals explain and elaborate their views in the qualitative information obtained in the comments section?

METHOD

Design

After consultation with the Trust R&D department, this small study was not considered to need ethical approval.

Questionnaire construction

A questionnaire was devised for the purpose of this study (see appendix 2) with reference to various key texts (e.g. Barker, Pistrang and Elliott, 1999). An attempt was made to keep item wording clear and simple, questions specific and single (i.e. no double barrelled questions) and thought was given to constructing the most reliable response scale. The questionnaire was anonymous but requested information about the professional's discipline, years in current service and type of service they worked in i.e. Adult or Older Adult Mental Health.

There were nineteen questions in the first part of the questionnaire asking how important the professional thought various ward round practices were. The nineteen points were taken from the main points of the best practice guidelines, (Wolf, 1997) (appendix 3).

The questionnaire asked about the importance of the following factors:

- refreshments being offered to patients
- thought being given to who the best person is to ask the patient questions
- not asking intimate questions
- patient presence throughout discussion of their care
- opportunity to see psychiatrist and other professionals outside of ward round
- structured agenda and holistic plan in place
- explanation of confidentiality and voluntary attendance
- each professional introducing themselves and explaining their reason for being there
- minimising the number of attendees
- facilitation of family and advocate attendance
- patient understanding purpose of meeting and an explanation offered

- appointment times given to all attending
- attendees seen on time
- a named person to be responsible for smooth running of ward round
- all professionals being present from the start

These questions were rated from 1 (not important) to 5 (very important).

The second part of the questionnaire consisted of twenty-one questions asking the participants to answer 'yes', 'no' or 'don't know' about how the last ward round they attended functioned. Again, the questions were based on the factors noted in the best practice guidelines, therefore asking about the same areas referred to in the first section. The questions were asked in relation to how the last ward round attended was conducted (appendix 3). The questions asked were:

- Do you feel the majority of patients understand the purpose of the meeting?
- Is the purpose of the meeting, its confidentiality and voluntary attendance explained to the patient beforehand?
- Do patients have the opportunity to choose whether they see the professional(s) at another time and setting?
- Do you feel that every effort is made to keep ward round staff numbers to a minimum?
- Does each staff member introduce themselves and clarify their reasons for being there?
- Is the attendance of family members, friends or advocates facilitated and encouraged on a regular basis?
- Are the patients and family attending given an appointment time and seen within 15 minutes of their appointment?
- Is there a named person responsible for overseeing the smooth running of the ward round?
- Do attendees of the ward rounds attend from the beginning and remain throughout?
- Are patients offered any available refreshments?

- Do all professionals decide who the most appropriate person is to ask certain questions before the patient is called in?
- Are patients often asked questions that take them into painful or intimate areas of their life?
- Is the length of the meeting adequate?
- Is the patient present throughout the whole discussion of their care?
- Is the name of the meeting reflective of its function?
- Is there a structured agenda based on a holistic care plan drawn up?

A comments section, with space for additional views to be expressed, was available at the bottom of the questionnaire.

Participants

The participants included the staff members that attended ward rounds and volunteered to complete a questionnaire. The professionals were from the Adult and Older Adult mental health services in North-West Essex. Some of these professionals worked only on the inpatient wards whilst others also worked in the community/outpatient service. Participants were divided into the following professional groups: Psychology, Psychiatry, Nursing and 'Other' (which included social work and occupational therapy). There were 40 participants in total.

Procedure

This study was not an audit as it did not analyse whether an identified standard set within the team had been met.

Data Analysis

Descriptive statistics were used to examine the questions to see whether the professional groups differed in their opinions regarding what aspects of a ward round were most important and what they entail. A Spearman rank correlation was also carried out to further elucidate any relationships between the professionals' opinions. A content analysis of the comments section in the questionnaire was undertaken to ascertain the main themes identified by the team members, (Krippendorff, 2004).

RESULTS

Forty professionals took part in this study. Two of these did not specify their discipline and so were not included in the descriptive analysis displayed in the table below.

Table 1 – Descriptives of sample

Discipline	Number	Mean years in service	Percentage that had read guidelines on ward rounds	Number from Older Adult Service	Number from Adult Service	Number from both Adult and Older Adult
Clinical psychology	8	2.6	60%	5	3	0
Psychiatry	10	2.6	20%	8	1	1
Nursing	15	7.97	20%	5	10	0
Other (social workers and occupational therapists)	5	8.2	0%	2	3	0

The mean years in service ranged from 2.6 to 8.2, with Clinical Psychology and Psychiatry having the same average years and 'Other' having the most i.e. 8.2 years. Most (75%) of the professionals had not read any best practice guidelines regarding ward rounds.

Question 1: What factors are considered most and least important in ward round practice amongst all professionals?

Table 2 – Percentages related to question 1 (missing values are not reported)

STANDARDS	Rated 5 (very important) or 4 (quite important)	Rated 3	Rated 2 (slightly important) or 1 (not important)
The patients and/or family attending are given an exact appointment time	97.5%	2.5%	0%
If a patient wishes to bring a family member, friend or advocate this should be facilitated and encouraged	97.5%	0%	2.5%
Each staff member introduces themselves and clarifies their reason for being there	95%	2.5%	2.5%
The patient understands what the meeting is for	95%	0%	2.5%
The purpose of the meeting is explained to the patient beforehand	90%	5%	5%
That confidentiality is explained to the patient beforehand	90%	10%	0%
Attendance by family is encouraged regularly	87.5%	10%	2.5%
For there to be a structured agenda based on a holistic care plan	85%	5%	7.5%
Thought is given to the most appropriate person to ask certain questions	85%	10%	5%
Patients are seen on time	82.5%	10%	5%
Service users have the opportunity to see the professionals at another time and setting	82.5%	2.5%	2.5%
The number of professionals is kept to a minimum	80%	12.5%	7.5%
There is a named person responsible for the smooth running of the ward round	80%	7.5%	10%
All professionals are present from the start	80%	5%	15%
That it is made clear to the patient that attendance at the ward round is voluntary	77.5%	17.5%	5%
The patient has the opportunity to see their consultant outside of the ward round	72.5%	10%	17.5%
Service users should not be asked questions which take them into painful or intimate areas of their lives	55%	20%	25%
The patient is present throughout the discussion of their care	45%	17.5%	37.5%
Patients are offered any refreshments present	27.5%	10%	57.5%

The highest rated factor is about the patient understanding what the meeting is for (77.5% rated it as 'very important'). The facilitation of bringing a family member or advocate is rated second highest (75% of the sample rating it as 'very important'). Thirdly, 70% rated the question regarding each staff member introducing themselves and clarifying their reason for being there as 'very important'. The fourth and fifth factors rated as 'very important' are the purpose of the meeting being explained to the patient beforehand (67.5%) and appointments being given to those attending (65%).

The least important rated factor was patients being offered refreshments, which was rated as 'not important' by 42.5%. That the patient is present throughout the discussion of their care was rated as 'not important' by 25% and that service users should not be asked questions which take them into painful or intimate areas of their lives was rated as 'not important' by 10%. The fourth least important factor was that all professionals are present from the start and this was rated as 'not important' by 7.5%.

Question 2: Is there a difference regarding which factors each of the four groups view as being most important?

The mean answer was calculated for each professional group; the higher the mean, the higher the importance i.e. 5 is 'very important', 4 is 'quite important', 3 is neither 'important' nor 'not important', 2 is 'slightly important' and 1 is 'not important'.

Figure 1 Ratings of importance of each factor – Clinical Psychology

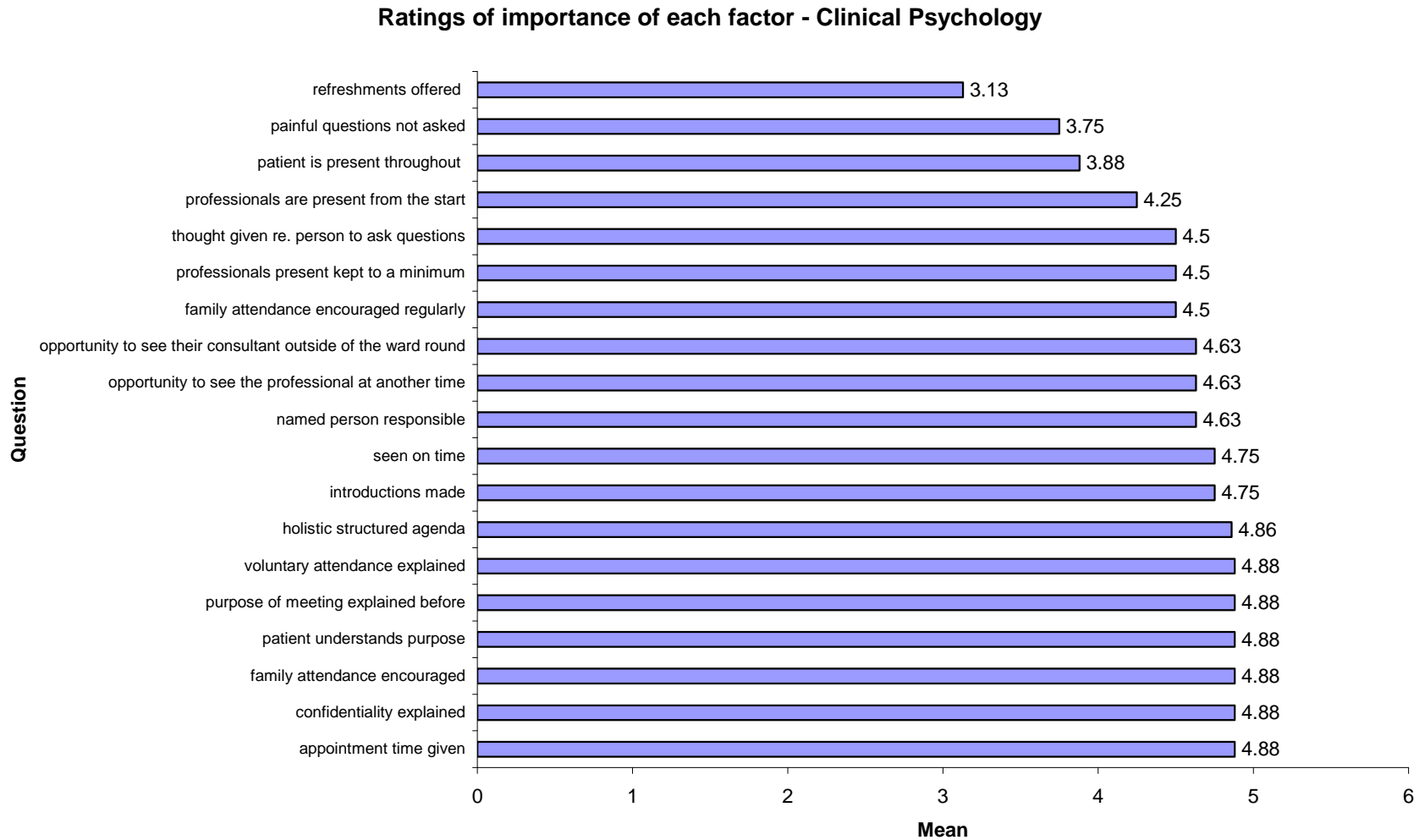


Figure 2 Ratings of importance of each factor - Psychiatry



Figure 3 Ratings of importance of each factor - Nursing

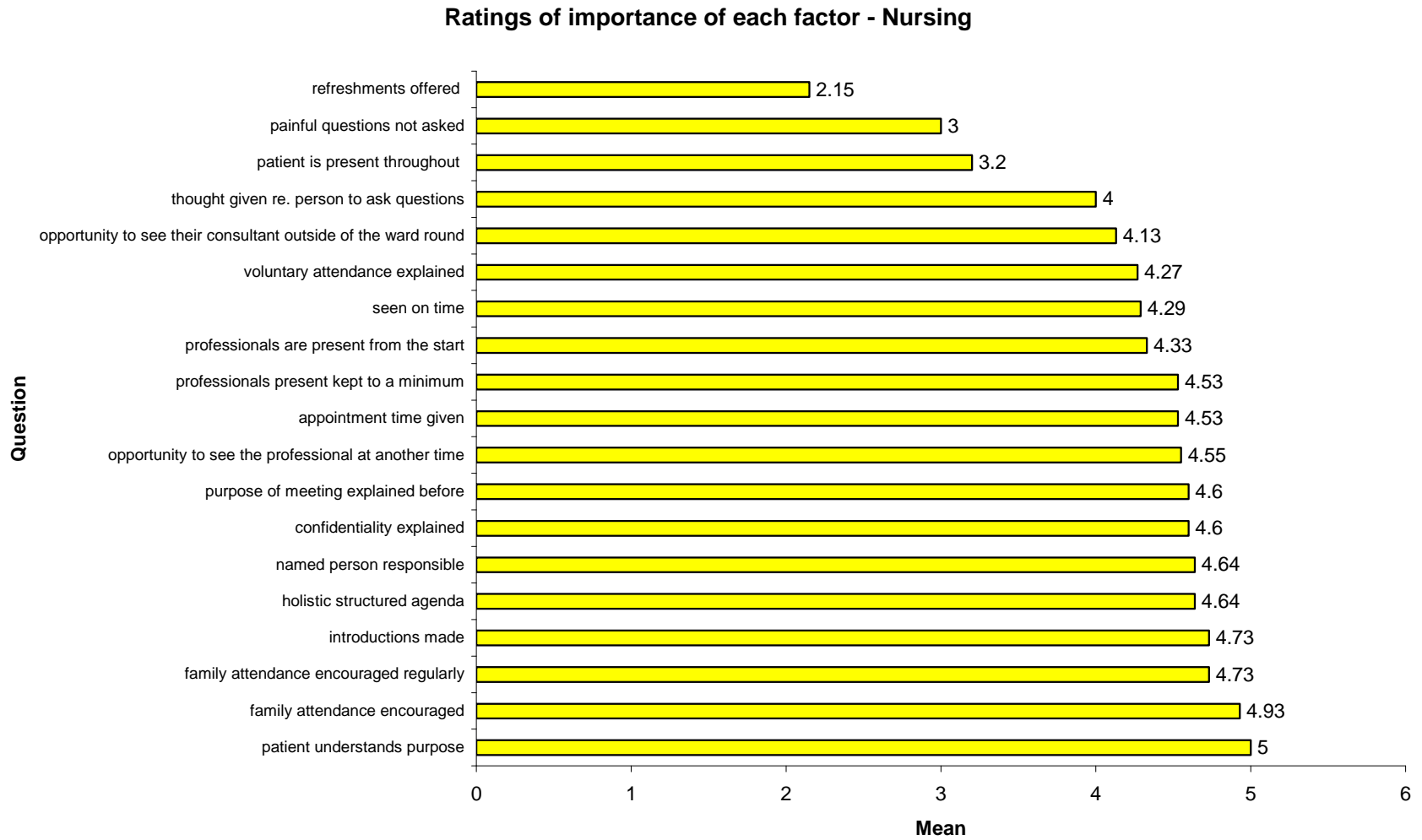


Figure 4 Ratings of importance of each factor – ‘Other’ i.e. Social Workers and Occupational Therapists



As can be seen from the above graphs, there appears to be a lot of similarity in how important each of the four disciplines rated each question.

The Clinical Psychology group appeared to rate more of the questions higher than the rest of the groups.

The factors rated the highest by Psychology were:

- The purpose of the meeting is explained to the patient beforehand
- Confidentiality is explained to the patient beforehand
- It is made clear to the patient that attendance to the ward round is voluntary
- If a patient wishes to bring a family member/friend/advocate, this should be facilitated and encouraged
- The patient understands what the meeting is for

Psychiatry rated the following five points the highest:

- Confidentiality is explained to the patient beforehand
- If a patient wishes to bring a family member/friend/advocate, this should be facilitated and encouraged
- The patient understands what the meeting is for
- The patients and/or family members attending are given an appointment time
- The patients are seen on time

Nursing rated the following five points as most important:

- For there to be a structured agenda based on a holistic care plan
- Confidentiality is explained to the patient beforehand
- The patients and/or family members attending are given an appointment time
- There is a named person responsible for the smooth running of the ward round
- The purpose of the meeting is explained to the patient beforehand

The 'Other' group rated the following five questions as the most important:

- Thought is given to who the most appropriate person is to ask certain questions
- For there to be a structured agenda based on a holistic care plan
- Each staff member introduces themselves and clarifies their reason for being there
- If a patient wishes to bring a family member/friend/advocate, this should be facilitated and encouraged
- The patients and/or family members attending are given an appointment time

Factors such as explaining confidentiality and encouragement of family members to attend were rated in the top five of importance by all four groups. That the patient understands what the meeting is for was rated in the highest five by Psychiatry and Psychology. The offering of an appointment time was rated in the top five in importance by all professional groups except Psychology and having a structured agenda featured highest for Nursing and the 'Other' group.

Table 3 – Spearman’s rank correlation coefficients

			Clinpsych	Psychiatry	Nursing	Other
Spearman's rho	Clinpsych	Correlation Coefficient	1.000	.980(**)	.981(**)	.977(**)
		Sig. (2-tailed)	.	.000	.000	.000
		N	19	19	19	19
	Psychiatry	Correlation Coefficient	.980(**)	1.000	.997(**)	.993(**)
		Sig. (2-tailed)	.000	.	.000	.000
		N	19	19	19	19
	Nursing	Correlation Coefficient	.981(**)	.997(**)	1.000	.992(**)
		Sig. (2-tailed)	.000	.000	.	.000
		N	19	19	19	19
	Other	Correlation Coefficient	.977(**)	.993(**)	.992(**)	1.000
		Sig. (2-tailed)	.000	.000	.000	.
		N	19	19	19	19

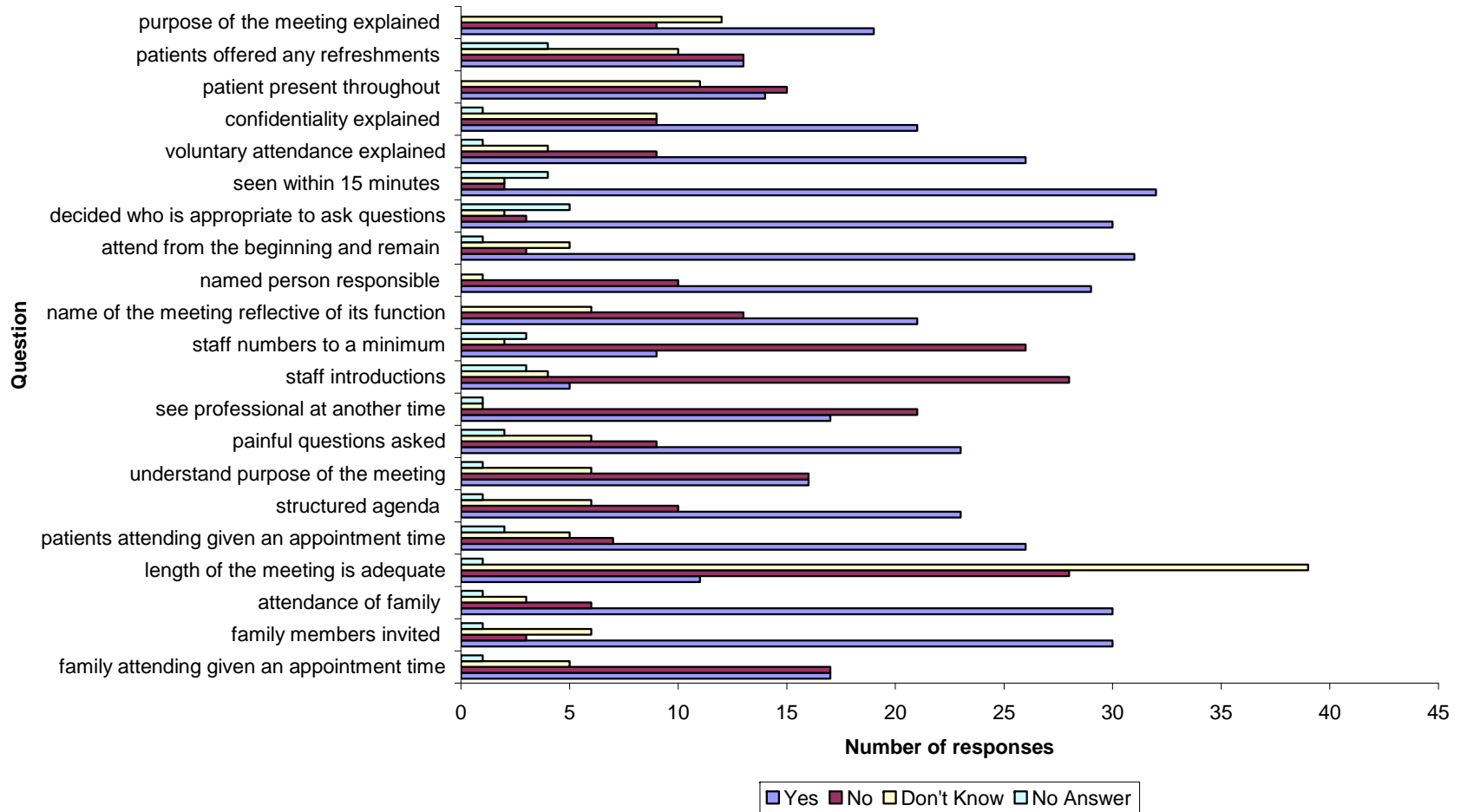
** Correlation is significant at the 0.01 level (2-tailed).

As can be seen from the above table, the four professional groups are similar in their rankings of the 19 factors. Clinical Psychology’s ranking of importance of the 19 factors was significantly associated with that of psychiatry ($r= 0.980$ $p= 0.01$), with Nursing (0.981 $p= 0.01$) and with ‘Other’ (0.977 $p= 0.01$).

Question 3: What current practice did professionals observe at the last ward round they attended?

Figure 5 shows how ward rounds are conducted in relation to the best practice guidelines. It appears that there is varying practice as regards having a named person responsible for the smooth running of the ward round, with 42% stating that this is the case and 42% stating not. Furthermore, the offering of an explanation regarding confidentiality and that attendance is voluntary also appears variable with 35% stating that confidentiality is explained and 35% stating that it is not and the remaining not knowing. Additionally, 36% stated that voluntary attendance was explained and 36% said that it was not with the remaining answering ‘don’t know’.

Graph showing views of professionals regarding factors present in ward rounds



Question 4: How do the professionals explain and elaborate their views in the qualitative information obtained in the comments section.

Content Analysis of additional comments

From the 38 professionals that took part in this study and specified their discipline, 24 added comments in the available section and 14 did not. The following themes were drawn out from the comments:

Theme 1 - Communication of respect

The availability of refreshments was mentioned by all four professional groups. The Clinical Psychology group suggested that offering service users refreshments is important because it is a way of communicating respect. Refreshments were also considered important for this reason by a Social Worker. The theme of conveying respect to the service users featured throughout the comments from the Clinical Psychologists e.g. listening properly to the service users' concerns or staff not entering or leaving the room whilst the patient is in the meeting room.

Theme 2 – Patients' involvement in their care

Both Psychiatry and Psychology noted that the amount the patient is able to understand and be part of their discussion depends on their cognitive abilities. In Older Adult mental health services the issue of dementia affects the sharing of information. Nursing members suggested that the multi-disciplinary team should meet without the patient being present and that this can avoid 'splitting' within the team.

Theme 3 – Medical dominance

Medical dominance was spoken about by the Clinical Psychology, Psychiatry and the Nursing group. A Clinical Psychologist noted that the purpose of ward round is to provide the Consultant with an opportunity to have contact with the patients under his/her clinical care. Furthermore, Nursing noted that ward rounds are not really holistic but dominated by the medical model.

Other comments from Nursing stated that the meeting should always be chaired by the Consultant Psychiatrist and that they are the best person to ask the necessary personal questions. It was also suggested by a Psychiatrist that the meeting was about them and the service user establishing a relationship, implying that this is the priority and adding that the ward round was “not a time for tea and biscuits”.

Theme 4 – Anxiety caused to the patient

There were comments about the anxiety caused to the patient by ward round attendance from members of all the professional groups. The ‘Other’ group related the level of anxiety to the number of professionals that attended. It was felt that too many professionals attended and that this led to more anxiety for the service user. From the Nursing group, comments included that there has been an observation on the ward of increased arousal and “difficult” behaviour whilst the ward round is taking place. The number of professionals attending the meeting was mentioned by various Clinical Psychologists. A dilemma was highlighted with regard to providing an opportunity for students to learn, with all members of the multi-disciplinary team involved, or keeping numbers to a minimum to prevent the service users feeling intimidated.

DISCUSSION

Summary of results

The number of professionals that took part in this study varied across the professional groups. This may represent the distribution of the different professionals within ward round attendance i.e. in the services the data was collected from there were normally three Psychiatrists (Consultant, Senior House Officer and Registrar Doctor), but social workers and occupational therapists that were grouped under 'Other' were underrepresented.

There was agreement about what the most important aspects of ward round best practice might be amongst the four groups. Explaining of confidentiality to the patient and the facilitation and encouragement of family attendance was rated by all four professional groups as important. Psychiatry and Psychology rated the patient's understanding of the meeting in the top five of importance. Psychiatry, Nursing and 'Other' agreed that offering patients an appointment time was important and Nursing agreed with the 'Other' group that having a structured agenda was 'very important'. However, the ratings of their last ward round they attended differed regarding the items of confidentiality and whether voluntary attendance was explained to the patient. This may be because confidentiality and voluntary attendance is only explained once when the patient is first admitted and possibly at the first ward round and not thereafter. The questionnaire specifically asked participants to answer the questions in relation to the last ward round that they attended which may not have been any of the patients' first.

The Psychiatry and Nursing group rated offering refreshments and the patient being present throughout the discussion of their care with lowest importance. In fact, there was agreement amongst all professional groups regarding the low importance of offering refreshments to the patients during the ward round compared with the other factors.

However, the comments section involved some discussion by Psychology and 'Other' as to how offering refreshments can be a way of conveying respect to the service user and therefore can be important. The 'Other' group rated the question regarding having a named person responsible for the running of the ward round as least important.

The comments section demonstrated that participants had different views regardless of professional group e.g. one nurse's comment suggested that the ward round should be more holistic and less medically dominated whereas another nurse suggested that ward rounds should only involve the medical team, with multi-disciplinary meetings held at another time, and that the Consultant Psychiatrist should chair.

Another reason for a difference in what factors the professionals deemed important is that the best practice guidelines used for this study were originally put together by a service user group whose perspective may be different. For example, with regards refreshments, some nurses' comments expressed the likelihood of refreshments being used as weapons. This perspective would be different to the service users that would have been focusing on making the guidelines empowering.

Methodological issues and limitations

The questionnaire that was devised specifically for this study was not sufficiently piloted due to time and sample constraints. Piloting was done by asking a few Psychologists to complete the questionnaire although further piloting may have enabled an improvement in the wording. For example, one of the questions in the second part of the questionnaire asked two questions in one when asking if patients and their family/friends are seen within 15 minutes of their appointment, i.e. not separating patients from family, when one may be more likely to be seen on time than the other.

Due to the small sample size in each professional group, we were not able to statistically analyse the data further. Moreover, two professionals did not adequately complete the details about their discipline, thus reducing the data.

Additional research could consider a larger sample and further explore any differences in opinion regarding the function of ward rounds across different professional groups.

Clinical and service implications

Offering appointment times to patients as well as their invited members was rated as important. This may serve to decrease any problems on the ward for the nurses whilst the ward round is taking place. In the comments section it was stated that the ward is harder to manage during ward rounds, perhaps due to the patients' level of anxiety prior to being summoned. Explaining confidentiality and making sure that the patient understands what the meeting is for was also seen as important and there were some differences in views regarding whether this was taking place. When, how and by whom this information should be conveyed may need to be decided.

Having a structured agenda was viewed as very important by the Nursing and 'Other' groups and was also commented on by Psychology. The agenda will depend on how multi-disciplinary and genuinely holistic the role of the ward round is. Some comments revealed that the ward round is medical and should remain that way with a separate multi-disciplinary team meeting being held where all professionals can be involved in the discussion of patients' care. Comments regarding the function of the ward round being medical (i.e. for the Consultant to have contact with the patients under their clinical care, a factor noted by both Psychology and Psychiatry) all highlight how ward rounds are not truly holistic. Piloting of a holistic 'ward round' or meeting to serve the purpose of discussing the service users' care could be useful. This could then be audited so that patients and staff could report on whether this does work better.

It is apparent from this small study that opinions regarding the importance of the factors in the best practice code published by Wolf, (1997) are thought to be important by all the professional groups with significant consensus about the most important points. In practise, not all of the important guidelines are consistently adhered to. It may therefore be useful for all Trusts to employ a code of best practice for such meetings that can then

be audited. Furthermore, it may be useful to consider the questions addressed by this paper using a larger sample size.

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APPENDICES

Appendix 1:

INFORMATION SHEET 12th July 2006

How Multi-disciplinary Staff View Ward Rounds

You are being invited to take part in a service related project. Please take time to read the following information carefully. Ask me if there is anything that is not clear or if you would like more information.

Thank you for reading this.

What is the purpose of the study?

This Questionnaire was devised for the purpose of a small-scale service related project conducted as part of the Doctoral course in Clinical Psychology at Hertfordshire University. It aims to find out what aspects of a ward round different professionals think are most important. There has not been any prior research to date that has considered whether there are differences between professional groups in their opinions regarding the way ward rounds are conducted and how best they could be conducted.

Why have I been chosen?

I will be asking all professionals that attend a variety of ward rounds to complete the brief questionnaire.

Do I have to take part?

Of course participation is completely voluntary.

What will happen to me if I take part?

The information you supply will not include your name and therefore will be anonymous. You will be asked to complete a questionnaire that I constructed based on guidelines used in Brent Kensington Chelsea Westminster Mental Health Trust. The questions are divided into two parts. The first part asks *How Important* you rate certain aspects and the second part asks *how the ward round that you LAST attended was carried out*. Both parts cover the same areas so may appear similar. Please write comments about any of the questions in the comment section at the bottom or if the space provided is insufficient continue overleaf.

Who is organising the project?

The project is being organised and carried out by Helen Eracleous, Trainee Clinical Psychologist.

What will happen to the results of the research study?

The results will be written up and submitted to university and a copy left with the teams that take part. This project has been reviewed by the Trust's Clinical Audit and Effectiveness Group.

Contacts for Further Information: Helen Eracleous. helen.eracleous@nempht.nhs.uk or call Liz McLarnon (Secretary MHU) 01279 827488

Thank you for taking part in this study.

How Multi-disciplinary Staff View Ward Rounds

This Questionnaire was devised for the purpose of a small-scale service related project conducted as part of the Doctoral course in Clinical Psychology at Hertfordshire University. It aims to find out what aspects of a ward round different professionals think are most important. It will also ask you to comment on the running of the ward round(s) you attend. The information you supply will not include your name and therefore will be anonymous.

Discipline:

Years in current service (approximately):.....

Service: Please circle

Older adults

Adults

Do you know of any best practice guidelines for ward round meetings?

Yes

No

Please rate the following using the scale:

HOW IMPORTANT IS IT THAT:-	1 Not important	2 Slightly important	3 Neither	4 Quite important	5 Very important
1. Patients are offered any refreshments present?					
2. Thought is given to who the most appropriate person is to ask certain questions?					
3. Service users should not be asked questions which take them into painful or intimate areas of their lives?					
4. The patient is present throughout the discussion of their care?					
5. That the patient has the opportunity to see their consultant outside of the ward round?					
6. For there to be a structured agenda based on a holistic care plan?					
7. That confidentiality is explained to the patient beforehand?					
8. That it is made clear to the patient that attendance to the ward round is voluntary?					

HOW IMPORTANT IS IT THAT:-	1 Not important	2 Slightly important	3 Neither	4 Quite important	5 Very important
9. Service users have the opportunity to see the professionals at another time and setting?					
10 The number of professionals present is kept to a minimum?					
11 Each staff member introduces themselves and clarifies their reason for being there?					
12 If a patient wishes to bring a family member/friend/advocate this should be facilitated and encouraged?					
13 The patient understands what the meeting is for.					
14 Attendance by family etc is encouraged regularly?					
15 The patients and/or family members attending are given an appointment time?					
16 The patients are seen on time?					
17 There is a named person responsible for the smooth running of the ward round?					
18 All professionals are present from the start?					
19 The purpose of the meeting is explained to the patient beforehand?					

<i>Please answer the following questions about the LAST ward round that you attended:</i>	Yes	No	Don't know
20 Do you feel the majority of patients understand what the purpose of the meeting is?			
21 Is the purpose of the meeting explained to the patient beforehand?			
22 Is confidentiality explained to the patient beforehand?			
23 Is voluntary attendance at the ward specified to the patient?			
24 Do patients have the opportunity to choose to see the professional at another time and setting?			
25 Do you feel that every effort is made to keep ward round staff numbers to a minimum?			
26 Does each staff member introduce themselves and clarify their reasons for being there?			

	Yes	No	Don't know
28 Are the patients attending given an appointment time?			
29 Are the family members attending given an appointment time?			
30 Are patients and their family/friends seen within 15 minutes of their appointment?			
31 Is there a named person responsible for overseeing the smooth running of the ward round?			
32 Do attendees of the ward rounds attend from the beginning and remain throughout?			
33 Are patients offered any refreshments present?			
34 Is it decided by all before the patient is called in about who the most appropriate person is to ask certain questions?			
35 Are patients often asked questions that take them into painful or intimate areas of their life?			
36 Are family members invited on a regular basis?			
37 Do you think the length of the meeting is adequate?			
38 Is the patient present throughout the whole discussion of their care?			
39 Is the name of the meeting reflective of its function?			
40 Is there a structured agenda based on a holistic care plan drawn up?			

Please add comments on any of the above:

.....

.....

.....

.....

.....

A CODE OF GOOD PRACTICE FOR MEETINGS WITH SERVICE USERS (e.g. Ward Rounds and CPA Meetings)

This Code is for the benefit both of mental health service users and their multi-disciplinary support teams. It sets out the conditions necessary for an atmosphere of care and respect to flourish.

The Code applies to all multi-disciplinary meetings, ie ward rounds, Section 117 meetings, CPA meetings. Since CPA meetings usually take place in the community and the term “service user” is now widely accepted for people with mental health problems living in the community, the code will use that term throughout. For people in hospital the term “patient” would of course apply.

PREPARATION FOR THE MEETING

Thought should be given at all times to the service user’s comfort and dignity.

The Primary Nurse/Key worker should explain beforehand what the meeting is for. The service user’s right to confidentiality should also be explained.

It should be made clear that a service user’s attendance at a CPA meeting or ward round is voluntary.

Service users may choose instead to meet one of the professionals involved in the team, either beforehand or afterwards.

Service users should also have the opportunity to see that professional in a different setting if they so choose.

On the other hand, if a service user is not admitted to his/her ward round or CPA meeting, the reasons for this should be given.

PEOPLE PRESENT

Professionals: the number of professionals present should be kept to a strict minimum - say, three or four. All workers present at the meeting should be introduced to the service user and their reason for being there should be explained. The reason should always be for the service user’s benefit.

Advocates/Family Members: Should a service user wish to bring a family member, friend or an advocate to the meeting, this must be facilitated and encouraged. The service user should inform the meeting beforehand.

Students: students should attend the ward round only with the service user’s permission.

APPOINTMENT TIMES

Each service user should be given an appointment time, as well as relatives or other key individuals who are expected.

The times given should be adhered to as closely as possible. When this is difficult, good practice would be for service users to be seen within fifteen minutes of their stated appointment.

There should be a named person responsible for facilitating the smooth running of appointments. In the case of Ward Rounds, this person's name should be recorded above the list of appointment times.

If there are delays longer than fifteen minutes, an apology should be given as early as possible to those still waiting and they should be told how long they might expect the delay to be.

PUNCTUALITY

Meetings should start on time and all professionals involved should aim to be present from the start. Latecomers should only be admitted if they are expected and they should be introduced to the service user. They should apologise for their lateness and explain it. Professionals who have to leave early should explain the reason for their departure and time it in such a way as to cause the least possible disruption.

SEATING

Seating should be arranged so that the service user is part of the circle, not at the centre of it. The ward round should be conducted in a way that ensures the service user feels as much part of a discussion as possible, rather than at the centre of a cross-examination.

REFRESHMENTS

Where refreshments have been provided for staff, service users should be offered refreshments too.

QUESTIONS

Questions should be asked in a respectful manner. Thought should be given as to who is the most appropriate person(s) to ask those questions in each case - it should not automatically be the psychiatrist.

Service users should also speak to their multi-disciplinary team in a respectful manner.

The service user's mental or emotional state should not be insensitively examined in public and amongst strangers with tests which lower his/her dignity.

Questions to which workers already know the answer should not be asked.

Unless it is judged to be absolutely necessary, service users should not be asked questions which take them into painful or intimate areas of their lives.

MONITORING/EVALUATION

The Code can be monitored by Advocacy Workers and through Audits. Equally, it can be monitored regularly by the teams themselves, who can support each other in ensuring it is followed.

This code was developed in close consultation with the North Westminster Forum (NWF) and South Westminster User Involvement Group (SWUIG). The version presented here supersedes the one adopted at the Paterson Centre in Paddington, London, and published in "Open Mind." in

1997. It presently operates in South Westminster and will soon be implemented across the whole of BKCW Mental Health NHS Trust. It is currently displayed on the website of the Sainsbury Centre for Mental Health. www.scmh.org.uk. The process that led to the instituting of the Code was facilitated by Rogan Wolf, Secretary of Hyphen-21, a registered charity that seeks to support the connections of community, chiefly through promoting good practice in health and social care. Its web-site is www.charts.force9.co.uk

PROPOSALS FOR IMPLEMENTING THE MEETINGS CODE

- That the code recognised and agreed as being the best available should be instituted methodically and as widely as possible, rather than a range of different versions be applied piece-meal.
- That it should be instituted in such a way as to ensure that all staff and all patients are kept aware of it (bearing in mind staff and patient turn-over).
- That its effective practice should be encouraged and underpinned not just by Audits and Directives, but by a Trust requirement that all psychiatric and Community mental health teams should review their practice in ward rounds, CPA and other meetings on a regular basis, with a view to taking shared and multi-disciplinary responsibility for ensuring the Code is upheld.
- There should also be training input, with the Code made part of Induction packages, to enable new staff to be introduced to the code as something more live than just words on paper, and to enable some psychiatrists who favour the code to present its benefits to colleagues who are sceptical (this last idea was suggested by a psychiatrist).
- That Healthcare Trusts should state a position on the “Own Space” model advocated in Strathdee’s paper, which advocates the effective dismemberment of the traditional ward round, and should require each of their psychiatric and sector teams to begin to move towards this or a similar model, reviewing its progress on a regular basis, always ensuring that that progress remains in accord with the precepts outlined in the Meetings Code attached.

Rogan Wolf

Literature Review

Body Image, Disordered Eating and Emotional Processing In Adolescent Females

Student number: 05108136

Word count 5038

Introduction

This review will provide a summary of the literature concerning disordered eating, body image and emotional processing. Emotional processing will be explored primarily from an Acceptance and Commitment Therapy (ACT) perspective due to the particular interests of the author. The review will concentrate on the Western adolescent female population as regards disordered eating and body image as the areas outside of this are too wide to be covered here. Definitions and descriptions of the concepts will precede further discussion and critical evaluation of the most relevant available literature. This review will examine the potential effects of disordered eating and, therefore, why it is worth studying. Furthermore, the relationship between disordered eating and body image and their relation to emotional processing will be considered. Due to the scope of this review, risk factors and protective factors for disordered eating will not be covered in depth.

Disordered eating

Disordered eating will be defined and relevant prevalence studies considered in brief before exploring the value of studying disordered eating.

Different studies operationalise disordered eating slightly differently depending on what measures they use, but most consider behaviours to include:

- 1) Unhealthy dieting such as severe caloric restriction, the use of meal supplements for weight loss or skipping meals
- 2) Unhealthy eating such as consumption of large quantities of high fat foods
- 3) Anorexic and bulimic behaviours such as laxative, diuretic and diet pill use, binge eating, exercising obsessively and self- induced vomiting

(Jones, Marion, Bennett, Olmsted, Lawson and Rodin, 2001, Neumark-Sztainer, 2005).

Prevalence studies across Europe, the U.S.A and Canada have concluded that there is a high prevalence of disordered eating as defined above. Jones, et al (2001), found 23% of 12-18 year olds in their Canadian sample reported current unhealthy dieting to lose weight. The disordered eating behaviours reported in Jones, et al's (2001) study included binge eating, with associated loss of control, (15%), self-induced vomiting (8.2%), diet pill use (2.4%), laxative misuse (1.1%) and diuretics (0.6%).

In the U.K, MIND (a mental health charity) reported that one in 20 females will have unhealthy eating habits and that most will be aged 14-25 years old. However, most prevalence studies from the U.K reported on eating disorders that looked at clinical populations rather than disordered eating. Disordered eating includes behaviours that make up the eating disorders Bulimia Nervosa (BN) and Anorexia Nervosa (AN), but that do not meet these diagnoses.

Croll, Neumark-Stainer, Story and Ireland (2002) conducted a large prevalence survey with 40,640 adolescent females in the U.S. Fifty-six per cent of 9th-grade females reported disordered eating behaviors, with slightly higher rates among 12th-grade females (57%). Fasting or skipping meals were the most commonly reported behaviours, followed by smoking cigarettes to control weight. Additional methods commonly reported included taking diet pills, laxatives and vomiting. The figures reported for vomiting (2% to 25%), laxative use (1.6% to 2.5%) and binge-eating (25% to 34%), vary somewhat from other studies. It was suggested that this was likely due to the differing time frames in questions assessing occurrence of behaviors from "during past 7 days" to "ever".

The prevalence studies consistently indicate that around 30-50% of adolescent girls are weight dissatisfied or dieting, e.g. Devaud, Jeeannin, Narring, Ferron & Michaud, (1998) in Switzerland, Sasson, Lewin & Roth, (1995) in Israel, and Perezmitre, (1997) in Mexico.

These studies are cross-sectional and therefore do not assess the progression of symptoms over time. They do not use structured diagnostic interviews to diagnose eating disorders, but instead use self-report measures which may lead to an underestimation of symptoms of eating disorders.

Disordered eating in adolescents

Epidemiological data suggest that the period of peak risk for developing eating disorders and disordered eating is during adolescence and early adulthood (Hudson, Hiripi, Pope, and Kessler, 2007). Early adolescence has been identified as a vulnerable time for girls to develop disordered eating or eating disorders because of the normative challenges associated with that period of development (e.g., physical changes associated with puberty, increased desire for peer acceptance and onset of dating), (Smolak, Levine, & Striegel-Moore, 1996). It is therefore considered important for research in the area of eating to explore this age group, (e.g. Jones et al, 2001).

The studies identified below have looked at non-clinical samples of adolescent females from secondary schools. Studying disordered eating behaviours, instead of looking for eating disorders per se, and using non clinical samples of adolescents has enabled researchers to consider the consequences of disordered eating during adolescence. In addition it may allow for a transdiagnostic perspective where processes involved (e.g. emotional) can be considered across eating problems.

The utility of studying disordered eating will be explored below in presenting the studies that have looked at the effects of disordered eating in adolescent females.

Why is disordered eating a problem worth studying?

The behaviours involved in disordered eating have been found to lead to negative outcomes.

For example, the use of appetite suppressants, laxatives, vomiting and binge eating, have been found to predict a threefold increase in the risk of obesity in adolescent girls (Stice, Cameron, Killen, Hayward and Taylor, 1999). Stice, Presnell, Shaw and Rohde (2005), also found that participants with elevated dietary restraint scores showed an increased risk for obesity onset.

Field, Austin, Taylor, Malspels, Rosner, Rocreat, Gillman and Colditz (2003), also concluded that for many, dieting to control weight can instead lead to weight gain and identified mechanisms through which this occurs. Their suggestions included that dieting may result in an increase in metabolic efficiency; thus, dieters over time may require fewer calories to maintain weight and lead them to gain weight when they consumed a diet that previously had been effective for maintaining their weight. Alternatively, weight gain may result from restrictive dieting as this is rarely maintained for an extended period of time. Dieting, therefore, may lead to a cycle of restrictive eating, followed by bouts of overeating or binge eating. Therefore, it would be the repeated cycles of overeating between the restrictive diets that would be responsible for weight gain (Stice, 1996).

Blundell (1995) argued that “dieting results in an erratic delivery of nutrients with aberrant triggering of physiological responses, which leads to a de-synchronisation between behavior and physiology” (Stice, 1999, p972). This dys-regulation of the normal appetite system is thought to promote weight gain because biological regulatory processes oppose under-eating but not overeating. Also, an overeating tendency may increase the likelihood that a person will engage in weight-control strategies and may ultimately result in obesity onset despite the weight-control efforts. This interpretation would suggest that self-reported weight control behaviors are simply a proxy measure of a tendency toward over consumption.

The effects of becoming overweight and obese in adolescents or adulthood have much researched physiological, psychological and social implications.

Obesity can present an increased risk of high blood pressure, adverse lipoprotein profiles, diabetes mellitus, coronary heart disease, atherosclerotic cardio/cerebrovascular disease, colorectal cancer as well as completion of fewer years of education, higher rates of poverty, lower marriage rates (Dietz, 1998) and lower self esteem (Miller and Downey, 1999).

As well as the potential risk of becoming overweight or obese, the converse has also been found. Adolescents who diet even when they have a normal body weight can threaten their nutritional status leading to large amounts of fat being lost, amenorrhea, ketosis, reduced body mass, reduced lean muscle tissue, reduced basal metabolic rate, fatigue, irritability, insomnia, lack of concentration, and growth failure (Mallick, 1983). Patton Selzer, Coffey, Carlin, and Wolfe, (1999) in their large longitudinal study, found that adolescent females who dieted at a severe level were 18 times more likely to develop an eating disorder than those who did not diet. Those who dieted at a moderate level were five times more likely to develop an eating disorder.

Kotler, Cohen, Davies, Pine and Walsh (2001) followed 800 children and their mothers over a 17 year interval and found that early adolescent bulimic symptoms were associated with a 9-fold increase in risk for late adolescent bulimia and a 20-fold increase in risk for adult bulimia. Late adolescent bulimia was associated with a 35-fold increase in risk for adult bulimia. The risk factors this study identified for the later development of eating disorders included eating conflicts, struggles with food and unpleasant meals in early childhood. Kotler et al's (2001) study adds to the literature that demonstrates that those with disordered eating or sub-clinical levels of eating disorders in adolescence are more likely to develop an eating disorder.

The above studies demonstrate that disordered eating may increase one's risk of developing an eating disorder or becoming overweight/obese. Both these extremes involve biological, psychological and social complications. This literature suggests that understanding disordered eating and the psychological mechanisms involved is vital in the prevention of obesity and eating disorders.

The next part of this review will explore the relevance of body image to the understanding of disordered eating before linking this with emotional processing.

Body image

Body image will be defined and the problems with negative body image/body image dissatisfaction, and its relation to disordered eating and emotional processing, will be considered.

Body image dissatisfaction is defined as subjective dissatisfaction (negative thoughts and feelings) with one's physical appearance and is associated with disordered eating (Littleton and Ollendick, 2003). Of the correlates, protective factors and risk factors identified in disordered eating research, body dissatisfaction is recognised as the single strongest predictor of eating disorder symptomatology among women (Polivy and Herman, 2002). Adolescent females reporting disordered eating had a significantly higher concern for appearance, (Croll et al, 2002). In Croll et al's (2002) study, 73% reported having strong appearance concerns, compared with 39% of females not reporting disordered eating.

High levels of body dissatisfaction have been found to be common among western females. To illustrate, Williams and Currie (2000) sampled over 1,800 Scottish schoolgirls and found 45% of the 11-year-old girls and 54% of 13-year-old girls were dissatisfied with their body size. A UK study of 609 schoolgirls aged 15-16 revealed that 56% of girls 'felt too fat' and had used some form of weight control strategy. Interviews confirmed that those showing unhealthy eating behaviour in the questionnaires did indeed show greater eating pathology as well as lower self-esteem and greater levels of global self-dissatisfaction and dissatisfaction with their physical appearance and family relationships, (Button, 1998).

These two studies provide useful data on the prevalence of body dissatisfaction in UK populations. However, as they were not longitudinal in design, we cannot know how many from this sample went on to develop eating disorders.

Prospective study designs have been used to better enable predictions e.g. Cattarin and Thompson, (1994) found body dissatisfaction at first testing predicted restrictive eating behaviours three years later. Furthermore, in a comparison study of 14-18 year olds with either a low or a high rating of weight concern, 10% of the girls in the high weight concern group developed a partial or full syndrome eating disturbance across four years, compared to none of the sample in the lower weight concern group (Killen, Taylor, Hayward, Haydel, Wilson, Hammer, Kraemer, Blair-Greiner and Strachowski, 1996).

A number of further studies support the role of body image dissatisfaction in the prediction of disordered eating behavior, both concurrently (McVey, Peplar, Davis, Flett and Abdolell, 2002) and longitudinally (Keel, Fulkerson and Leon, 1997). Dieting and other weight regulation behaviors could be initiated in response to a perception that one is overweight or not at an ideal body weight. Stice and Withenton (2002) stated that theoretically, the relentless pursuit of an ultra-slender body promotes dissatisfaction with one's physical appearance. Their large prospective study found that initial elevations in adiposity, perceived pressure to be thin, thin-ideal internalisation, and deficits in social support predicted the onset of body image dissatisfaction. They suggested two pathways to body dissatisfaction in adolescent girls. The first involves intense social pressures to be thin that emanate from family, friends, and the media. The second involves elevated body mass in the absence of perceived pressures to be thin. They concluded that the greater the degree of departure from the current thin-ideal for females, the greater the body dissatisfaction.

Friestad and Rise (2004) argued that it is not thinness per se, but the stereotypes associated with it, that makes it a powerful symbol. As when fitting the ideal of physical appearance, one is also perceived to be more sociable, sexually warm, mentally healthy and intelligent (Feingold, 1992).

Similarly, negative characteristics such as poor social functioning, impaired academic success and low perceived health are attributed to overweight bodies, even by children as young as age nine (Hill and Silver, 1995). The findings of Hill and Pallin, (1998) support the view that some young girls are drawn to weight control in order to improve their perceived self-worth.

Friestad et al (2004) found that perception of body image was a strong predictor of girls' dieting at ages 15, 18 and 21 while self-esteem remained an insignificant contributor throughout this period. The fact that body image was a strong predictor among girls indicates that body-specific cognitions, rather than general or global evaluations of self-worth (as implied in the concept of self-esteem), affect girls' dieting behaviour. Other studies, however, have found that body dissatisfaction is also associated with lower self-esteem (Williams and Currie, 2000). This appears to be at least partly due to the operationalisation and measurement of the concept 'self esteem'.

Additionally, the negative affect induced by having a negative body image could initiate dys-regulated eating such as bingeing, skipping meals and consumption of unhealthy foods. Indeed Keel, Fulkerson and Leon (1997) found that a negative body image was strongly associated with feelings of depression in their sample of 10–12 year-olds. Other longitudinal analyses also show that low body satisfaction during early and middle adolescence is predictive of later signs of more global mental distress, including lower self-esteem and depressive symptoms (e.g. Stice et al, 2001). Williamson (1996) suggested that the negative cognitive distortions present in those with depression may explain the link between body image dissatisfaction and depression.

Although much research suggests that dieting and other disordered eating behaviours can lead to being overweight, obesity or Bulimia and Anorexia Nervosa, not all of these females will be expected to develop eating disturbances. Polivy et al (2002) proposed that while body image dissatisfaction has a causal role in the development of disordered eating and eating disorders, it is not sufficient.

They asserted that it is possible to be dissatisfied with one's body and yet not do anything about it; this will be dependent on whether or not the individual seizes upon weight and shape as the answer to the problems of identity and control. This view resonates with the Acceptance and Commitment theory that will be discussed below.

Tylka (2004) found that additional variables that interact with body dissatisfaction to influence its relation to eating disorder symptomatology included levels of body surveillance and neuroticism and the eating patterns of family and friendship networks. These factors were found to act as moderators between body dissatisfaction and eating disorder symptomatology.

Keel, Heatherton, Baxter and Joiner (2007) conducted a 20-year prospective longitudinal study examining the stability and change in eating disorder attitudes and behaviors. They found that decreases in disordered eating were associated with decreases in the putative risk factors in women (i.e. dieting and body image). Improvements in disordered eating in women were associated with attainment of certain life roles, specifically marriage and motherhood. Heatherton, Mahamedi, Striepe, Field and Keel (1997) also found similar results and suggested that this may be due to a change in priorities, such that physical appearance in general and being thin in particular become less important to women. Keel et al (2007) concluded that understanding the mechanisms by which maturational processes influence maintenance or change in disordered eating remains an important goal for future research. Examining the factors associated with alleviation of disordered eating within the natural course of people's lives represents an alternative to the prevention work that aims at those with putative risk factors, considered at an increased risk of developing an eating disorder.

Heinberg, Thompson, Matzon (2001) argued that the presence of body image dissatisfaction may not be problematic as it may lead to healthy weight management behaviors for individuals with average or above-average Body Mass Index (BMI) values. They asserted that the relationship between body image dissatisfaction and healthy weight management behaviors may be illustrated by an inverted U-shaped curve.

When body image distress is very low, individuals may not engage in healthy eating and exercise behaviors, even if necessary to improve health outcomes. When body image distress is very high, individuals may fail to engage in healthy weight management behaviors because of a perceived inability to make meaningful changes in their bodies, or may engage in unhealthy dieting behaviors in a desperate attempt to lose weight. Nevertheless, whilst this is an interesting concept, a five year longitudinal study that considered this issue concluded that, in general, lower body satisfaction does not serve as a motivator for engaging in healthy weight management behaviors, but rather predicts the use of behaviors that may place adolescents at risk for weight gain and poorer overall health, (Neumark-Sztainer, Paxton, Hannan, Hains and Story, 2006). Therefore, Neumark-Sztainer et al, (2006) suggests that interventions with adolescents should strive to enhance body satisfaction and avoid messages likely to lead to decreases in body satisfaction.

The methodological strengths and weaknesses of the above studies will be considered next in order to further evaluate the results and conclusions drawn.

Research Limitations

Many of the research studies followed a large sample size over a number of years, even up to twenty years, (Keel, 2007). This type of study is highly valuable in providing an understanding of aetiological and protective factors. A drawback of longitudinal studies with such an ambitious time span is that variables may need to be differently measured or questions differently phrased when applied to children of different ages (Roberts and Bengtson, 1991). Although constructs may be measured in the same way at different time points, the content of the answers may be different because the respondents have matured. This issue is especially pertinent to studies involving periods of transition, such as from childhood to adolescence, or adolescence to adulthood.

Stice et al's (2002, 2005) studies found a relationship between dietary restraint and later obesity using a prospective design. This is an improvement over cross-sectional data, nevertheless they still cannot rule out third-variable explanations for the relations that could account for the effects (e.g. a genetic propensity to gain weight). Although the longitudinal method and large sample sizes were strengths, the non-experimental nature precluded causal inferences. Additionally, weight-change history preceding study entry was not assessed. Also, in some studies, e.g. Stice (1999), there was no measure of dietary intake, so it was unclear whether the association was attributable to, or independent of, actual dietary intake. Stice et al (2005) suggested that a crucial direction for future research would be to conduct randomised experiments that attempt to triangulate the effects from prospective studies. Randomised prevention trials could test whether reducing weight-control behaviours actually results in reduced risk for obesity onset. These types of experiments would effectively rule out the possibility that some unmeasured variable is responsible for the prospective effects observed in longitudinal studies.

Furthermore, most of the studies measure BMI as it is the recommended measure of adiposity in epidemiologic research; however, it can reflect elevations in other aspects of body composition rather than adipose tissue, such as muscle mass, which can therefore confound results. Lastly, many studies relied on self-report measures and suffered sample bias e.g. in Keel et al's (2007) study participants were recruited from a prestigious university so results may not be generalisable to other cohorts.

Body image and emotion regulation in disordered eating

As the majority of girls who exhibit body dissatisfaction do not go on to develop an eating disorder, researchers and theorists have looked to factors such as the role of emotion regulation to help distinguish between normative levels of body dissatisfaction and levels that may increase the risk of clinical eating problems.

The role of emotion regulation in the development of eating disorders has indicated that feelings of depression and high levels of negative affect lead to disordered eating and bulimic symptoms (e.g. Killen et al., 1996; Stice, 2001). Negative affect and stress have also been identified as the most common triggers of a binge-episode (Polivy et al, 2002) and other research suggests that negative affect mediates the relationship between body dissatisfaction and disordered eating (Stice, 2002).

Emotion regulation is a complex process that involves a discrete set of variables including level of negative affect, identification of emotional states, and generation of adaptive coping strategies (Saarni, 1999). A study comparing girls diagnosed with Bulimia Nervosa (BN) with girls diagnosed with depression and girls from the community, found that girls diagnosed with BN exhibit poorer emotional awareness and identification skills (Sim and Zeman, 2004). Further, research suggests that individuals who have eating disorders exhibit high levels of alexithymia, a construct that includes difficulties discriminating between emotional states and bodily sensations and trouble expressing feelings. Women who reported eating disorder symptoms were more likely to use maladaptive coping methods and less likely to use social support strategies than individuals who did not report these symptoms, (Bybee, Zigler, Berliner, and Merisca, 1996).

Sim and Zeman (2004) suggested that girls may use dietary restriction, binge-eating and other eating disorder behaviors as a way to manage negative affect that they cannot identify or with which they cannot cope. Over time negative affect can become associated with body dissatisfaction, and eating disorder symptoms may develop as a way of alleviating any negative emotional state that may be difficult to identify. Girls, who reported high levels of disordered eating, also experienced increased frequency of negative affect, had significantly greater difficulty identifying emotion, and had less constructive coping in response to negative emotion. It is possible that negative affect is more aversive if it is ambiguous, requiring an increased need to escape from this emotion. They suggested that future studies of this model may benefit from testing whether emotion awareness was a moderator between negative affect and disordered eating.

In an attempt to theoretically understand the complex dynamics between disordered eating, body image and emotional processing, an Acceptance and Commitment Therapy perspective will be utilised. Furthermore, the possible influence of inflexible emotional processing will be described and linked to the literature on eating disorders.

Experiential Avoidance and Cognitive Fusion in Acceptance and Commitment therapy - how can they be useful in understanding disordered eating

The author will define then discuss experiential avoidance and cognitive fusion as the two types of inflexible emotional processing styles from Acceptance and Commitment Therapy (ACT). ACT hangs on the philosophy of Relational Frame Theory which will not be explained here due to space limitations. ACT is a new approach and evidence is accumulating.

ACT considers the way humans process their experiences, e.g. emotional experiences, and the consequence of these processes. ACT suggests that in response to distress, humans may develop problems due to psychological ‘inflexibility’ produced by cognitive fusion and experiential avoidance (Hayes and Batten, 1999). Cognitive fusion refers to the entanglement with the content of private events, so rather than noticing the continuing process of thinking and feeling, fusion involves attachment to the content of these internal experiences and responding to them as if they were literally true (Luoma and Hayes, 2003). For example, having the thought ‘I am fat’ and then responding to this thought by restricting food intake is an example of cognitive fusion in contrast to acknowledging that this was a thought that does not need to be believed/ disbelieved or acted on.

When thoughts and feelings are interpreted as fact instead of transient internal experiences, individuals may try to avoid their feelings thus leading to experiential avoidance.

Experiential avoidance is the unwillingness to experience certain internal events and to attempt to avoid or control these (Hayes and Gifford, 1996). It is considered to result in a forsaking of what one might really want to achieve e.g. a person who previously enjoyed going out and who has been invited to a social event but decides not to go because they feel too fat, may thus be depriving themselves of the opportunity to engage in a valued activity. Tendencies to negatively evaluate certain internal events, define the self by these, and struggle to avoid them, can therefore operate as a barrier to ‘valued behaviours and life directions’ (Hayes and Pankey, 2002).

ACT holds that ‘negative’ thoughts and affect do not themselves produce behavioural harm but much of their impact comes from the consequences of failed attempts to avoid them. Avoidance may increase the frequency and intensity of the emotions and involve unhelpful methods (e.g., substance abuse and physically avoiding people, places or things that elicit the emotion). It is when experiential avoidance is chronic, excessive and/or rigid, that it may lead to psychopathology; indeed, high levels of the processes of fusion and experiential avoidance are thought to underlie most forms of psychopathology (Hayes et al 2006). Kashdan, Barrios, Forsyth and Steger’s (2006) self-report correlational study also suggested that experiential avoidance is a learned and potentially toxic predisposition for acute distress and psychopathology.

Experiential avoidance and disordered eating

Experiential avoidance may play a role in disordered eating, with food restriction being a way to avoid or reduce body image thoughts. In a study examining the relation between cognitive avoidance and disordered eating in college women, higher scores on two Eating Disorder Inventories (EDI-2; Garner, 1991) subscales were associated with taking longer to process threat related words, such as ‘fail’ (Meyer, Waller and Watson, 2000). The authors suggested that experiential avoidance may play a role in eating disorders, including AN, asserting that food restriction could be an attempt to avoid or reduce negative weight or body image thoughts.

Furthermore, it has been proposed that a problematic need for control maintains anorexic type eating disorders (Fairburn, Shafran, and Cooper, 1999) and that dietary restriction is reinforced by the sense of being in control, particularly if the individual has failed at controlling other areas of life. ACT has various strategies targeted at helping the individual relinquish the unhelpful need for excessive control. Various case studies using ACT have found positive results in the treatment of an adolescent female with Anorexia Nervosa (Heffner, Sperry, Eifert and Detweiler, 2002).

Therefore an ACT treatment plan for eating disorders seeks to undermine ineffective control and avoidance strategies and by helping the client identify valued life directions with the provision of support to help achieve them. Thus, negative emotions and thoughts are reframed as an expected part of life, or as Orsillo and Batten, (2002) explain, an expected part of goal directed behaviour. ACT therefore attempts to change the aim of ridding oneself of unpleasant emotions to fully experiencing these emotions whilst also achieving personally valued goals.

As regards body image dissatisfaction, ACT holds that this may be embraced as normative discontent if an individual exhibits an accepting posture toward negative thoughts and feelings about his or her body shape and/or weight (Sandoz et al, 2006). It may therefore be that enabling an accepting posture towards negative thoughts and feelings about ones body may decrease the negative relationship between body image satisfaction and disordered eating.

Clinical implications

Understanding the psychological processes related to disordered eating such as inflexible emotional processing (i.e. experiential avoidance and cognitive fusion) may enable more effective early prevention (e.g. in schools).

Ineffective avoidance coping strategies include eating disorders but also disordered eating such as overeating, self-harm or drug and alcohol use. Moreover, ACT concludes that acquiring an accepting posture towards a negative body image may also prevent one from acting on dissatisfaction and engaging in behaviours that make eating problems more likely.

Summary and Conclusions

Disordered eating, although not a clinical diagnosis, has been studied in relation to its risk for the later development of eating disorders i.e. AN and BN or the development of an overweight or obese Body Mass Index. There is much literature about the negative consequences of having an eating disorder or being overweight or obese. An association between disordered eating and later eating problems and the accompanying consequences, has been supported by numerous studies (e.g. Stice, 2005, Kotler, 2001).

Body image dissatisfaction was recognised as the single strongest predictor of eating disorder symptomatology among women (e.g., Polivy et al 2002), but neuroticism, body surveillance and the eating patterns of friends and family are identified moderators in that relationship (Tylka, 2004). Body image dissatisfaction is considered widespread in the current climate of the slim ideal but how one deals with this dissatisfaction is presumably an important moderator in the relationship between body image dissatisfaction and disordered eating.

Indeed, how one deals with either body image dissatisfaction or other potential predictors of eating problems will moderate this relationship. Disordered eating in adolescence does not of course always lead to later eating problems. The protective factors and moderating factors suggested include attaining certain life roles such as motherhood (Keel et al, 2007) or accepting that dissatisfaction with image is normal (in ACT terms) (Sandoz and Wilson, 2006).

Some advocate that prevention should begin in primary schools (e.g. Stice, 2005), whereas others suggest that women naturally tend to find alternative aspirations which enable them to reduce this behaviour (e.g. Keel et al, 2007). The protective factors (e.g. flexibility in emotional processing and ‘acceptance’ (in ACT terms) of body image dissatisfaction as normative may play a crucial role in moderating a female’s risk of developing an eating problem.

Sim et al (2004) suggested that girls may use dietary restriction, binge-eating and other eating disorder behaviors as a way to manage negative affect that they cannot identify or with which they cannot cope (which may include negative affect about one’s body). Learning other ways to cope or ‘accept’ in ACT terms may be useful as a means of prevention as well as treatment. There is already some research espousing the effectiveness of ACT in the treatment of anorexia (e.g. Heffner, Sperry, Eifert, Detweiler, 2002).

In summary, ACT suggests that most psychopathology is due to inflexible emotional processing. It suggests that if psychological flexibility is increased it may enable individuals to develop an accepting posture towards body dissatisfaction and consequently decrease the risk of disordered eating in adolescence.

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www.disordered-eating.co.uk/disordered-eating/disordered-eating.html

www.mind.org.uk

APPENDIX I:

Search strategy

Consulted databases

The following databases were searched:

- PsychINFO (a database of psychological literature)
- PubMed (provides access to citations from Medline and Embase)
- AMED
- The cumulative Index to Nursing and Allied Health Literature (Cinahl)
- Cochrane Library
- Web of Science
- Child Data
- ERIC

Inclusion and exclusion criteria

A set of criteria was applied in order to evaluate the papers yielded from the literature search. The number of hits for each database searched was often large so had to be restricted by applying ‘disordered eating’ in ‘adolescence’ to specify the age group of interest.

The following keywords were used in the searches conducted with each of the above databases:

- Disordered eating in adolescence
- Body image in adolescence
- Experiential avoidance
- Cognitive fusion
- Acceptance and Commitment theory
- Excluded studies that were not reported in English

Procedure for conducting the systematic literature search

The search was carried out using the same set of keywords/ terms for each database. The only limit set was the language which was specified as English. Where applicable Mesh terms were explored and the thesaurus was used.

The ACT website was used as well as Government websites such as NICE and charities such as MIND.

General comments

There was a large amount of papers available so the most recent were prioritised (last ten years) and those with more stringent research criteria i.e. meta-analysis and randomised controlled trials.

Search Output

From the searches 101 articles were selected and obtained electronically from either the University of Hertfordshire Learning Resource Centre or via The British Library.

**Body Image, Disordered Eating and
Emotional Processing in Adolescent
Females**

Eleni Nicolaou Eracleous

**Submitted to the University of Hertfordshire in partial
fulfillment of the requirements of the degree of Doctor
of Clinical Psychology**

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Abstract

Eating disorders can be viewed on a continuum, with disordered eating not reaching clinical diagnostic criteria but having potentially negative effects including increasing the risk of an eating disorder or obesity. This study investigated disordered eating in relation to emotional processing from an Acceptance and Commitment (ACT) perspective. Body image dissatisfaction is recognised as a risk factor in eating disorders and was therefore included in this study to investigate whether the ACT concept of inflexibility was associated with 'less acceptance' of body image and an increased eating disorder risk as well as general mood disturbance (i.e. depression and anxiety). A non-clinical sample of 96, 12-15 year old females at secondary schools in London was used. Eating disorder risk, inflexibility as well as depression and anxiety were measured. When comparing high, low and moderate eating disorder risk groups it was found that the low and moderate eating disorder risk groups had lower levels of inflexibility and the low eating disorder risk group had a higher body image acceptance than the moderate and the high risk groups as predicted. Inflexibility was also associated with higher rates of anxiety and depression and a negative association was found between depression and anxiety in relation to acceptance of body image. Thus providing supporting evidence for the transdiagnostic significance of 'inflexibility'. Clinical implications of these findings in relation to prevention and treatment are discussed.

Introduction

This study reports on an investigation into the role of inflexible emotional processing, which includes experiential avoidance and cognitive fusion as defined by Acceptance and Commitment Therapy (ACT), (Hayes and Batten, 1999). The importance of inflexible emotional processing in relation to disordered eating and body image will be investigated in adolescent females.

This introduction will first define disordered eating and then consider the recognised importance of body image dissatisfaction in disordered eating in particular in relation to emotional processing. The risk factors that have most commonly been found in disordered eating and the consequences of disordered eating will be reviewed in brief. Next will follow definitions of cognitive fusion and experiential avoidance which make up the emotional process of inflexibility and the existing literature on this process will be discussed as well as application of its reverse - flexibility to problems related to disordered eating. Inflexibility has been usefully applied in the understanding of eating disorders and obesity/weight control. It is proposed that if inflexibility is related to the onset and/or maintenance of disordered eating, (i.e. is implicated as a risk factor or flexibility as a protective factor), understanding of this emotional process will be essential for the prevention and/or treatment of eating disorders and obesity.

Definition of disordered eating

Disordered eating refers to unhealthy eating behaviours such as severe caloric restriction, the use of meal supplements for weight loss, skipping meals or the consumption of large quantities of high fat foods. It also includes anorexic and bulimic behaviours such as laxative, diuretic and diet pill use, binge eating, exercising obsessively and self-induced vomiting but does not meet the criteria of Anorexia Nervosa (AN) or Bulimia Nervosa (BN) (Neumark-Sztainer, 2005a).

If eating/weight control practices are viewed on a continuum, 'healthy eating' would be at one end, followed by 'dieting', then by 'unhealthy weight control behaviours/eating disturbances' (that do not meet clinical diagnostic criteria but may be sub-clinical cases) and at the other end of the continuum are the eating disorders in the diagnostic manuals (i.e. Anorexia Nervosa (AN), Bulimia Nervosa (BN) and Eating Disorders Not Otherwise Specified (EDNOS)). Disordered eating therefore comprises the unhealthy weight control behaviours that do not reach a clinical diagnosis but include symptoms that are part of the classification of the eating disorders. Researchers have used a variety of measures to look for eating disorder risk which led to different operationalisations of the concept of disordered eating/eating disturbances. With this in mind this study will consider disordered eating by measuring eating disorder risk using the EDI-3.

The Eating Disorder Inventory-3 (EDI-3) is the latest edition of a twenty year old test that examines the 'continuum model' of eating disorders (Nylander, 1971). Thus it holds the view that AN is the final stage of a continuous process beginning with voluntary dieting and progressing to more stringent forms of dieting accompanied by progressive loss of insight. The validity of the continuum hypothesis has not been settled, with some researchers concluding that there are qualitative distinctions between true cases and sub-clinical variants (Garner, Olmsted, & Polivy, 2004).

Disordered eating in Adolescence

By studying disordered eating behaviours in a non clinical population rather than looking at individuals with a diagnosis of eating disorders, researchers have identified that the consequences of disordered eating during adolescence may not be benign.

Early adolescence has been recognised as a vulnerable time for girls to develop disordered eating because of the normative challenges associated with that period of development, in particular, physical changes associated with puberty, increased desire for peer acceptance and onset of dating (Smolak, Levine, and Striegel-Moore, 1996). Therefore, studies have looked prospectively at adolescence to consider the longer term consequences of disordered eating.

Consequences of disordered eating

Perhaps paradoxically, disordered eating behaviours have been found to increase an individual's risk of becoming obese, (e.g. Stice, Presnell, Shaw and Rohde, 2005); Field, Austin, Taylor, Malspels, Rosner, Rocreet, Gillman and Colditz, 2003); Stice, Cameron, Killen, Hayward and Taylor, 1999). Various biological and psychological mechanisms were put forward to explain how dieting with disordered eating behaviours can potentially result in an individual increasing their risk of obesity onset. These mechanisms are described in detail in Stice, Cameron, Killen, Hayward, & Taylor (1999), Blundell (1995) and Field et al, (2003) and have been summarised in the literature review (above). To offer an example, girls who diet have been found to be 12 times as likely to binge eat as girls who do not diet and to be overweight over time (Field et al, 2003). The effects of becoming obese have considerable physiological, psychological and social implications such as increasing one's risk of high blood pressure, diabetes mellitus, and coronary heart disease, as well as lower self esteem (Miller and Downey, 1999), completion of fewer years of education, higher rates of poverty and lower marriage rates (Dietz, 1998).

Thus, although traditionally obesity and eating disorders have been considered as distinct conditions, findings that overweight adolescents are at a high risk of using unhealthy weight control behaviours and bingeing and also that individuals can cross over from one condition to another over time suggest that it may be useful to consider the broad spectrum of disordered eating (Neumark-Sztainer, 2005a).

Conversely, adolescents who engage in disordered eating behaviours such as extreme dieting can run the risk of losing large amounts of fat, amenorrhea, ketosis, and reducing their body mass, lean muscle tissue and basal metabolic rate, as well as suffering fatigue, irritability, insomnia, lack of concentration, and growth failure (Mallick, 1983). Longer term effects of dieting include an increased risk of developing an eating disorder, (Patton Selzer, Coffey, Carlin, and Wolfe, 1999).

Patton et al (1999) found that 'severe' dieters were 18 times more likely to develop an eating disorder than those who did not diet and that those who dieted at a level they defined as 'moderate' were five times more likely to develop an eating disorder. Kotler, Cohen, Davies, Pine and Walsh (2001) supported the finding that those with disordered eating or sub-clinical levels of eating disorders in adolescents were more likely to develop an eating disorder. They found that early adolescent bulimic symptoms were associated with a nine-fold increase in risk for late adolescent bulimia and a 20-fold increase in risk for adult bulimia. Moreover, late adolescent bulimia was associated with a 35-fold increase in risk for adult bulimia.

The eating disorders have many consequences such as in Anorexia Nervosa (AN) kidney damage, cardiovascular problems, and osteoporosis can result. In severe cases, death can result from multiple organ failure or electrolyte imbalances. The aggregate mortality rate for AN has been estimated at .56% per year, which is 12 times greater than the annual death rate due to all causes of death for 15 to 24 year-old females in the general population (Sullivan, 1995). This figure needs to be interpreted keeping in mind limitations of epidemiological studies in particular sample sizes and diagnostic classifications. As well as physical complications AN and BN are associated with a variety of mental health problems.

As well as clinical importance, the effects of eating disorders and obesity have huge health policy implications as highlighted in the media. If the current obesity growth rates continue, it is estimated that 60 percent of men, 50 percent of women and 25 percent of children in the U.K will be obese by 2050 and associated chronic health problems are projected to cost society an additional 45.5 billion pounds per year (Reuters, 2007).

The accumulating literature therefore suggests that understanding disordered eating and the psychological mechanisms involved is important in the prevention of eating disorders and obesity and their associated consequences.

Transdiagnostic approach in understanding eating disorders and obesity

By studying disordered eating instead of looking at each eating disorder separately it allows researchers to take a transdiagnostic perspective where processes involved (e.g. emotional) can be considered across eating disorder diagnosis. This may enable findings to be generalised to the understanding, prevention and treatment of all forms of eating disorders and obesity and even the associated/co-morbid problems. The advantage of taking such a perspective is that it may provide an explanation for the observed co-morbidity in clinical practice as ‘pure’ cases of a disorder are thought to be relatively rare (Kessler, McGonagle, Zhao, Nelson, Hughes, Eshleman, Wittchen and Kendler, 1994). Research has shown that depression, anxiety, substance abuse, obsessive-compulsive disorders, personality disorders, and posttraumatic stress disorders are associated with adolescents diagnosed with eating disorders (Pryor and Wiederman, 1998, Willcox and Sattler, 1996). Anxiety disorders and obsessive-compulsive disorders were significantly associated with the diagnosis of AN, whereas substance abuse is associated with a diagnosis of BN (Granner, Abood, and Black, 2001; Pryor and Wiederman, 1998).

Treatment could therefore be targeted at the psychological processes across all eating problems which would encourage greater transfer of theoretical and treatment advances between the disorders. Moreover, this approach might lead to specifying treatment components that will be effective across the range of eating problems. Furthermore, a treatment that reverses the maintaining processes in one disorder could lead to an improvement in all co-morbid disorders present such as depression and/or anxiety.

It has been suggested that a ‘broad approach’ could promote the overall positive well-being of youth (Catalano, Hawkins, Berglund, Pollard, and Arthur, 2002) and therefore prevent or improve the co-morbidity of eating disorders with other psychological problems and health-related issues, particularly mood disorders and substance-related disorders. Such an approach could consist of focusing on a transdiagnostic emotional process that would affect different eating disorders and co-morbid problems.

Neumark-Sztainer, Levine, Paxton Smolak, Piran and Wertheim (2007) suggest that to address factors that might underlie not only eating problems, but also other problems by taking a broader approach, with the potential to positively affect a variety of behavioural and mental health problems, is very appealing. They suggest that programs that increase skills for coping with stress and negative affect, improve self-esteem, and reduce depression may reduce the potential of risk factors for eating disorders, because low self-esteem (Jacobi, Hayward, de Zwaan, Kraemer, & Agras, 2004) and negative affect (Stice, 2002) have repeatedly been found to increase the risk of body image and eating problems.

Fairburn, Cooper and Shafran (2003) also promote the potential utility of a transdiagnostic approach; indeed they extended the Cognitive Behavioural Theory (CBT) of BN to embrace all forms of eating disorder by developing a single unitary 'transdiagnostic' theory and putting forward new enhanced cognitive behavioural treatment (CBT-E) derived from the transdiagnostic theory that is suitable for patients with any form of eating disorder. They claim that transdiagnostic conceptualisation and treatment is relevant when major clinical features are found to be shared by two or more diagnostic disorders and are maintained by common pathological processes; there may also be movement of patients between the diagnostic categories. Moreover, they suggest that to establish the operation of transdiagnostic pathological processes there would need to be direct clinical and research evidence that the processes maintaining the diagnostic states do indeed overlap, for example, by identifying common distinctive obstacles to change or by developing common distinctive methods of achieving change. Fairburn and colleagues are currently undertaking treatment evaluation; effectiveness findings have therefore not yet been published.

There are many specific and shared risk factors that have been identified across eating disorders and obesity. These factors could perhaps be targeted preventatively using a transdiagnostic model. Some of the major identified risk factors will briefly be summarised below before focusing on body image which is considered a very strong predictor of eating disorders symptomatology and is of primary interest in this study.

Factors implicated in the development of eating disorders

An exhaustive overview of the risk factors identified in eating disorder research will not be possible here due to space limitations, but an overview of the most salient findings will be attempted. The biopsychosocial factors include the societal factors of the thin ideal perpetuated in the media. Thinness is valued as it is harder to achieve in a culture of abundance (Striegel-Moore, 1997). The influence of peers and family (Stice et al, 1999) and a critical family environment (Haworth-Hoepfner, 2000) have also been identified as risk factors for the development of eating disorders, as have familial environments that are enmeshed, intrusive, hostile, and negating of the patient's emotional needs (Minuchin, Rosman, and Baker, 1978). BN patients also report greater parental intrusiveness, specifically maternal invasion of privacy, jealousy, and competition, as well as paternal seductiveness (Rorty, Yager, Rossotto and Buckwalter, 2000).

Psychological factors include negative affect (Stice and Bearman, 2001), low self esteem (Striegel-Moore, 1997), negative body image, (Polivy and Herman, 2002) and cognitive distortions such as perfectionism and cognitive biases (Vitousek and Hollon, 1990). Furthermore, childhood sexual abuse (for BN) (e.g. Waller, 1991) and psychopathology during middle adolescence (Keel, Fulkerson and Leon, 1997) are also implicated risks factors. Cognitive Behavioural theory focuses on the risks of 'dysfunctional system for evaluating self-worth', response to adverse mood states, an over-evaluation of eating, shape and weight and their control (Fairburn et al 2003). Behavioural factors include excessive dieting and obesity (Stice et al, 1999), participating in sports at the elite level or sports that are weight restricting such as wrestling, gymnastics, or ballet (Brownell & Rodin, 1994).

Biological factors identified include genetics (Wade, Martin, Tiggerman, Abraham, Treloar and Heath, 2000), early maturation for women (Cauffman & Steinberg, 1996), having a high Body Mass Index (BMI), body size and/or shape (Jones, Bennett, Olmsted, Lawson, Rodin, 2001).

Low levels of serotonin activity are associated with impulsivity and may predispose to the characteristic impulsivity of BN and higher levels may contribute to pathogenesis of AN by shaping in certain individuals marked behavioural propensities towards rigidity and constraint (Strober, 1995) and having a specific chronic illness such as diabetes mellitus (Antisdel and Chrisler, 2000).

Body image and disordered eating

As identified above, body image dissatisfaction is recognised as a risk factor with some suggesting that it is the single strongest predictor of eating disorder symptomatology among women (e.g. Polivy et al, 2002). Body image dissatisfaction is defined as subjective dissatisfaction (negative thoughts and feelings) with one's physical appearance (Littleton and Ollendick, 2003). Adolescent females reporting disordered eating have a significantly higher concern for appearance, (Croll et al, 2002). The perception of body image has been found to be a strong predictor of girls' dieting at ages 15, 18 and 21 (Friestad and Rise, 2004), and high ratings of weight concern was associated with the development of a partial or full syndrome eating disturbance (Killen, Taylor, Hayward, Haydel, Wilson, Hammer, Kraemer, Blair-Greiner and Strachowski, 1996).

As well as body image being identified as an important risk factor in the development of eating pathology, the literature has focused on body image and eating in relation to the processing of emotions.

Body image and the processing of unpleasant emotions

Individuals with body image dissatisfaction have been found to present with negative cognitive distortions, (Williamson, 1996), which may help explain the link between body image dissatisfaction and depression. Low body satisfaction during early and middle adolescence has been found to be predictive of later signs of more global mental distress, including lower self-esteem and depressive symptoms (e.g. Stice and Bearman, 2001; Keel, et al, 1997).

Feelings of depression/ high levels of negative affect have been found to be significantly related to the onset of disordered eating and bulimic symptoms (e.g. Killen et al., 1996; Stice et al, 2001). Indeed, negative affect and stress have been identified as the most common triggers of a binge-episode (Polivy et al, 2002) and conclusions drawn from these studies state that negative affect mediates the relationship between body dissatisfaction and disordered eating (Stice, 2002). Thus, these findings imply that there may be a psychological process that is common to eating disorders and depression in those with a negative body image such as emotional regulation difficulties.

How one processes or regulates their emotions i.e. identifies their emotional states, and generates adaptive coping strategies, (Saarni, 1999) has been found to discriminate those with and without bulimia. Individuals with bulimia exhibit poorer emotional awareness and emotion identification skills (Sim and Zeman, 2004). Furthermore, research suggests that individuals who have eating disorders exhibit high levels of alexithymia, a construct that includes difficulties discriminating between emotional states and bodily sensations and trouble expressing feelings, (Jimerson, Wolfe, Franko, Covino, & Sifneos, 1994).

Sim et al (2004) suggested that girls may use dietary restriction, binge-eating and other eating disorder behaviours as a way to manage negative affect that they cannot identify or with which they cannot cope, so that binge eating, purging, and restricting may be used as strategies to regulate emotional states that they have difficulty identifying. Without the ability to ascertain the specific emotion one is experiencing, choosing an effective coping strategy to alter this state of arousal will be unlikely. For example, counting to 10 may be an effective method to lessen the intensity of anger, yet it would provide little relief in managing sadness. Thus, over time, binge eating and purging may develop as an immediate, all-purpose response for alleviating negative, indistinct emotional states. Furthermore, over time negative affect can become associated with body dissatisfaction, and eating disorder symptoms may develop as a way of alleviating any negative emotional state that may be difficult to identify.

Acceptance and Commitment Therapy (ACT) considers the processing of emotional experiences as significant in the development of eating disorders and other psychopathology. The ideas proposed by ACT have been applied to the understanding of eating disorders and weight control in those that may be overweight/obese. ACT will be described and the process of inflexibility i.e. cognitive fusion and experiential avoidance defined before providing evidence of its application to weight control and body image. Evidence for the utility of the concept of inflexible psychological processing (and its reverse flexibility) and its application to the eating disorders and obesity are then offered.

Acceptance and Commitment Therapy

ACT derives from the philosophy of functional contextualism (Biglan & Hayes, 1996; Hayes, Wilson, Gifford, Follette, and Strosahl, 1996) and Relational Frame Theory (RFT), a detailed theory and research program about the nature of human language and cognition that has a substantial body of evidence with some techniques borrowed from experiential approaches (Hayes, Barnes-Holmes, & Roche, 2001). A core insight of RFT is that cognitions (and verbally labelled or evaluated emotions, memories, or bodily sensations) have their effect not only by their content or frequency, but by problematic management such as when private events need to be controlled, explained, believed, or disbelieved, rather than being experienced.

From an ACT perspective, many forms of psychopathology can be conceptualised as a) unhealthy efforts to control emotions, thoughts, memories, and other private experiences (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996), b) unhealthy examples of the domination of cognitively based functions over those based in actual experience, and c) a lack of clarity about core values and the ability to behave in accordance with them (Hayes, Masuda, Bissett, Luoma, & Guerrero, (in press). The general goal of ACT is to diminish the role of literal thought ('cognitive defusion'), and to encourage a client to contact their psychological experience directly, fully, and without needless defence ('psychological acceptance') while at the same time behaving consistently with their 'chosen values'. ACT refocuses change efforts toward overt behaviour or life situations, rather than personal history or automatic thoughts and feelings.

ACT and processing unpleasant emotions

ACT is based on the premise that normal cognitive processes distort and perpetuate the experience of unpleasant emotions. Individuals may engage in problematic behaviours in order to avoid or get rid of unpleasant emotions (e.g. by restrictive dieting) but this instead tends to get in the individual's way in terms of them achieving what they would like and potentially placing them in harmful situations (risk of eating disorder). ACT holds that the way humans process their experiences, in response to distress (e.g. emotional experiences), may result in the development of problems due to the emotional process of psychological inflexibility (comprising cognitive fusion and experiential avoidance, Hayes and Batten, 1999).

ACT – Cognitive Fusion

Cognitive fusion refers to the entanglement with the content of internal experiences such as thoughts, so rather than noticing the continuing process of thinking and feeling, fusion involves attachment to the content of these internal experiences and responding to them as if they were literally true (Luoma and Hayes, 2003). For example, having the thought 'I am fat' and that the response to this thought must be to restrict food intake is an example of cognitive fusion where a healthy weight individual may respond to thoughts as if literally true in contrast to acknowledging that this was a thought that does not need to be believed/disbelieved or acted on (this is explained further below). Heffner and Eifert (2004) refer to the 'dark side of language' when thinking about how things that happen in our minds are treated as if they were the real thing and responded to with feelings and actions. They offer the example of how being asked to think about the death of the person one loves the most, normally results in people not wanting to comply. So in addition to avoiding real death and danger (which keeps us alive and our species from extinction), people often avoid the very thought of death as if the thought of death and actual death were the same thing (Wilson and Murrell, 2003). Heffner et al (2004) conclude that the capacity to make ourselves feel a certain way by having certain thoughts and imagining events may sometimes be helpful, sometimes benign or other times destructive.

ACT - Experiential avoidance

Experiential avoidance is the unwillingness to experience certain internal events and to attempt to avoid or control these (Hayes, Wilson, Gifford, Follette, and Strosahl, 1996). This is thought to hinder the achievement of one's goals, for example, a person who previously enjoyed going out and who has been invited to a social event decides not to go because they feel too fat, and thus deprives themselves' of the opportunity to engage in a valued activity. ACT holds that 'negative' thoughts and affect do not themselves produce behavioural harm but much of their impact comes from the consequences of failed attempts to avoid them, such as desperately trying to avoid the thought that one is fat by restricting food intake. Avoidance may increase the frequency and intensity of the emotions and involve unhelpful methods (e.g., binge eating and physically avoiding people, places or things that elicit the emotion). It is when experiential avoidance is chronic, excessive and/or rigid, that it may lead to psychopathology, (Kashdan, Barrios, Forsyth and Steger, 2006).

The above will be summarised in a diagram below:



Figure 1- Diagrammatic presentation of inflexibility

Applying ACT theory to weight control

The ACT theory of psychopathology suggests that attempts to change or eliminate unwanted private experiences by avoiding them i.e. experiential avoidance results in a narrow set of behavioural responses and makes it less likely that the person will achieve their valued aims. In the case of those with a tendency to overeat or binge, the presence of uncomfortable or undesirable emotions consistently results in eating for comfort. The short term effects of reducing negative affect in this way have little or no impact on an individual's ability to face discomfort and pursue whatever they wish from their life. Instead, the bingeing behaviour may result in the opposite of their intended goal which may, for example, be to lose weight. The individual becomes less able to deal with uncomfortable emotions over time and eating is required more and more as a coping response (Lillis, 2006).

Furthermore, individuals who have difficulty maintaining weight loss may be excessively regulated by verbal rules and less so by direct experience so that thinking 'I had a cake therefore I blew it, so what's the point' may be experienced as a literal truth (Lillis, 2006). Taking something as a literal truth can involve not being able to stand back and see that there is more than one perspective. Private events/internal experiences by being taken as literal truths instead of experiences that can be noticed and not believed nor disbelieved result in the individual engaging in behaviours that are inconsistent with their goal, such as, weight maintenance. This is another example of how cognitive fusion can move one further from their goals (e.g. bingeing).

ACT and Body Image

Negative body image is thought to be common, for example Williams and Currie (2000) found 45% of the 11-year-old girls and 54% of 13 year-old girls in a large UK sample were dissatisfied with their body size.

ACT holds that if an individual exhibits an accepting posture toward these negative thoughts and feelings about their body shape and/or weight this may be embraced as ‘normative discontent’ and consequently not lead to eating pathology (Sandoz and Wilson, 2006). Sandoz et al, (2006) suggest that enabling an accepting posture towards negative thoughts and feelings about one’s body may decrease the relationship between body image dissatisfaction and disordered eating.

Evidence for the utility of the concept of flexible psychological processing

In a meta-analytic review of all the literature examining ACT components up until spring 2005, Hayes, Luoma, Bond, Masuda and Lillis (2006) identified thirty-two studies, involving 6628 participants. They found that higher levels of psychological flexibility were associated with a better quality of life and outcomes in relation to many validated measures. The studies provided evidence that inflexibility was associated with a variety of mental health problems. Hayes et al (2006) concluded that the ACT model seems to be working across an unusually broad range of problems, and ranges of severity from psychosis to interventions for non-clinical samples (e.g. work stress). Moreover, effect sizes were found to be larger with more severe problems and were as large as or even larger at follow up compared with immediately post intervention. The authors found the outcomes and processes did not co-vary across different ethnic groups, classes and geographic regions. They looked at diverse groups from poor native South Africans to health professionals in North America. However, Hayes et al (2006) acknowledge that further literature is needed to draw firmer conclusions.

The application of ACT to AN

Although ACT has been suggested as an effective treatment for panic, substance use, pain and mood disorders, there are no large published reports on the use of ACT for treating eating disorders such as AN in adolescence. Heffner, Sperry, Eifert and Detweiler, (2002) provided a useful case summary of the successful adoption of ACT techniques in the treatment of a 15-year-old female with AN.

Heffner et al, (2002) assert that the cognitive-behavioural treatment they put forward targets the core problems of ineffective control strategies and the unwillingness to remain in contact with negative emotions or thoughts (experiential avoidance), in AN.

ACT holds that excessive control strategies are problems, not solutions, in common with the cognitive-behavioural theory of AN, where a problematic need for control maintains AN (Fairburn, Shafran, & Cooper, 1999) and that dietary restriction is reinforced by the sense of being in control. This is particularly apparent if the individual has failed at controlling other areas of life. Another feature of AN is the avoidance of thoughts or feelings related to weight and body image, (Meyer, Waller and Watson, 2000). An ACT treatment plan seeks to undermine ineffective control and avoidance strategies by helping the client see how these are inhibiting, discriminating between themselves and their problem behaviour so that acceptance becomes possible and avoidance unnecessary. The client then identifies valued life directions and is provided with support to achieve these.

In Heffner et al's (2002) example a concrete, visual map of valued directions was drawn with one road, representing AN, leading to a dead end and the other roads, representing valued directions, were interconnected and never ending. The values specified were achieving a goal regarding swimming, and the therapist explained how eating would move the client toward the direction (e.g., eating would give the client more energy to succeed at swimming). Thus, negative emotions and thoughts are not considered obstacles but an expected part of goal directed behaviour. So the individual is not expected to increase their body image satisfaction but to get on with achieving valued goals irrespective of their level of body image satisfaction (Heffner et al, 2002).

Treatment effectiveness for Eating Disorders and Obesity

Cognitive Behavioural Therapy for Bulimia Nervosa (CBT-BN) has been compared with a wide range of psychological treatments (Wilson & Fairburn, 2002). It has been found to be as effective as or more effective than all the treatments it was compared to.

The leading alternative treatment is thought to be Interpersonal Psychotherapy (IPT) which, in statistical terms, is comparable in its eventual effects but much slower to act (Agras, Walsh, Fairburn, Wilson & Kraemer, 2000b). Evidence suggests that the most powerful and consistent predictors of prognosis are the frequency of binge eating and purging at the start of treatment (the higher the frequency, the worse the prognosis) and, most importantly, the extent of their reduction over the initial weeks of treatment (Agras et al., 2000a). The predictive utility of early response to CBT is not confined to BN but has been reported in other disorders including depression, alcohol abuse and obesity. Despite the promising findings, Fairburn, et al (2003) admits that CBT-BN is not effective enough, as at best, only half the patients make a full and lasting response. This raises the important question “Why aren’t more people getting better?”

The lack of greater effectiveness in eating disorder treatment generally may indicate that CBT for eating disorders may need to become broader in its scope. The commonalities between the eating disorders are apparent when they are viewed longitudinally even more so than cross-sectionally. For example in patients who do not recover from AN, a cross-over to BN often occurs (e.g., Sullivan, Bulik, Fear, & Pickering, 1998), the result being that about a quarter of patients with BN have had AN in the past (e.g., Agras, Walsh, Fairburn, Wilson & Kraemer, 2000b). This may suggest that there are fundamental processes that are not being focused on in current treatment approaches that are common to different eating disorders/problems.

Fairburn et al (2003) point out that the significance of the migration of patients across the diagnostic categories of AN, BN and the atypical eating disorders has received little attention even though this cross over may not be random. Age and/or duration of disorder were put forward as relevant, with eating disorders of mid-adolescence typically taking the form of anorexia nervosa or an anorexia nervosa-like state, whereas a bulimia nervosa-like picture is more typical of those of late adolescence or early adulthood.

This phenomenon has encouraged further research into a transdiagnostic perspective on the maintenance of eating disorders (Fairburn et al, 2003) which is in its infancy and lacks adequate evaluation. The CBT-E model does not include inflexible emotional processing which this paper will seek to explore.

With regards to obesity, much literature has focused on the problem of weight loss maintenance. It has been suggested that one of the most significant psychological risk factors for weight regain is a higher level of depression, dietary disinhibition, and binge eating levels, (Maguire, Wing, Klem, Lang, Hill, 1999). This research was conducted in an adult population but studies with children and adolescence with obesity also indicate an association (e.g. Sjoberg, Nilsson and Leppert, 2005). As depression and binge eating are also implicated in the eating disorders, these commonalities may, as already suggested, indicate the need to identify a transdiagnostic process.

Prevention of eating disorders and obesity

Prevention methods for eating disorders and obesity already overlap. For example, healthy weight management, healthy eating patterns, increased physical activity, enhanced media literacy, positive body image, and effective skills for coping with negative affect and with stressors are preventative methods that have been applied to both eating disorders and obesity. Neumark-Sztainer, Story, Hannan and Rex, (2003) suggest that an important direction for this field is to develop programmes that address the broad spectrum of weight-related problems.

Neumark-Sztainer et al (2007) summarised the efficacy of programs for the prevention of body dissatisfaction and disordered eating so far, by dividing them into targeted or universal-selective programs. Targeted prevention focuses on people who do not yet have an eating disorder, but who are at high risk because they have clear precursors, such as a very negative body image. School or community-based interventions with preadolescent and adolescent girls are examples of universal-selective prevention programs where risk is not identified.

The goals of both of these prevention programs have been, in general, to decrease the risk factors that lead to, and increase the factors that protect against, body dissatisfaction, unhealthy weight control behaviours, and disordered eating symptoms. These include working on distal (societal and community) and proximal (home environment and parental behaviours) environmental factors e.g. comments from parents and changing advertising from “exercise for weight-loss” towards “exercise for well-being,” removing pictures of excessively thin models, as well as psychoeducation. These methods have been found to be promising but far less than ideal (Levine & Smolak, 2006). This may be because environmental adjustments need to be made in combination with individual psychological changes so that the environmental prevention measures have the best chance of success. Prevention programs may therefore need to include further work on the psychological processes that may be related to eating disorders and obesity.

Gaps in the literature

The literature does not clearly specify how the risk factors may combine in some people to result in the development of an eating disorder or allow us to differentiate those who will not develop an eating disorder from those who simply have unhealthy eating or compensatory behaviours. Nor does it allow for us to differentiate between those who cross diagnostic categories. The same can be said about the protective factors that may be at work with adolescents who are exposed to many of the risk factors for developing an eating disorder and yet do not engage in any of the risk behaviours (Striegel-Moore, 1997). Therefore further investigation is needed to explore the psychological processes that may be at play in the relationship between risk/protective factors and eating pathology.

Rationale for this project

Evidence suggests that disordered eating may result in further eating problems and an eating disorder, (i.e. AN, BN) or obesity. ACT suggests that inflexible emotional processing (i.e. cognitive fusion and experiential avoidance) may act as a risk factor in the development of such problems.

This project will therefore seek to examine cross-sectionally whether inflexibility is indeed related to disordered eating. Furthermore, the importance of negative body image in adolescent females, will be considered as it is an important risk factor in eating disorders and its' acceptance is considered important in relation to inflexibility.

Hypothesis and research questions

This study aims to explore the effect of inflexibility (i.e. cognitive fusion and experiential avoidance) on body image and disordered eating. To the author's knowledge there has to date been no research looking at the relationship between experiential avoidance and cognitive fusion on the onset and/or maintenance of disordered eating. If there is a significant relationship, then preventative interventions may need to include ways of helping adolescence with how they process their internal experiences in order to promote healthy eating and prevent the potentially negative and dangerous consequences of disordered eating. Alternatives to experiential avoidance and cognitive fusion may need to be learnt.

Based on the empirical findings and theoretical underpinnings discussed in the introduction, the hypotheses were divided into four sets. These are defined below:

Hypotheses I: This set of hypotheses concerns the relation between inflexibility, body image acceptance and Eating Disorder Risk (EDR), (See method section for details). The sample will be divided into three EDR groups, low, moderate and high risk.

- a) Acceptance of body image will be negatively correlated with inflexible emotional processing (i.e. high acceptance of body image will be correlated with lower scores on inflexibility)
- b) The low and/or moderate EDR groups will have lower inflexibility than the elevated risk group
- c) The low EDR group will have a higher level of acceptance of body image than the elevated risk group

Hypotheses II: It is expected that in comparison to the healthy BMI group the over and underweight groups will have:

- a) Higher means regarding inflexibility
- b) Lower means regarding body image acceptance
- c) Higher means in relation to anxiety and depression

Hypotheses III: These hypotheses focus on the variables of depression and anxiety in relation to inflexibility, body image acceptance and EDR.

- a) Inflexibility will be positively associated with depression and anxiety
- b) There will be a negative association between depression and anxiety in relation to body image acceptance
- c) Those in the high EDR group will have higher means of depression and anxiety than those in the low EDR group

Additional research questions are as follows:

- 1) Eating disorder history and mental illness history will be positively associated with inflexibility
- 2) Drug and Alcohol use will be associated with higher levels of inflexibility
- 3) Academic performance will be negatively associated with inflexibility
- 4) There will be a mean difference between the EDR groups on eating disorder history and mental illness history
- 5) There will be a mean difference between the EDR groups on drug and alcohol use
- 6) There will be a mean difference between the EDR groups on bullying
- 7) There will be a mean difference between the EDR groups on perfectionism
- 8) Self-esteem will be positively associated with EDR
- 9) BMI will be associated with EDR

Method

Design:

A non experimental, correlational research design was employed in order to enable an examination of the relationships between the variables; disordered eating measured as eating disorder risk (EDR), body image and inflexibility in emotional processing. The major limitation of correlational research is that firm causal inferences cannot be drawn but causal hypothesis can be put forward.

A cross sectional study design was employed enabling only a snapshot picture of an adolescent community at a point in time. Such a design cannot examine developmental change within individuals (i.e. whether the individuals will go on to develop an eating disorder or continue to display disordered eating, dissatisfaction with their body image and/or inflexible emotional processing). Furthermore, this design does not enable a differentiation to be made between cohort and period effects from developmental effects.

Participants:

Only school aged female adolescents between the ages of 12-15, who returned a signed parental consent form, were included in the study.

Inclusion/exclusion:

Those who could not read and write in English were excluded from the study, as the measures used required written English. All female students attending the schools approached that were in the targeted classes, were included as participants with consent. Only a minority of participants in the targeted classes did not have parental consent so were not included in the study.

Sample size:

To ensure adequate statistical power to detect a moderate correlation, a power analysis was carried out using G Power. The power analysis conducted suggested that a sample size of 64 would be sufficient to detect a moderate correlation $r= 0.30$ with power at 0.80 and at alpha at 0.05 (1 tailed). The total sample used was ninety-six.

Procedure:**Recruitment**

The researcher approached seven secondary schools in London to ask for participants for this study. Four schools agreed to take part and one school agreed but did not have any consent forms returned so was not involved further in the study, the other two schools refused to participate stating no reason. The schools were sent 'information sheets for teachers' electronically (Appendix 6). Those schools that accepted the invitation to be a part of this study were given copies of information sheets for parents, a cover letter with details of the deadline for returning the consent form for each adolescent's parents and a consent form that was to be signed by a parent or guardian (see appendices 6, 7, 8 respectively) for each adolescent. These documents were to be sent out to the parents/guardians of all 12-16 year old females able to complete the questionnaires on the pre-determined days. A convenient time was arranged for the researcher to attend each school in order to collect the data.

At each school the researcher distributed the measures and asked the adolescent girls to complete all the questions on all the questionnaires quietly. Information about the researcher and purpose of the study was given in brief. The participants were also asked to take it in turns to be weighed and measured by the researcher using scales and a ruler. They were to go to a discrete corner of the classroom or dining hall to be weighed and measured in confidence, one at a time.

The researcher remained in the room with the participants whilst they completed the questionnaires in order to supervise, ensure confidentiality was maintained amongst the participants and to answer any questions e.g. about the meaning of words or questions.

The participants were thanked for their involvement in the study by being given a certificate (see appendix 9) that they could put in their record of achievement folder. They were also given a debrief sheet which is described below (see Appendix 10).

Measures:

Four self-report standardised questionnaires were used and additional background information was collected. The questionnaires used were the Eating Disorder Inventory – Third Edition (EDI-3 - Appendix 1), Avoidance and Fusion questionnaire for Youth (AFQ-Y), (Appendix 2), Body image - Acceptance and Action questionnaire (BIAAQ) (Appendix 3), and Hospital Anxiety & Depression Scale, (HADS) (Appendix 4). The background information sheet was a two sided list of questions put together by the researcher (Appendix 5).

1) The Eating Disorder Inventory, Third Edition, Garner, D., Olmsted, M. and Polivy, J. (2004) (EDI-3) is a 91-item, 6-point forced-choice inventory assessing several behavioral and psychological traits considered common in eating disorders. The EDI-3, is a self-report measure devised in the U.S and has been used frequently for research in the Western world. The manual details that the questionnaire can be utilised as a screening device, outcome measure, or part of typological research. The EDI-3 provides normative information for females with eating disorders who are aged 13-53 years. All normative protocols were collected in various outpatient and inpatient settings.

Scoring:

The EDI-3 consists of 12 subscale scores. The subscales; Drive for Thinness (DT), Bulimia (B), Body Dissatisfaction (BD) indicate eating disorder risk.

The subscales; Low Self Esteem (LSE), Personal Alienation (PA), Interpersonal Insecurity (II), Interpersonal Alienation (IA), Interoceptive Deficits (ID), Emotional Dysregulation (ED), Perfectionism (P), Asceticism (A) and Maturity Fears (MF) are termed psychological scales.

The 7 items on the DT scale assess for an extreme desire to be thinner, concern with dieting, a preoccupation with weight and an intense fear of weight gain. This scale is thought to be a good predictor of binge eating and of the development of formal eating disorders in adolescents and adults. Girls with higher body weights have higher DT scores. The B scale assesses the tendency to think about, and engage in bouts of uncontrollable overeating. The presence of binge eating is one of the defining features of bulimia. The BD scale assesses discontentment with the overall shape and size of regions of the body that are of great concern to those who have eating disorders.

Eating Disorder Risk Composite

The subscales of Drive for Thinness (DT), Bulimia (B) and Body Dissatisfaction (BD) together indicate eating disorder risk which is calculated using the Eating Disorder Risk Composite Score (EDRC). This is calculated by summing the T scores for the Drive for Thinness, Bulimia and Body Dissatisfaction scales. This was used, as is recommended, in order to obtain one score reflecting the level of eating concerns. The total EDRC is divided into the following three categories elevated clinical range, typical clinical range and low clinical range. These were renamed low, moderate and high eating disorder risk (EDR) groups for the purposes of this study. The elevated clinical range category is in the 99th percentile for the adolescent non clinical U.S sample indicating extreme eating and weight concerns that consist of fear of weight gain, desire to be thinner, binge eating tendencies and body dissatisfaction. Thus it is suggested that a score in this range should raise concerns about the presence of a clinical eating disorder or serious eating concerns or symptoms. The typical clinical range score is between the 91st and 98th percentile for the adolescent non clinical U.S sample and the low clinical range is less than the 90th percentile. Individuals from the latter group do not have significant problems with eating and weight concerns such as those stated for the elevated clinical range group.

The psychological scales will be defined briefly in turn. The LSE has six items measuring the basic concept of negative self evaluation. The items target affect laden constructs related to feelings of insecurity, inadequacy, ineffectiveness and a lack of personal worth.

The PA scale consists of seven items which are broader than the LSE measuring emotional emptiness, aloneness and a poor sense of self understanding. This scale correlates with external measures of somatisation, sensitivity, hostility and depression.

The II scale consists of seven items assessing discomfort, apprehension, reticence in social situations, difficulties expressing feelings to others and the tendency to isolate oneself. There is no published research on this scale but inter-correlations with other measures suggest an avoidant and passive interpersonal style.

The IA scale has seven items assessing disappointment, distance and a lack of trust in relationships. A high IA score is thought to indicate an impaired attachment.

The ID scale consists of nine items that measure confusion related to accurately recognising and responding to emotional states. A high ID score is a risk factor for the development of an eating disorder and has been found to correlate with external measures of anxiety, depression, sensitivity and low self esteem.

The ED scale consists of eight items that assess a tendency towards mood instability, impulsivity, recklessness anger and self destructiveness e.g. drug and alcohol misuse.

The P scale consists of six items that evaluate the extent to which a person places a premium on achieving high goals and the highest possible standards of personal achievement. It assesses both personal and social prescribed perfectionism.

The A scale consists of seven items that assess the tendency to seek virtue through the pursuit of spiritual ideals such as self-discipline, self-denial, self-restraint, self-sacrifice and control of bodily urges. This scale has demonstrated a high level of discriminant validity in differentiating those with bulimia from psychiatric controls.

The MF scale consists of eight items that assess the desire to retreat to the security of childhood. This construct has been described as central in maintaining some adolescents dieting and weight loss because it provides a means to return to pre-pubertal appearance and hormonal status.

Reliability:

The average item total correlation of the eight subscales of the Eating Disorder Inventory-3 was .63 (SD = .13). Reliability information was based on 271 college women in the U.S.A on whom completed information on all subscales was obtained. Reliability coefficients (standardized Cronbach's alphas) for the Anorexia Nervosa (AN) group ranged from .83 (Interoceptive Awareness) to .93 (Ineffectiveness). Reliability coefficients for the female college students ranged from .72 (Maturity Fears) to .92 (Body Dissatisfaction).

Validity:

Criterion-related validity studies were performed by comparing the EDI-3 patient profiles with the judgments of clinicians familiar with the patient's psychological presentation. A subgroup of 49 of the AN patients who had completed the EDI-3 was assigned two raters: a psychologist and psychiatrist who were familiar with the patients, being their primary therapist or consultant. The raters were provided with the description of the subscale content and with the patients' total score percentile rank within the entire AN sample. All inter-rater correlations were significant at the $p < .001$ level and ranged from .43 (Maturity Fears) to .68 (Ineffectiveness).

Norms:

Two groups of respondents participated in the validation of the EDI-3. The criterion group (n = 129) was composed of three sub-samples of women. These women averaged 20% below the expected weight for their height and age. In this sample, 56 were classified as "restrictors" and 73 were diagnosed as "bulimic."

The comparison group (n = 770) consisted of three samples of female university students who were enrolled in introductory and upper-level psychology classes. These volunteers were administered the EDI-3 in their classes.

2) Avoidance and Fusion Questionnaire for Youth (AFQ-Y)

Greco, L. A., Lambert, W., & Baer, R. A. (2006).

This is a 17-item child report measure, for ages 9-17, intended for assessing psychological inflexibility as defined by Acceptance and Commitment Therapy (ACT). It measures (a) experiential avoidance/control – (i.e. attempts to escape, alter, or otherwise control negatively evaluated private events) and (b) cognitive and emotional fusion – (i.e. attachment to private events and responding to internal experiences such as thoughts, feelings, physical bodily sensations as if they were literally true).

Scoring:

Respondents are asked to rate how true each item on the AFQ-Y is for them (0 = Not at All True; 4 = Very True). High scores indicate psychological inflexibility.

Reliability:

The AFQ-Y demonstrates very good internal consistency, with Cronbach's alpha ranging from .90 to .93.

Validity:

The AFQ-Y correlated significantly in expected directions with measures of symptoms and functioning, supporting its convergent validity. For example, the AFQ-Y correlated positively with child measures of anxiety and problem behaviour, while correlating negatively with measures of overall quality of life. Findings also support the construct validity of the AFQ-Y. For example, the AFQ-Y scores correlated significantly in a negative direction with mindfulness and acceptance scores, and positively with thought suppression.

The processes of cognitive fusion and experiential avoidance that make up the construct of inflexibility will be referred to as inflexible emotional processing or inflexibility throughout the remainder of this thesis.

3) The Body Image - Acceptance and Action Questionnaire (BI-AAQ)

Sandoz, E. K. & Wilson, K. G., (2006)

The BIAAQ is a 29 item self-report scale that has been designed to measure the extent to which an individual exhibits an accepting posture toward negative thoughts and feelings about his or her body shape and/or weight.

Scoring:

Respondents are asked to rate items on a 7-point scale that ranges from 1 ('Never True') to 7 ('Always True'). Higher scores indicate more acceptance. Reverse scored items are: 2, 3, 4, 7, 8, 10, 11, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25, 26, 27, 28, and 29.

The measure has promising initial psychometric data but is yet to be fully evaluated.

Reliability:

The scale is internally consistent with Cronbach's alpha = .93.

Validity:

Construct validity is also good. Scores are significantly negatively correlated with well-established measures of theoretically related constructs such as body dissatisfaction, bulimia, general eating pathology, and general distress. The BIAAQ is also significantly positively correlated with well-established measures of theoretically related constructs such as mindfulness skills, and general acceptance. Scores also predict performance on an Implicit Relational Assessment Procedure with body and self-related stimuli.

4) Hospital Anxiety and Depression Scale (HADS)

Zigmond and Snaith (1983)

The HADS is a brief measure of anxiety and depression consisting of 14 items (7 for each).

Scoring:

Each item is rated on a four point (0–3) response category so the possible scores ranged from 0 to 21 for anxiety and 0 to 21 for depression. An analysis of scores on the two subscales enabled provision of information that a score of 0 to 7 for either subscale could be regarded as being in the normal range, a score of 11 or higher indicating probable presence ('caseness') of the mood disorder and a score of 8 to 10 being just suggestive of the presence of the respective state.

The HADS was originally developed for people aged between 16 and 65. Only two studies focused explicitly on using the HADS in a population sample of adolescents, i.e. Jorngarden, Wettergen and Von Essen (2006) and White, Leach, Sims, Atkinson, and Cottrell (1999). The latter aimed at validating the HADS for use with a British adolescent population (aged 12–16). The study concluded that the HADS is reliable, and has adequate sensitivity and specificity, and is therefore useful for screening adolescents.

Reliability and Validity:

Cronbach's coefficient was found to be 0.80 and Depression 0.76, in a sample of 69,648 adult participants, therefore concluding that the basic psychometric properties of the HADS scale as a self rating instrument should be considered as 'quite good' in terms of factor structure, intercorrelation, homogeneity, and internal consistency (Mykleton, Stordal and Dahl, 2001). White et al (1999) found that the HADS had adequate test-retest reliability and factor structure, and discriminated between adolescents diagnosed with depressive or anxiety disorders and those without these diagnoses. They concluded that the psychometric properties of the HADS and its shortness make it useful for screening and in clinical settings with adolescents.

White et al (1999) suggested making modifications to the cut-offs to reflect lower rates of depression among adolescents than among adults and higher rates of anxiety. For screening, the higher cut-offs (10 for depression and 12 for anxiety) minimise the probability of false positives. In clinical settings, the lower cut-offs (7 for depression and 9 for anxiety) minimise false negatives.

5) Background Information

The information sought included the number, age and gender of siblings, ethnicity, living arrangements, learning sets at school for the subjects Maths, English and Science, family history of obesity and of mental illness, use of non prescribed drugs and alcohol and certain life experiences such as house/school moves, loss of a family member/friend accidents, illnesses, bullying, hospitalisations and abuse.

These questions were asked in order to acquire information regarding the context of the individuals. These factors were thought to have potential relevance for the interpretation of the results.

BMI

In addition, a calculation of the Body Mass Index (BMI) was undertaken, which uses a child's weight and height as well as their age to indicate body fatness. BMI is considered a reliable indicator of body fatness for most children and adolescents (Lask and Bryant-Waugh, 2000). In this study the BMI was used to indicate body fatness and was calculated using the Center for Disease Control and Prevention website. It is calculated by dividing weight in Kg by square of length/height (m²). After BMI is calculated for children and adolescence, the BMI number is plotted on the BMI-for-age growth charts (for either girls or boys) to obtain a percentile ranking. Percentiles are the most commonly used indicator to assess the size and growth patterns of individual children. The percentile indicates the relative position of the child's BMI number among children of the same sex and age. The growth charts show the weight status categories used with children and adolescence.

The BMI-for-age weight status categories differ in the U.K from the U.S. The corresponding percentiles are shown for each country in the following table:

U.S Weight Status Category	U.S Percentile Range	U.K Weight Status Categories	U.K Percentile Range
Underweight	Less than the 5 th percentile	Underweight	Less than the 2 nd percentile
Healthy weight	5 th percentile to less than the 85 th percentile	Healthy weight	3 rd percentile to less than the 90 th percentile
At risk of overweight	85 th to less than the 95 th percentile	Overweight	91 st to less than the 98 th percentile
Overweight	Equal to or greater than the 95 th percentile	Obese	Equal to or greater than the 98 th percentile

Ethical issues:

The researcher was mindful that the subject of disordered eating may be a sensitive one for adolescent females aged 12-15. Also, other questions asked such as those regarding the experience of certain life events e.g. abuse, may also have been highly sensitive. It was therefore deemed important for the adolescents to have time and space in a quiet environment to complete the questionnaire. Furthermore due to the possibility that the questions may have had the potential to cause distress the researcher sought to reduce the likelihood of this by making it clear that all participants could contact her for further advice and support in the event that they experienced distress. The researcher’s contact details were therefore placed on the participant information sheet and the participants were informed at the start of data collection that she could be contacted either following the data collection session or at a later date. A debrief sheet was given to all the participants which detailed services or websites they could access for support and information about various issues including eating disorders and abuse. The debrief sheet prompted the participants to use the listed resources if any of the questions left them feeling distressed.

Other important ethical issues pertaining to the study included confidentiality of data and obligation to participate. The confidentiality issue was managed by informing all participants that all information gathered through the study would remain confidential. Only the researcher had access to information that would identify participants, and participants were informed that the researcher was bound by patient confidentiality limits as defined by the British Psychological Society (2000). All questionnaires were anonymised and numerically coded and locked in a secure location separate from any documents that may have identified participants, such as parental consent forms. All computerised data files were password protected and had no identifying information. To minimise any obligation participants may have felt to participate, the participant information sheet and consent forms clearly highlighted that individuals did not have to take part in the study and that they could withdraw at any time without giving a reason.

Ethics approval was obtained from the Psychology Ethics Committee, University of Hertfordshire. This was sought and obtained before contact with the participants was made (see appendix 11 for the approval letter). Further ethics approval was not deemed necessary as the sample was from a non clinical population.

Results

Section I will provide descriptive statistics regarding socio-demographic variables of the sample. It will also report the frequencies of the Body Mass Index (BMI) and Eating Disorder Risk (EDR) groups. These groups will be further explored in relation to other clinical variables as relevant to the hypotheses in section II. Section II will include testing of all the hypotheses defined and discussed in turn. Section III includes the testing of additional research questions. Finally, section IV is a multi-variate analysis of predictors of EDR.

The use of methods to adjust the statistical significance such as Bonferroni corrections was considered but in view of the small group sizes involved in hypothesis testing it was decided to not adjust the significance level below 5% as this would lead to a loss of power with the danger of failing to detect effect sizes of practical significance. Moreover, the number of planned comparisons related to the hypotheses were limited and the further analysis carried out in the last two sections were exploratory.

Section I

1 - Socio-demographic description of the sample

Table 1: Frequency counts and percentages for the socio-demographic characteristics of the sample

	School 1	School 2	School 3	School 4	All School's
N	35 (36%)	44 (46%)	14 (15%)	3 (3%)	96 (100%)
M age	12.97	14.2	14.14	12.33	13.69
Min age	12	13	13	12	12
Max age	13	15	15	13	15
SD	0.17	0.63	0.54	0.58	0.80

Ethnicity					
White	9	27	8	0	44 (46%)
Black or mixed	13	8	5	0	26 (27%)
Indian and other Asian	8	4	1	0	13 (13%)
Other	3	5	0	3	11 (11%)
Did not specify	2	0	0	0	2 (2%)

As can be seen from the above table the ages ranged from 12-15 with an ethnicity mix of 44 White females (46%), 26 Black or Mixed race (27%), 13 Asians (14%) and 11 Other (12%).

Information was collected regarding the participants' subject sets in order to tentatively explore the distribution of academic ability amongst the sample.

Table 2: Frequency counts and percentages for academic performance

	School 1	School 2	School 3	School 4	All School's
Math's Set					
Top	7	23	4	1	35 (36%)
Middle	17	14	8	1	40 (42%)
Bottom	9	6	1	0	16 (17%)
Did not specify/ N/A	2	1	1	1	5 (5%)
English Set					
Top	0	10	9	1	20 (21%)
Middle	0	3	4	1	8 (8%)
Bottom	0	0	1	0	1 (1%)
Did not specify/ N/A	35	31	0	1	67 (70%)

The majority were in the middle set for maths (42%) and 35 (37%) in the top set with 16 (17%) in the bottom set. English sets were not used in all the schools. In the schools that had English sets most girls were in the top set (21%), 8 (8%) in the middle set and 1 (1%) in the bottom set.

2 - BMI classification

The sample was divided into groups based on their BMI's for some of the analysis and into EDR groups in other analyses depending on which hypothesis was being considered.

Below are the categories and the frequencies of the sample in this study using the U.K and the U.S BMI percentile categories which differ (as explained in the method section). Table 3 also includes the BMI categories that are used in this study which are based on the U.S classification but those at risk of becoming overweight and those classified as overweight were grouped together.

Table 3: BMI categories and frequencies for the different cut off values

BMI U.K	U.K Frequencies	BMI U.S.A	U.S.A Frequencies	BMI categories adopted for this study	Frequencies of BMI categories used in this study
Healthy	76 (79%)	Healthy	61 (64%)	Healthy	61 (64%)
Overweight	15 (16 %)	Risk of Overweight	10 (10%)	Overweight	14 (15%)
Underweight	5 (5%)	Underweight	21 (22%)	Underweight	21 (21%)
Obese	0	Overweight	4 (4%)		
Total	96 (100%)	Total	96 (100%)	Total	96 (100%)

As is evident from Table 3 there are no obese participants in this sample when using the U.K classification system. Using the U.S classification system therefore yields a different set of frequencies as they have a ‘risk of overweight’ and an ‘overweight’ group.

Due to the differing results produced by the different categorisation percentiles and in order to have groups large enough for meaningful comparisons the U.S classification system was used and those at risk of becoming overweight were grouped with those classified as overweight into one group. Moreover, the U.S system was broader and has been used frequently in research studies in both countries as well as internationally. It was also thought to be consistent with using U.S measures e.g. EDI-3.

3- EDR classification

In order to test the primary hypotheses investigating the risk of an eating disorder in relation to the clinical variables, EDR was divided into the categories displayed in table 4 below.

Table 4: Frequency counts and percentages of Eating Disorder Risk categories

Eating Disorder Risk categories (percentiles from normed data)	Frequency (%)
Low Risk (less than 90 th percentile)	68 (71%)
Moderate Risk (91 st and 98 th percentiles)	17 (18%)
High Risk (99 th percentile)	11 (11%)
Total	96 (100%)

As can be seen from Table 4 the majority i.e. 71% of the sample fell in the low risk category. This is as might be expected from a non clinical population of adolescents at school. Nearly 18% scored at the moderate risk level and 11% scored in the high risk level which suggests this minority of adolescent females may have a clinical eating disorder or serious eating concerns or symptoms.

4 – History of mental health, eating problems and critical life events

Table 5: Frequency counts and percentages for eating disorder and mental health

	Total sample
History of eating disorder (or obesity)	
No history	81 (84%)
History in immediate family	5 (5%)
History in extended family	5 (5%)
No answer	5 (5%)
History of mental illness	
No History of mental illness	74 (77%)
Yes	11 (11%)
Did not answer	11 (11%)
Alcohol use reported	
Yes	20 (21%)
No	68 (71%)
No answer	8 (8%)
Illicit drug use reported	
Yes	13 (13%)
No	75 (78%)
No answer	8 (8%)

Participants were also asked about a history of eating disorder or obesity and of mental illness in their families (both immediate and wider). This information is difficult to ascertain conclusively from the self reports as the adolescent participants may not have been aware of a diagnosis or report on an assumption. 84% reported that there was no history of eating disorders or obesity in their family, 5% reported that there was such a history in their immediate family and another 5% said that there was such a history in their extended family. 77% of the sample reported that there was no history of mental

illness in the family and 11% reported that there was such a history (with 11% not answering).

As regards alcohol and illicit drug use 21% reported alcohol use, 71% reported that they did not use alcohol and 8% did not answer. 13% reported using illicit drugs, 78% said that they did not and 8% did not answer the question.

Table 6: Frequency counts and percentages for critical life events

		Total sample
Loss of family member	Yes	63 (72%)
	No	24 (28%)
Serious accident	Yes	28 (32%)
	No	60 (68%)
Significant Illness	Yes	29 (33%)
	No	58 (67%)
Experience of bullying	Yes	25 (28%)
	No	63 (72%)
Hospitalisation	Yes	28 (33%)
	No	58 (67%)
Experience of a trauma	None	77 (80%)
Experience of sexual abuse		1
Experience of physical abuse		1

Losses, accidents, bullying, illnesses and other traumatic experiences were asked about as part of the background information gathered in order to explore whether such factors played any part in relation to inflexible emotional processing and eating disorder risk. A large percentage reported having experienced a loss 72% and 28% said that they had not. Most of the participants that answered the question regarding a serious accident said that they had not suffered a serious accident 60 (68%) with 28 (32%) reporting having suffered a serious accident (8 did not answer this question).

As regards experience of an illness, 90% answered the question and of those 33% reported having experienced significant illness and 67% said they had not.

Of the 92% that answered the question about experiencing bullying, just over 28% said they had and 71% said they had not been bullied. Ninety percent responded to the question on hospitalisation, with 33% reporting having been hospitalised and 67% had not. Of the 80% of the total sample that answered the question about their experience of trauma all except 2% (i.e. 2 participants) reported no history of trauma. One reported an experience of physical abuse and one of sexual abuse. No further details were requested.

5- BDI groups and EDI scales

The descriptives of the variables were separated into the three BMI groups in order to compare the healthy BMI group with the other two groups (i.e. overweight and underweight) on the 12 subscales of the EDI-3.

Table 7: Descriptives for the eating disorder scales from the EDI-3:

EDI-3 Scales	Body Mass Index (BMI) Category Healthy	Body Mass Index (BMI) Category Overweight	Body Mass Index (BMI) Category Underweight	EDI-3 norms for adolescents Eating Disorder Risk EDR
Drive for thinness				
Mean (Std error)	9.38 (1.09)	13.93 (2.14)	6.62 (1.55)	High EDR 25-28 Moderate 17-24 Low 0-16
Median	7	14.5	5	
SD	8.54	8.02	7.11	
Min-Max	0-28	0-26	0-23	
Skewness (Std error)	0.84 (0.31)	-0.34 (0.6)	1.03 (0.50)	
Bulimia				
Mean (Std error)	4.80 (0.77)	7.43 (1.54)	4.81 (1.05)	High EDR 19-32 Moderate 5-18 Low 0-4
Median	3	8	4	
SD	6.022	33.341	4.82	
Min-Max	0-27	0-18	0-18	
Skewness (Std error)	1.78 (0.31)	0.13 (0.60)	1.14 (0.50)	
Body Disatisfaction				
Mean (Std error)	14.98 (1.22)	22.64 (2.02)	9.62 (1.91)	High EDR 36-40 Moderate 22-35 Low 0-21
Median	15	22	8	
SD	9.5	7.56	8.74	
Min-Max	0-33	9-36	0-32	
Skewness (Std error)	0.19 (0.31)	0.02 (0.60)	1.12 (0.50)	
Low self-esteem				
Mean (Std error)	5.44 (0.61)	8.29 (1.28)	5.05 (1.02)	High EDR 17-24 Moderate 9-16 Low 0-8
Median	4	8.5	4	
SD	4.69	4.78	4.68	
Min-Max	0-17	2-16	0-16	

Skewness (Std error)	0.86 (0.31)	0.32 (0.60)	1.07 (0.50)	
Personal Alienation Mean (Std error) Median SD Min-Max Skewness (Std error)	6.25 (0.66) 6 5.15 0-22 0.82 (0.31)	8 (1.5) 9 5.71 0-17 0.09 (0.60)	6.52 (1.49) 3 6.8 0-23 0.97 (0.50)	High EDR 17-28 Moderate 9-16 Low 0-8
Interpersonal insecurity Mean (Std error) Median SD Min-Max Interquartile range Skewness (Std error)	6.39 (0.60) 6 4.72 0-20 9 0.50 (0.31)	6.21 (1.06) 6 3.98 1-14 7.25 0.38 (0.60)	7.67 (1.1) 6 3.09 1-21 5.50 1.09 (0.50)	High EDR 15-28 Moderate 7-14 Low 0-6
Interpersonal alienation Mean (Std error) Median SD Min- Max Skewness (Std error)	6.23 (0.55) 6 4.33 0-19 0.76 (0.31)	7.43 (0.95) 7 3.57 1-16 0.78 (0.56)	7.3 (1.13) 7 5.2 0-19 0.53 (0.5)	High EDR 13-28 Moderate 6-12 Low 0-5
Interoceptive deficits Mean (Std error) Median SD Min-Max Skewness (Std error)	9.5 (0.98) 8 7.68 0-29 0.87 (0.31)	10.14 (1.76) 11.5 6.58 1-20 -0.24 (0.60)	8.95 (1.35) 8 6.17 0-25 0.77 (0.5)	High EDR 21-36 Moderate 11-20 Low 0-10
Emotional dysregulation Mean (Std error) Median SD Min-Max Skewness (Std error)	6.69 (0.72) 5 5.64 0-24 1.22 (0.31)	7.79 (1.52) 6.5 5.7 1-24 1.83 (0.60)	6.8 (1.6) 5 7.75 0-32 2.23 (0.5)	High EDR 10-32 Moderate 4-9 Low 0-3
Perfectionism Mean (Std error) Median SD Min-Max Skewness (Std error)	9.1 (0.75) 7 5.8 0-24 0.52 (0.31)	9.5 (1.4) 8 5.28 4-21 0.92 (0.6)	11.52 (1.23) 12 5.62 2-24 0.32 (0.97)	High EDR 17-24 Moderate 10-16 Low 0-9
Asceticism Mean (Std error) Median SD Min-Max Skewness (Std error)	5.8 (0.62) 4 4.8 0-24 1.6 (0.31)	7.6 (1.05) 9 3.9 0-12 -1.08 (0.6)	4.5 (1.08) 4 4.9 0-22 2.3 (0.5)	High EDR 16-28 Moderate 9-15 Low 0-8
Maturity fears Mean (Std error) Median SD	11.4 (0.68) 12 5.3	13.6 (2.0) 12.5 7.5	12.2 (1.32) 12 6	High EDR 13-32 Moderate 6-12 Low 0-5

Min-Max	1-23	2-26	5-24	
Skewness (Std error)	0.21 (0.31)	0.14 (0.6)	0.57 (0.5)	

As can be seen from table 7 there appear to be differences in mean scores between the three BMI groups, these will be pursued using bivariate analysis, if being overweight is found to be associated with subscales described above, it may be useful to explore what other clinical variables are associated with having a high BMI, as is hypothesised in section II, hypotheses II.

Section II – Testing the hypotheses of the study

The hypotheses will be stated and tested in turn. The primary hypotheses of the study will be considered first.

Hypothesis I (a): Acceptance of body image will be negatively associated with inflexible emotional processing (i.e. lower scores on inflexibility will be associated with higher acceptance of body image)

A scatterplot was constructed to explore the relationship between the acceptance of body image and inflexibility.

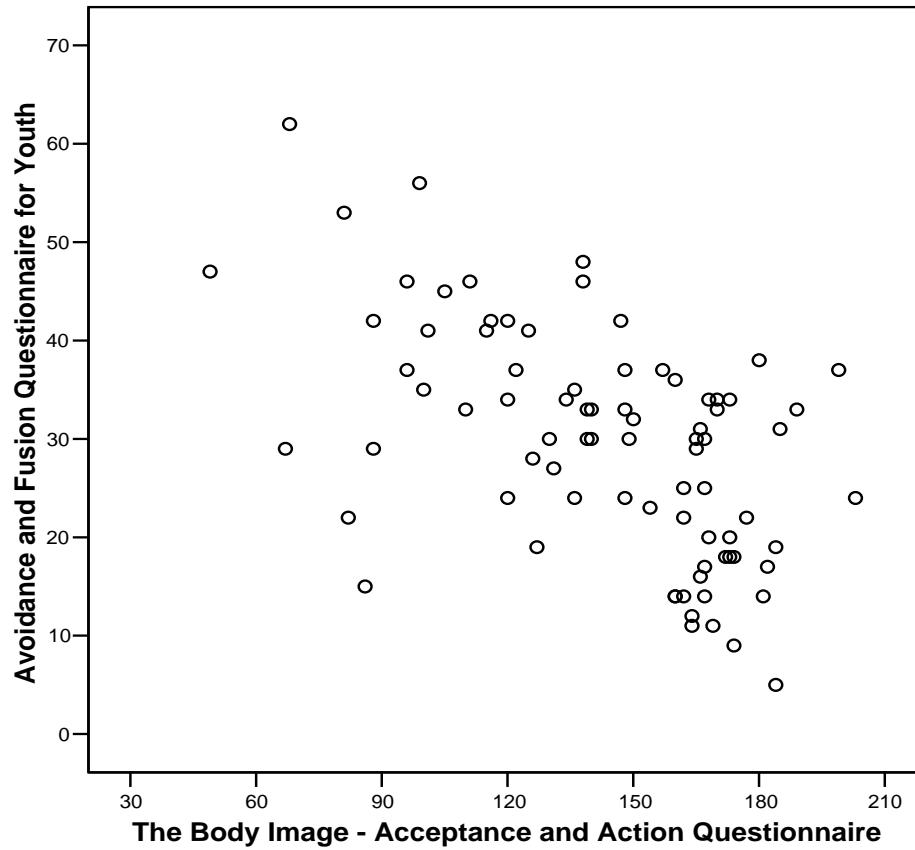


Figure 2 – Scatterplot of inflexibility of emotional processing and body image acceptance

As can be seen from the above scatterplot there appears to be a negative correlation so that when inflexibility is high body acceptance is low which was considered with inferential statistics. The scatterplot suggests a linear relation and there are no apparent outliers. A significant negative correlation, Pearson's, $r = -0.55$, $p = 0.001$, ($n=81$) was confirmed so that the hypothesis that higher inflexibility will be associated with lower body image acceptance was supported.

Hypothesis I (b): The low and moderate Eating Disorder Risk groups will be less inflexible in their emotional processing than the high risk group

The following boxplots display the distributions, spread of scores, outliers and any anomalies of the Avoidance and Fusion Scale for each EDR group. The horizontal line through each box represents the line of central tendency, the median score.

The lower boundary of the box represents the 25th percentile, whilst the upper boundary represents the 75th percentile. The whiskers, the lines above and below the box indicate the largest and smallest scores.

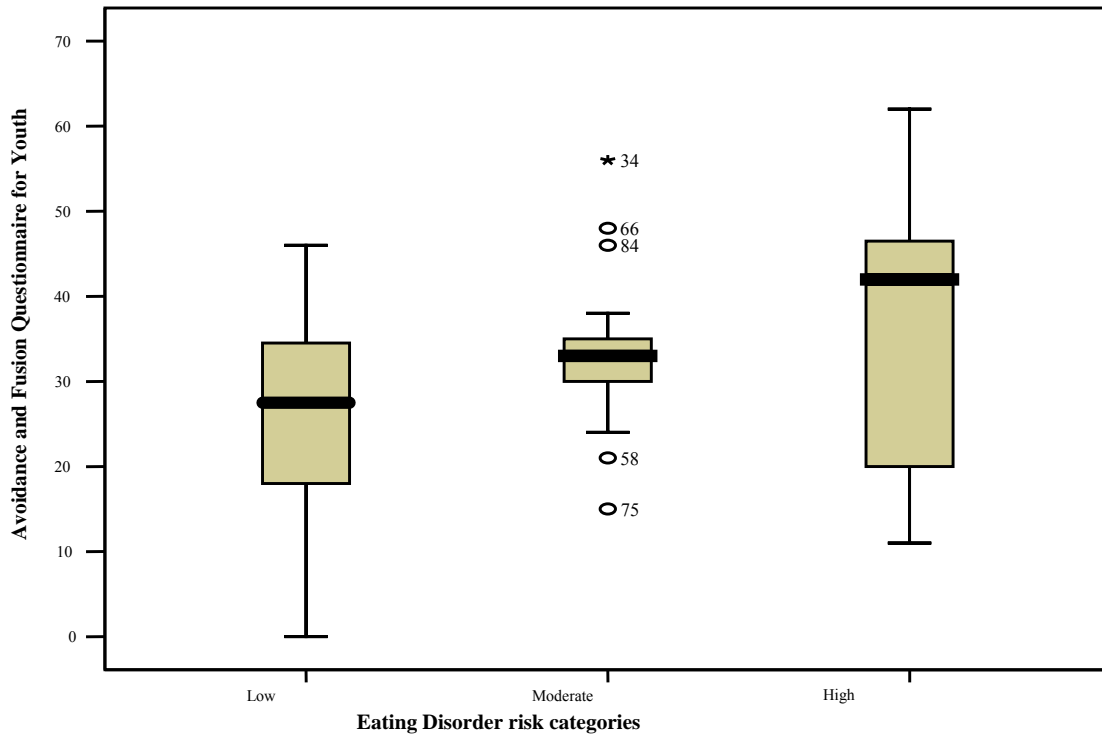


Figure 3 - Boxplot of inflexibility in emotional processing for the eating disorder risk groups

Figure 3 shows that those in the high EDR group appear to have higher scores regarding inflexibility, lending initial support to the primary hypothesis that inflexibility will be associated with eating disorder risk. Inflexible emotional processing is hypothesised to be higher in those with a higher EDR and therefore flexible emotional processing will be found more in those in the low EDR group. Relevant descriptive statistics are displayed in table 8 below.

Table 8 - Descriptive statistics for the Inflexibility clinical scale for the EDR groups

Eating Disorder Risk Category	Inflexibility
Low	
N	68
Mean (Std error)	26.43 (1.34)
Median	27.50
SD	11.01
Min-Max	0-46
Skewness (Std error)	-0.10 (0.29)
Moderate	
N	17
Mean (Std error)	33.82 (2.37)
Median	33
SD	9.76
Min- Max	15-56
Skewness (Std error)	0.44 (0.55)
High	
N	11
Mean (Std error)	35.27 (5.21)
Median	42
SD	17.29
Min-Max	11-62
Skewness (Std error)	-0.07 (0.66)

As can be seen from Table 8 above the high EDR group has the highest mean inflexibility score (35.27) followed by the moderate EDR group (33.82) and then the low group mean was 26.43. This suggests that the higher the EDR the higher the degree of inflexibility, this would be tested using inferential statistics. In view of the group sizes it was decided to use non parametric analysis to prevent producing results that would violate parametric assumptions. Therefore the above hypothesis was explored using the Mann Whitney U Test.

Table 9 – Results of the Mann Whitney U Test exploring mean difference between EDR groups in relation to inflexibility

Comparison of Inflexibility	Mean difference (SE)	Z	p value (1-tailed)	Effect size (Cohen's d)
1. Low EDR compared to Moderate EDR	-7.40	-2.29	0.01	0.71
2. Low EDR compared to High EDR	-8.85	-1.67	0.05	0.61

3. Moderate EDR compared to High EDR	-1.45	-0.19	0.43	0.10
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As can be seen from Table 9, there is a significant association between EDR and inflexibility. It appears that the high and moderate EDR groups are more inflexible than the low EDR group, this thus confirms hypothesis I (b). Moreover, the effect sizes are between medium and high.

Hypothesis I (c): The low EDR group will have higher body image acceptance than the moderate and high risk groups

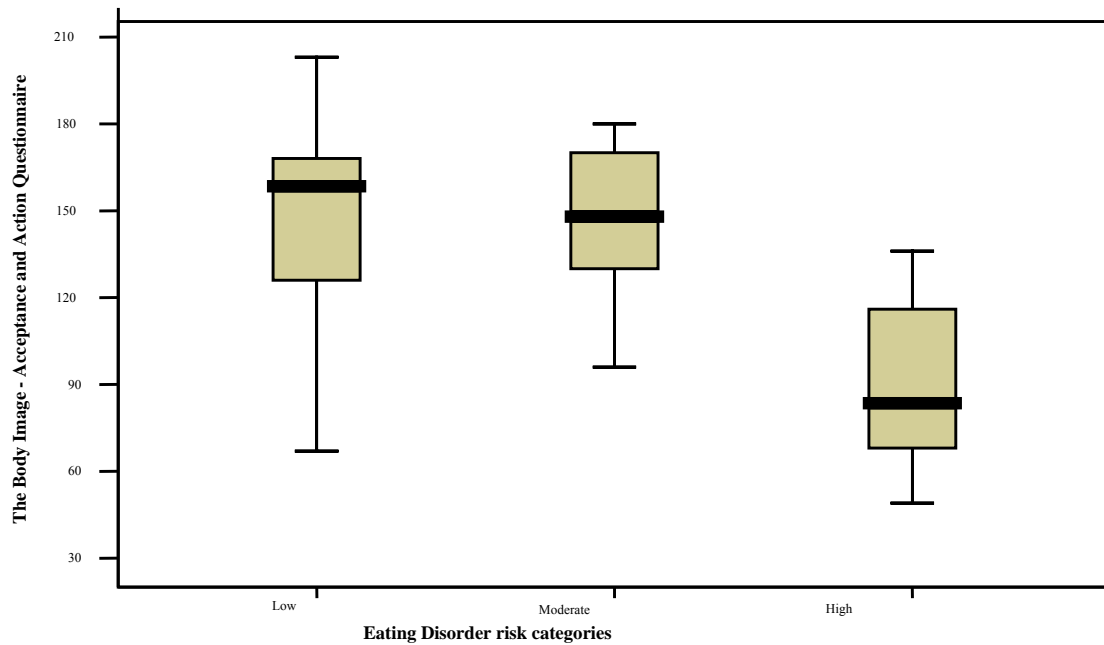


Figure 4 – Boxplot of the acceptance of body image dissatisfaction for the eating disorder risk groups

As can be seen from Figure 4, the low EDR group appears to have a higher median body image acceptance than both the moderate and the high groups.

There were no outliers or extreme cases. Relevant descriptive statistics are displayed in Table 10 below followed by bivariate statistics in order to explore the one tailed hypothesis that the high EDR group will have higher inflexibility than the low and moderate EDR groups.

Table 10 - Descriptive statistics for the Inflexibility clinical scale for the EDR groups

Eating Disorder Risk Category	Body Image Acceptance
Low	
N	62
Mean (Std error)	147.82 (3.92)
Median	158.50
SD	30.87
Min-Max	67-203
Skewness (Std error)	-0.65 (0.30)
Moderate	
N	13
Mean (Std error)	145.46 (7.85)
Median	148
SD	28.29
Min- Max	96-180
Skewness (Std error)	-0.59 (0.62)
High	
N	6
Mean (Std error)	89.33 (12.98)
Median	83.50
SD	31.79
Min-Max	49-136
Skewness (Std error)	0.42 (0.85)

As can be seen from Table 10 above the Low EDR group has a higher body acceptance (mean 147.82) than the moderate EDR group (mean 145.46) and the high EDR group (mean 89.33) and this is explored using bivariate statistics below. Again in view of the group sizes it was decided to use non parametric analysis to prevent producing results that would violate parametric assumptions. Therefore the above hypothesis was explored using the Mann Whitney U Test.

Table 11 – Results of Mann Whitney U Test to explore EDR groups in relation to body image acceptance

Comparison of Body Image Acceptance	Mean difference (SE)	Z	p value (1-tailed)	Effect size (Cohen's d)
1. Low EDR compared to Moderate EDR	2.36	-0.28	0.39	0.08
2. Low EDR compared to High EDR	58.49	-3.29	0.00	1.87
3. Moderate EDR compared to High EDR	56.13	-2.85	0.00	1.87

As can be seen from the above table there is a significant difference between the low EDR group as compared to the high EDR group and a significant difference between the moderate EDR group as compared to the high EDR group. This is as was predicted thus confirming the hypothesis that the low EDR group will have higher body image acceptance than the moderate and high risk groups. The effect sizes of the low EDR group compared to the high and for the moderate EDR group compared to the high EDR group are large (i.e. 1.86). The effect size for the low EDR compared to the moderate EDR is very small.

The next set of hypotheses, consider inflexibility, body image acceptance, depression and anxiety in relation to the BMI groups.

Hypothesis II (a): Results of the BMI groups on inflexibility

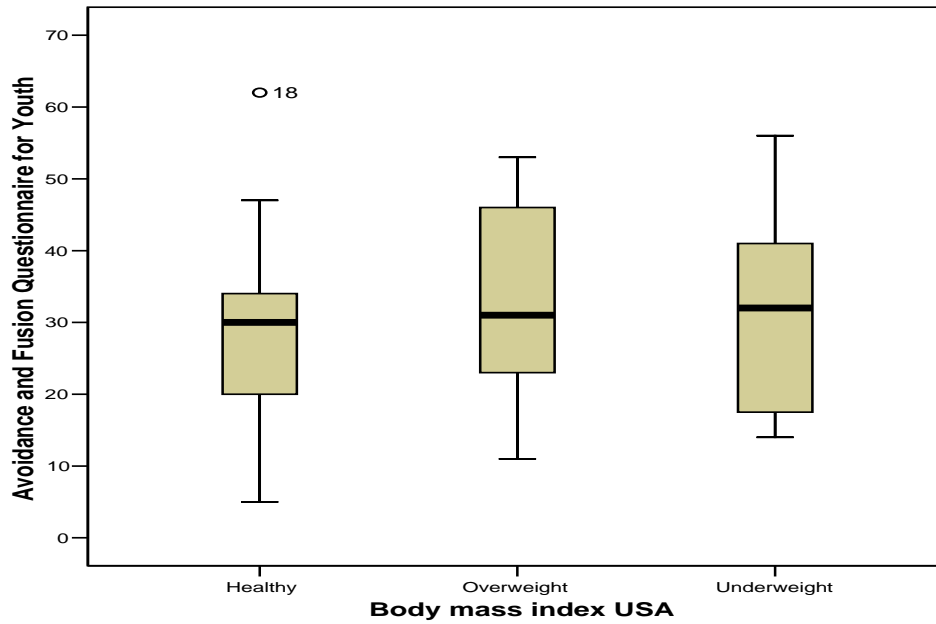


Figure 5: Boxplot showing distribution of the Avoidance and Fusion scores (inflexibility) across the three BMI groups

As can be seen from Figure 5 above there is not much difference in the medians of the three groups. There is an outlier in the healthy group and the distributions appear fairly normal. Relevant descriptive statistics are displayed in Table 12.

Table 12 - Descriptive statistics for the Avoidance and Fusion clinical scale regarding inflexibility for the BMI groups

Body Mass Index (BMI) Category	Avoidance and Fusion (higher scores indicate inflexibility)
Healthy N Mean (Std error) Median SD Min-Max Skewness (Std error)	61 28.48 (1.44) 30 11.26 5-62 0.23 (0.31)
Overweight N Mean (Std error) Median SD Min- Max Skewness (Std error)	14 28.29 (4.18) 24 15.62 0-53 -0.05 (0.60)
Underweight N Mean (Std error) Median SD Min-Max Skewness (Std error)	21 29.86 (2.72) 30 12.44 14-56 0.18 (0.50)

As can be seen in Table 12 mean inflexibility is slightly higher in the underweight group (29.86) in comparison with both the overweight (28.29) and the healthy (28.48), this will be tested using the Mann Whitney U Test for consistency. The skewness is minimal and the distributions are normal.

Table 13– Results from the Mann Whitney U Test exploring inflexibility in relation to BMI

Comparison	Mean difference	Z	p-value (1- tailed)	Effect size (Cohen’s d)
1. Underweight compared to Healthy BMI	-1.38	-0.4	0.32	0.12
2. Overweight compared to Healthy BMI	0.19	0.07	0.48	0.02

As can be seen from Table 13 above, there is no significant difference in flexibility of emotional processing in the underweight and overweight groups as compared to the healthy BMI groups and therefore hypothesis II (a) was not confirmed.

Hypothesis II (b): There will be a mean difference between the three BMI groups on acceptance of body image

The following boxplots display the distributions, spread of scores, outliers and any anomalies of the Body Image dissatisfaction acceptance scale for each BMI category.

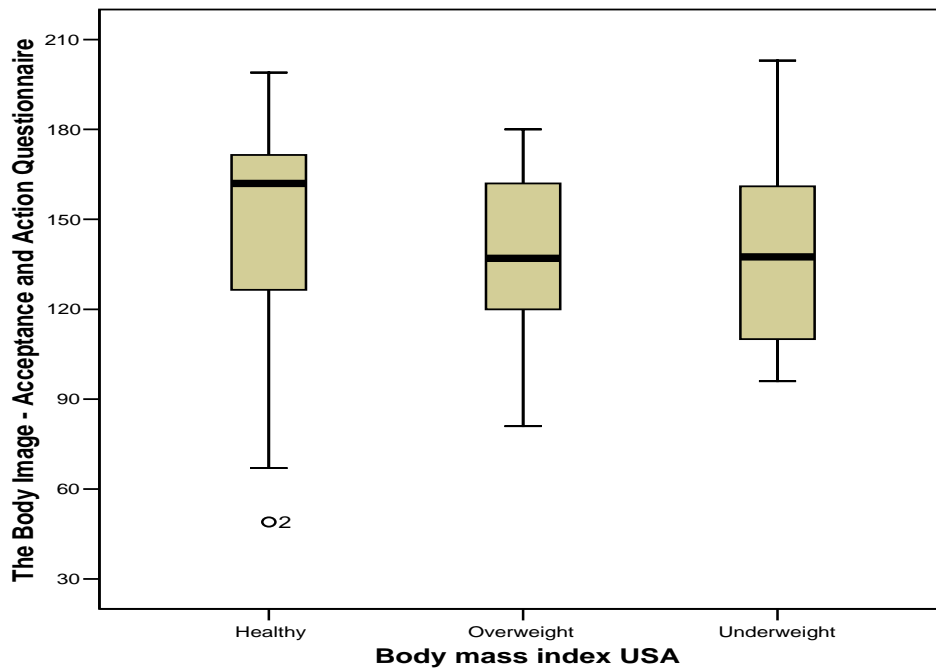


Figure 6 – Boxplot showing body image dissatisfaction acceptance across the BMI groups.

The boxplot above shows that there is a trend for the healthy group to be more accepting towards their body image than both the underweight and the overweight groups. The healthy and overweight groups appear negatively skewed whereas the underweight group appears slightly positively skewed. Relevant descriptive statistics are displayed in Table 14 below.

Table 14 - Descriptive statistics for the body image acceptance clinical scale for the BMI groups

Body Mass Index (BMI) Category	Body image Acceptance (higher scores indicate acceptance)
Healthy N Mean (Std error) Median SD Min-Max Skewness (Std error)	51 146.78 (4.99) 162 35.66 49-199 -1.06 (0.33)
Overweight N Mean (Std error) Median SD Min- Max Skewness (Std error)	10 135.60 (10.09) 137 31.91 81-180 -0.36 (0.689)
Underweight N Mean (Std error) Median SD Min-Max Skewness (Std error)	20 137.50 (6.68) 137.50 29.88 96-203 0.28 (0.51)

The table above indicates that the healthy BMI group has the highest mean for acceptance of body image (mean 146.78) followed by the underweight group (mean 137.50) and then the overweight group (mean 135.60) this was considered using bivariate non parametric analysis. There was a negative skewness for the healthy group and minimal skewness for the other two groups.

Table 15 - Results from Mann Whitney U Test exploring Body Image Acceptance in relation to BMI

Comparison	Mean difference	Z	p-value (1- tailed)	Effect size (Cohen's d)
1. Underweight compared to Healthy BMI	9.28	-1.67	0.48	0.28
2. Overweight compared to Healthy BMI	11.18	-1.31	0.10	0.33

As can be seen from the results in Table 15, there is no significant difference in body image acceptance in the underweight and overweight groups as compared to the healthy BMI groups, therefore hypothesis II (b) was not confirmed.

Hypothesis II (c): There will be a significant mean difference between the three BMI groups on depression and/or anxiety

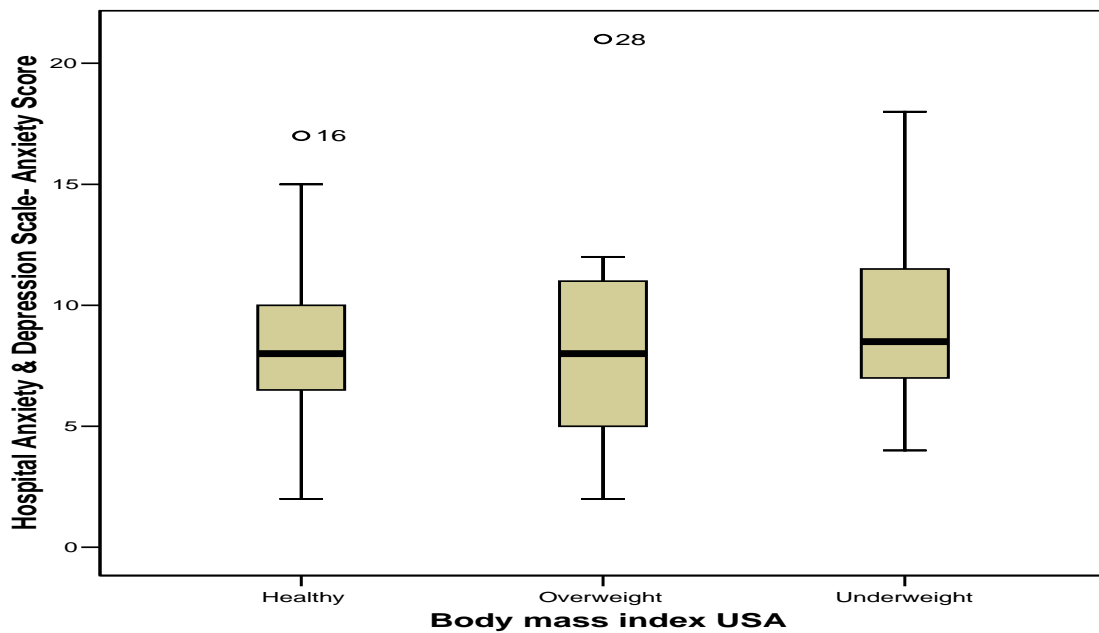


Figure 7 – Boxplot of anxiety across BMI groups

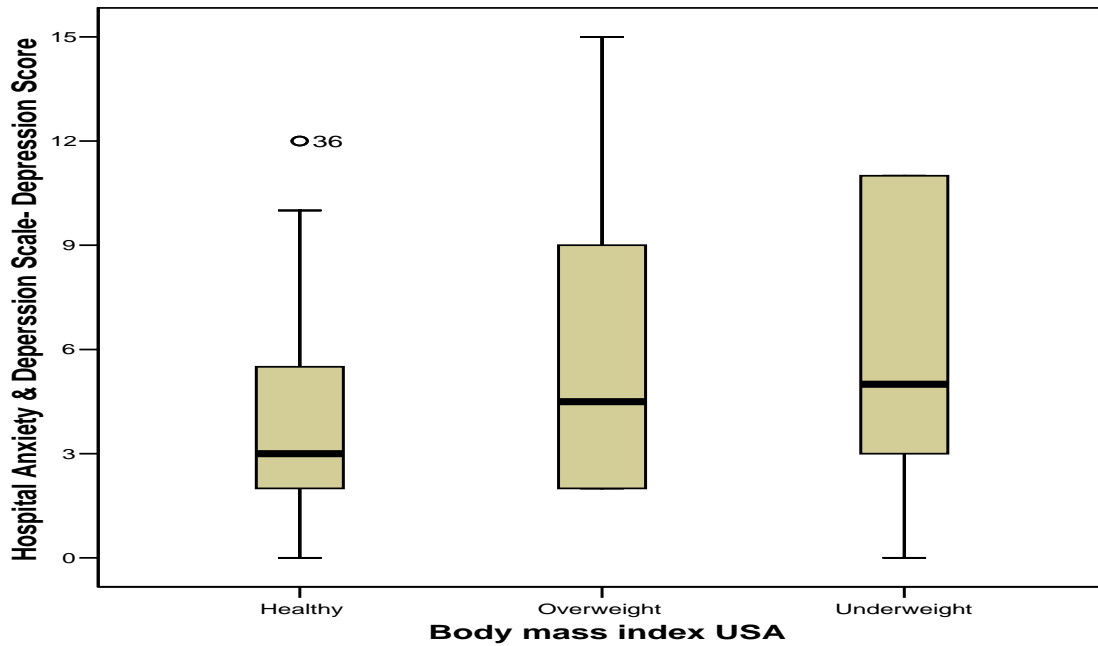


Figure 8 – Boxplots of depression across BMI groups

As can be seen from the above boxplots which consider anxiety and depression there does not appear to be a difference in the means of the groups. As regards depression there appears to be an outlier in the healthy group. Relevant descriptive statistics are displayed in Table 16 below. Furthermore, included in Table 16 below is the Eating Disorder Risk (EDR) for each of the categories.

Table 16- Descriptive statistics for the Depression and Anxiety scale and EDR across the BMI groups

Body Mass Index (BMI) Category	Depression (HADS) Higher scores indicate more depression	Anxiety (HADS) Higher scores indicate more anxiety	Eating Disorder risk Composite
Healthy			
N	61	61	61
Mean (Std error)	3.79 (0.37)	8.87 (0.46)	42 (1.33)
Median	3	9	38
SD	2.87	3.61	10.42
Min-Max	0-12	2-17	28-72
Skewness (Std error)	1.10 (0.31)	0.22 (0.31)	0.96 (0.31)
Overweight			
N	14	14	14
Mean (Std error)	5.36 (1.21)	9.36 (1.33)	49.64 (2.51)
Median	4.00	8.50	50
SD	4.52	4.99	9.39
Min- Max	1-15	2-21	34-65
Skewness (Std error)	1.26 (0.60)	1.00 (0.60)	-0.18 (0.60)
Underweight			
N	21	21	14
Mean (Std error)	5.95 (0.83)	9.33 (0.82)	38.48 (2.06)
Median	5	8	37
SD	3.79	3.76	9.44
Min-Max	0-11	4-18	28-66
Skewness (Std error)	0.20 (0.50)	1.05 (0.50)	1.43 (0.50)

Ratings of depression appear to be higher in the underweight group (mean 5.95) compared to the others followed by the overweight group (mean 5.36) then the healthy group (mean 3.79), this is tested below. As regards anxiety the overweight group scored higher (mean 9.36) than the underweight (mean 9.33) and healthy weight groups (mean 8.87). The overweight group scored higher (mean 49.64) than the healthy group (mean 42) and the underweight group (mean 38.48) regarding eating disorder risk. As the distributions were somewhat positively skewed the Mann Whitney U Test was employed.

Table 17 - Results from Man Whitney U Test exploring depression and anxiety in relation to BMI

Comparisons	Mean difference	Z	p-value (1 tailed)	Effect size (Cohen's d)
1. Depression -Underweight compared to Healthy BMI	-2.17	-2.36	0.01	0.64
2. Depression - Overweight compared to Healthy BMI	-1.57	-1.04	0.15	0.41

3. Anxiety-Underweight compared to Healthy BMI	-0.46	-0.16	0.44	0.12
4. Anxiety - Overweight compared to Healthy BMI	-0.49	-0.06	0.48	0.11

As can be seen from Table 17 there is a significant mean difference between the healthy as compared to the underweight group on their levels of depression but not on anxiety. There is also a mean difference between the overweight and healthy group as regards depression but not on anxiety. As regards the effect sizes as can be seen these are 0.6 and 0.4 respectively for underweight and overweight BMI in relation to depression, both medium effect sizes.

The next set of hypotheses investigates depression and anxiety in relation to inflexibility, body image acceptance and eating disorder risk.

Hypothesis III (a): Inflexible emotional processing will be positively associated with depression and anxiety

A scatterplot was constructed to explore the relationship between inflexibility and depression and then inflexibility and anxiety.

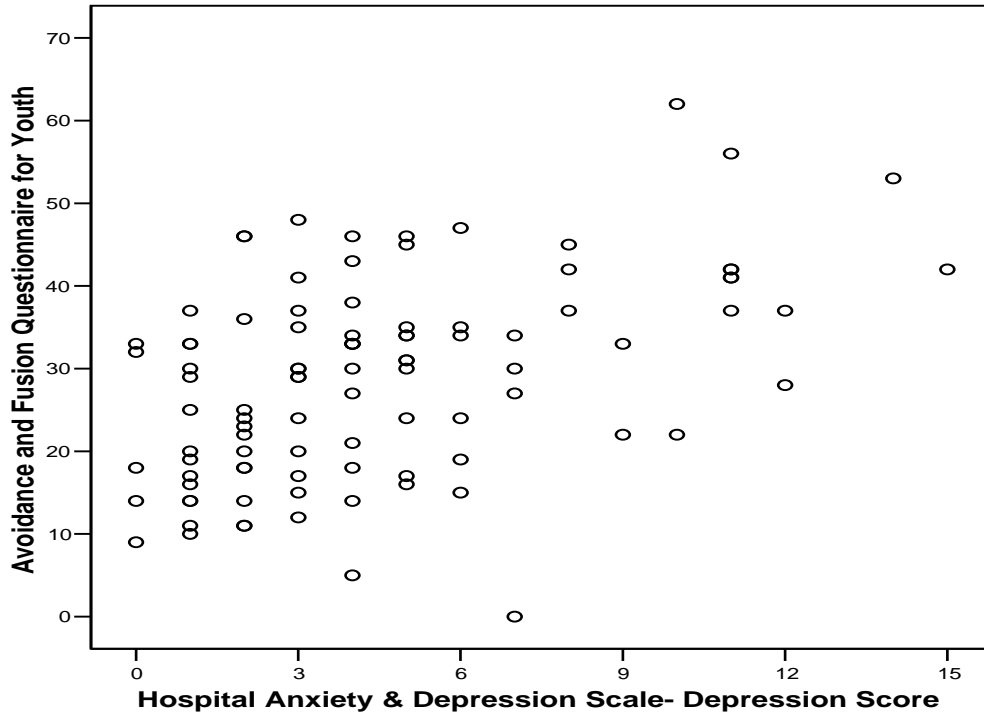


Figure 9 – Scatterplot of inflexibility of emotional processing and depression (n= 96)

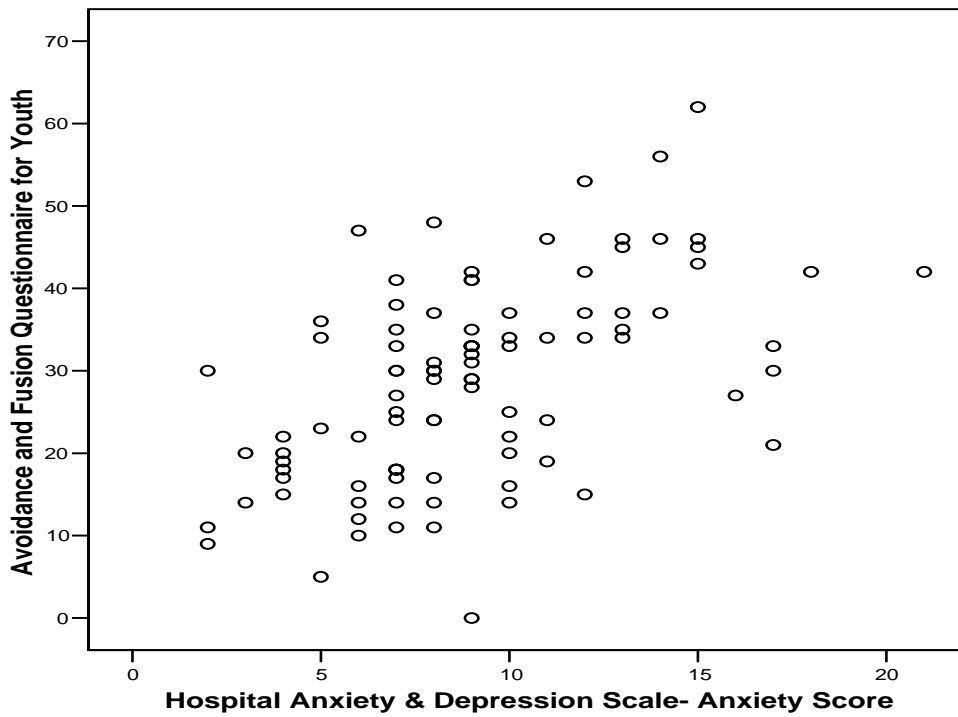


Figure 10 - Scatterplot of inflexibility of emotional processing and anxiety (n= 96)

As can be seen from the above scatterplots it appears that both depression and anxiety are positively correlated with inflexibility so that the higher the inflexibility the higher the depression and anxiety. Both Spearman correlations were significant, supporting the hypothesis that inflexibility is positively associated with both depression $r_s = 0.46$, $p = 0.001$ and anxiety, $r_s = 0.55$, $p = 0.001$.

Hypothesis III (b): There will be a negative association between depression and anxiety and acceptance of body image

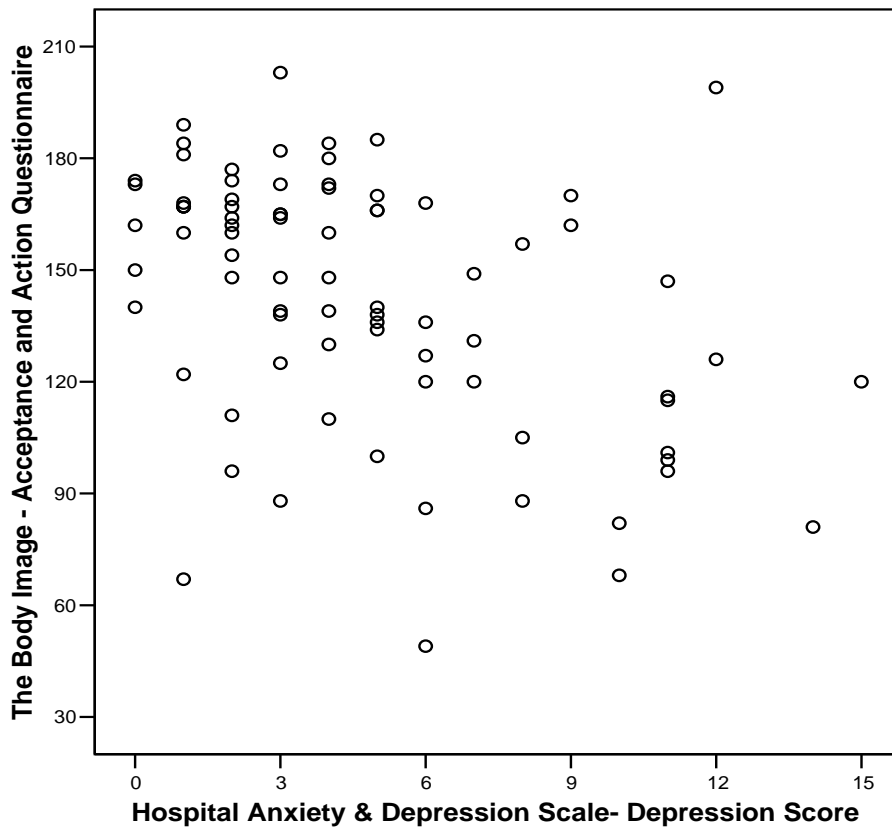


Figure 11 – Scatterplot of depression and acceptance of body image (n=96)

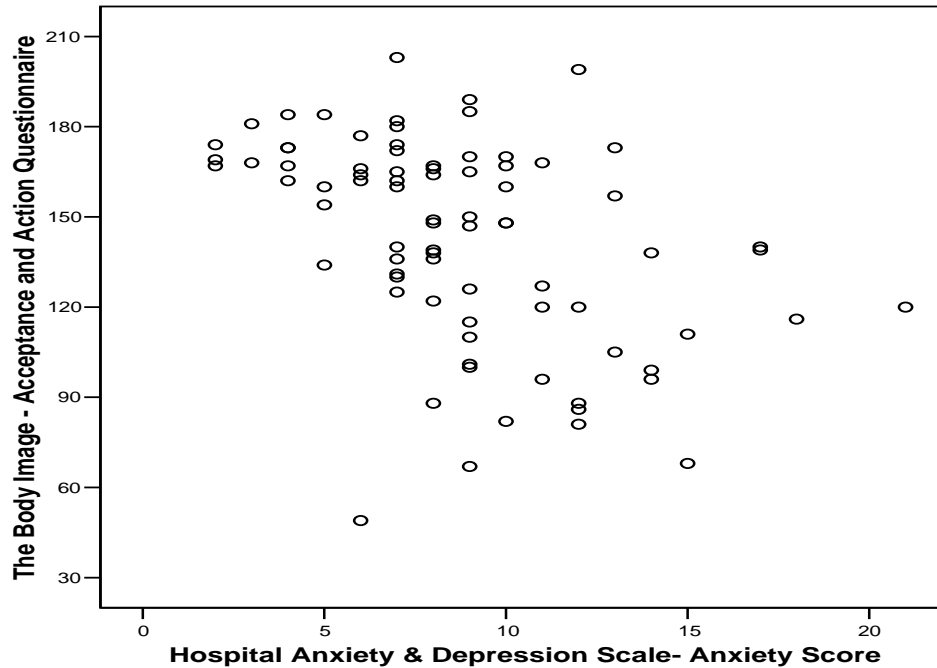


Figure 12 – Scatterplot of anxiety and acceptance of body image (n=96)

Figures 11 and 12 suggest that there is a negative correlation between depression and anxiety and acceptance of body image. The Spearman correlations supported the hypothesis that body image acceptance is negatively associated with depression $r_s = -0.44$, $p = 0.001$, and that body image acceptance was negatively associated with anxiety, $r_s = -0.50$, $p = 0.001$.

Hypothesis III (c): Those in the high Eating Disorder Risk group will have higher levels of depression and anxiety than those in the low EDR group

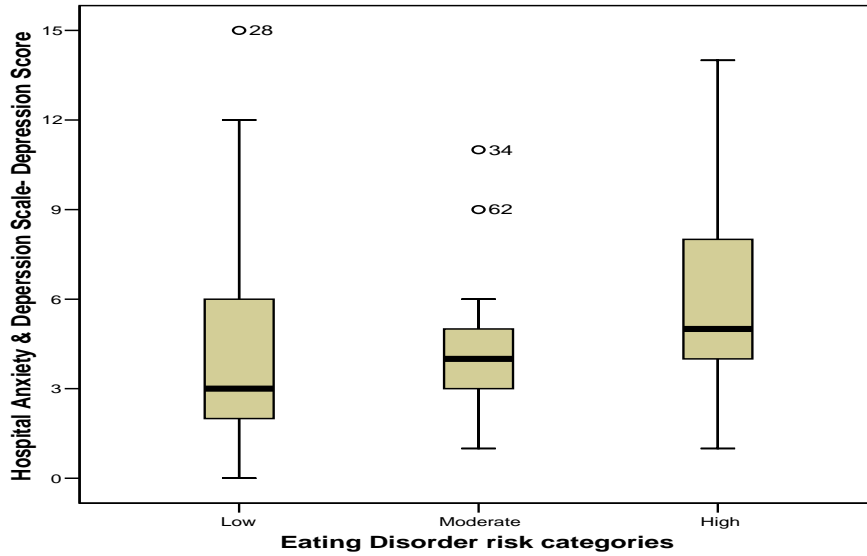


Figure 13 – Boxplot of depression for the eating disorder risk groups

As can be seen from Figure 13 above the high risk group appears to have a slightly higher median than the moderate and low groups. There do however appear to be two outliers in the moderate group and one in the low EDR group. Figure 14 also shows the high EDR group to have a higher median than and has outliers in the low (2) and moderate (1) groups.

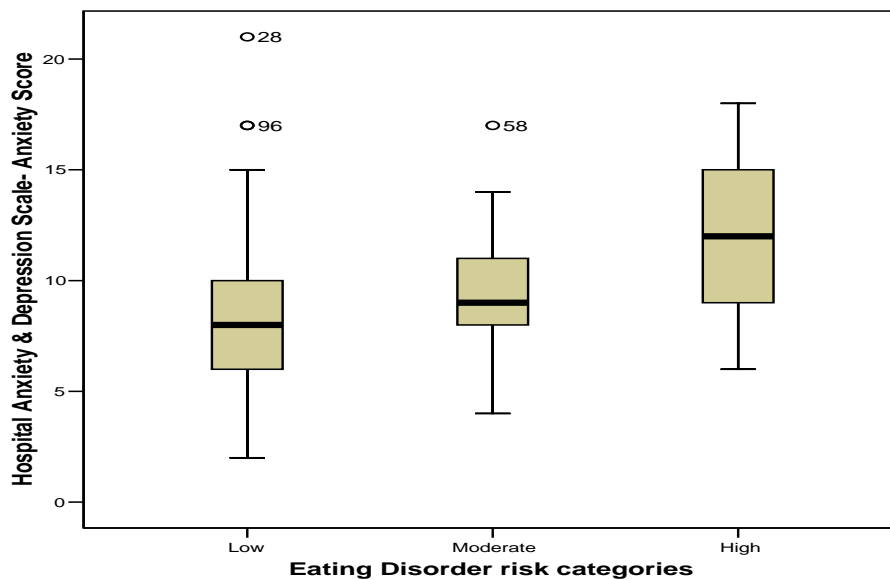


Figure 14 – Boxplot of anxiety for the EDR groups

Table 18 - Descriptive statistics for the depression and anxiety clinical scales for the EDR groups

Eating Disorder Risk Category	Depression	Anxiety
Low		
N	68	68
Mean (Std error)	4.22 (0.43)	8.37 (0.46)
Median	3	8.00
SD	3.54	3.75
Min-Max	0-15	2-21
Skewness (Std error)	1.08 (0.29)	0.84 (0.29)
Moderate		
N	17	17
Mean (Std error)	4.53 (0.60)	9.82 (0.76)
Median	4.00	9
SD	2.45	3.15
Min- Max	1-11	4-17
Skewness (Std error)	1.40 (0.55)	0.53 (0.55)
High		
N	11	11
Mean (Std error)	6.09 (1.22)	12 (1.18)
Median	5.00	12
SD	4.06	3.90
Min-Max	1-14	6-18
Skewness (Std error)	0.71 (0.66)	-0.16 (0.66)

As can be seen from Table 18 above the high EDR group had higher mean scores regarding both depression and anxiety (mean depression 6.09 and anxiety 12) as compared to the moderate (mean depression 4.53 and mean anxiety 9.82) and low EDR groups (mean depression 4.22 and mean anxiety 8.37). This was further tested using inferential statistics in order to test the hypothesis that those in the high EDR group would have higher levels of depression and or anxiety. The groups were compared on these scales using non-parametric tests as there were some outliers in the data and the distributions were not normal. The Mann Whitney U test results displayed below show that there is a significant difference between the low and high EDR groups as regards anxiety ($z = -2.67, p = 0.004$) and depression ($z = -1.60, p = 0.0545$).

Table 19 – Test for mean difference between EDR groups in relation to depression and anxiety

Comparison	Mean difference (SE)	Z	p value (1-tailed)	Effect size (Cohen's d)
1. EDR- Low and high– Anxiety	186.50	-2.67	0.00	0.95
2. EDR Low and Moderate – Anxiety	415.50	-1.80	0.04	0.42
3. EDR Moderate and High – Anxiety	63.50	-1.42	0.08	0.62
4. EDR- Low and high– Depression	261.50	-1.60	0.06	0.49
5. EDR Low and Moderate – Depression	476.00	-1.13	0.13	0.10
6. EDR Moderate and High – Depression	67.50	-1.24	0.11	0.47

Synopsis of findings

The findings of section II are summarized in Table 20 below.

Table 20 – Summary of hypotheses and results

Hypothesis	Finding	Effect Sizes
I (a) Acceptance of body image will be negatively associated with inflexibility	Confirmed	Correlation index -0.55
I (b) The low and moderate EDR groups will be less inflexible than the high risk group	Confirmed	Moderate EDR 0.71 High EDR 0.61
I (c) The low EDR group will have higher body image acceptance than the moderate and high EDR groups	Partially confirmed	Low not confirmed Moderate 1.87 High 1.87
II (a) There will be a significant mean difference in inflexibility between the under/overweight compared to the healthy BMI group	Not confirmed	Underweight 0.12 Overweight 0.02
II (b) There will be a significant mean difference in body image acceptance between the under/overweight compared to the healthy BMI group	Not confirmed	Underweight 0.28 Overweight 0.33
II (c) There will be a significant mean difference in anxiety between the under/overweight compared to the healthy BMI group	Not confirmed	Underweight 0.12 Overweight 0.11
II (d) There will be a significant mean difference in depression between the healthy and underweight/overweight BMI groups	Confirmed	Underweight 0.64 Overweight 0.41
III (a) Inflexibility will be positively associated with depression and anxiety	Confirmed	Depression 0.46 Anxiety 0.55
III (b) There will be a negative association between depression and anxiety and body image acceptance	Confirmed	Depression -0.44 Anxiety -0.50
III (c) The high EDR will have higher levels of depression and anxiety than those in the low group	Confirmed	Anxiety 0.95 Depression 0.49

Section III – Further contributing factors

This section considers the additional research questions which revolve around further contributing factors. Factors collected as part of the background information of the study such as eating disorder (ED) history and mental illness history (in the family) as well as drug and alcohol use and current academic performance in school are explored in relation to the key variable of inflexibility. These factors are then compared across the EDR groups. Furthermore, possible differences in the experience of bullying, perfectionism and low self-esteem were also examined between the EDR groups. Finally, the association between the BMI and EDR groups will be examined to establish to what extent self report data in terms of the EDI questionnaire and objective data (i.e. the BMI index) are in correspondence.

1) Inflexibility in relation to eating disorder history and mental illness history

Of the 91 replies in relation to the question on eating disorder history in the family, 10 (10%) girls reported such a history and 81 (84%) reported no such history. Of those that replied to the question on mental illness history 9 (14%) reported such a history and 86 (90%) reported no such history.

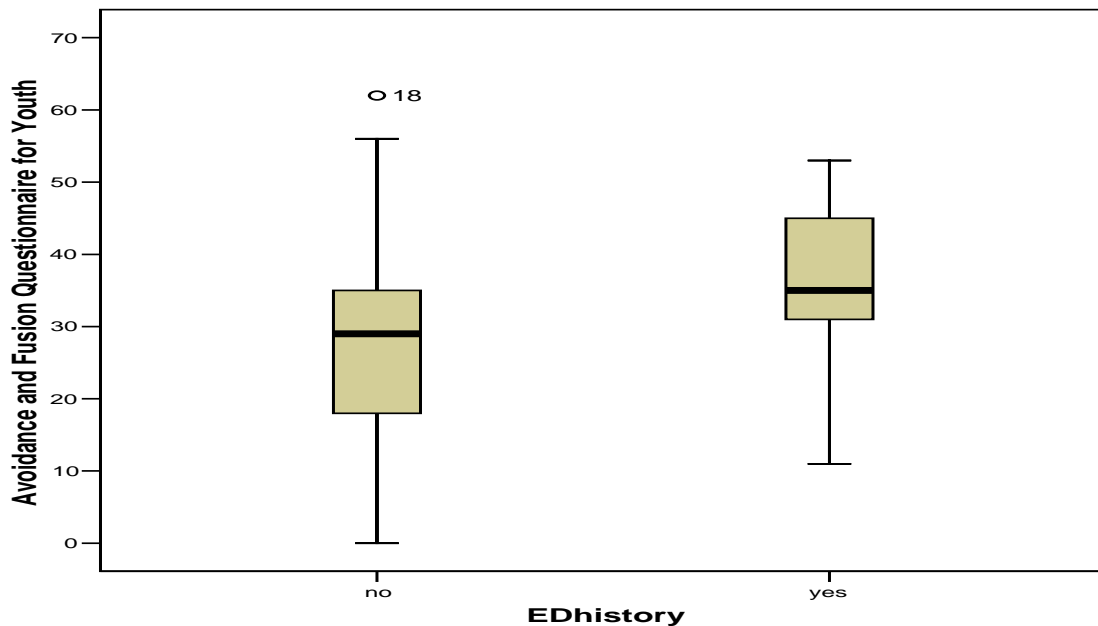


Figure 15 – Boxplot of inflexibility and Eating Disorder (ED) history

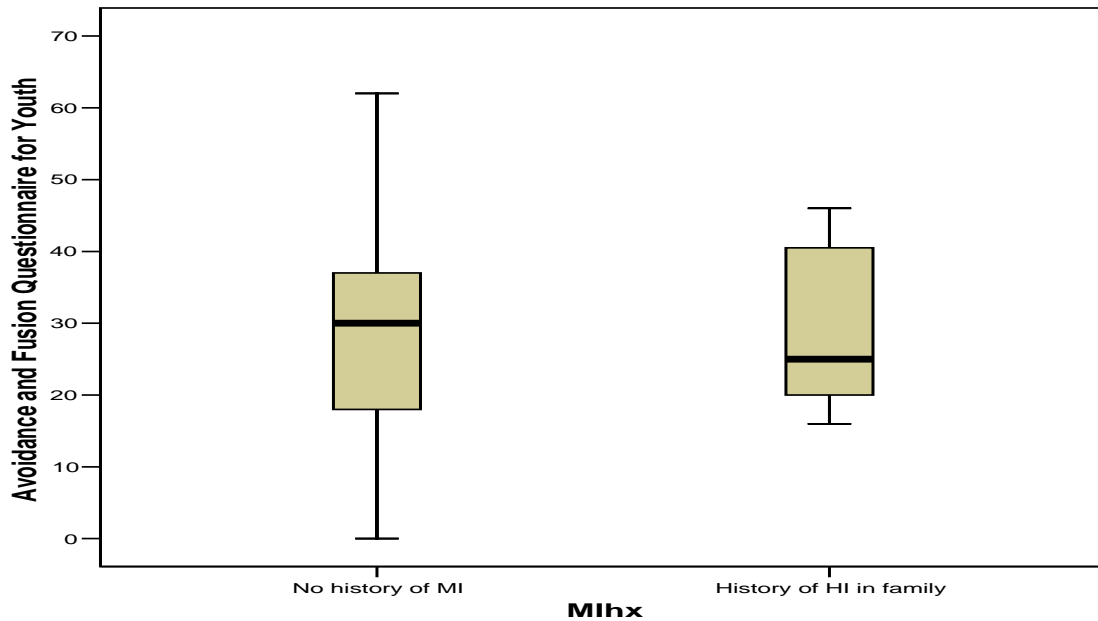


Figure 16 – Boxplot of inflexibility and family mental illness history

As we can see from the boxplots above there is a slightly higher median inflexibility in those with no history of family mental illness and in those with an ED history. This was further considered in Table 21 below.

Table 21 - Descriptive statistics for inflexibility in relation to ED history and mental illness history

	ED history Yes	ED history No
N	10	73
Mean (Std error)	34.70 (3.85)	27.25 (1.43)
Median	35	27
SD	12.18	12.21
Min-Max	11-53	0-62
Skewness (Std error)	-0.56 (0.69)	0.26 (0.28)
	Mental illness history Yes	Mental illness history No
N	11	74
Mean (Std error)	29.92 (3.57)	27.88 (1.48)
Median	25	29.50
SD	11.85	12..51
Min- Max	16-46	0-62
Skewness (Std error)	0.38 (0.66)	0.16 (0.28)

Due to the small sample size in the groups that reported a history of ED or mental illness in their family, a non parametric analysis was carried out, results of which can be viewed in Table 22 below.

Table 22- Test for mean difference between mental illness and eating disorder family history in relation to inflexibility

Comparison	Mean difference (SE)	Z	p value (1-tailed)	Effect size (Cohen's d)
1. Eating Disorder History yes/no - Inflexibility	-6.96	-1.86	0.03	0.57
2. Mental illness History yes/no - Inflexibility	-1.84	-0.54	0.29	0.15

As can be seen from Table 22 there is a significant mean difference regarding ED history and inflexibility with a medium effect size. There is no significant difference in inflexibility in relation to mental illness.

2) Inflexibility in relation to drug and alcohol use

Of the 88 participants that replied to the question on illicit drug use 10 (11%) reported using alcohol and 78 (89%) reported no drug use. With regards to alcohol use 20 (23%) reported having used alcohol and 68 (77%) said they had not. Boxplots (Figure 17, 18) and descriptive statistics (Table 23) can be found in appendix 12. Again, the small number of adolescents in this sample reporting drug or alcohol use led to a non parametric analysis being undertaken.

Table 24- Test for mean difference between reported alcohol and drug use in relation to inflexibility

Comparison	Mean difference (SE)	Z	p value (1-tailed)	Effect size (Cohen's d)
1. Alcohol use yes/no - inflexibility	-3.189	-1.16	0.12	0.29
2. Drug use yes/no - Inflexibility	-1.31	-0.39	0.35	0.11

As can be seen above there is no significant difference between the groups that reported drug or alcohol use from the group that did not on inflexibility, and the effect sizes are small.

3) Inflexibility in relation to academic performance in school

Of those participants who answered the question on their maths set (n=91) there were 35 (38%) in the top set, 40 (44%) in the middle set and 16 (18%) in the lower set. Boxplots (Figure 19) and descriptive statistics (Table 25) can be found in Appendix 13. There was no significant difference between the maths group on levels of inflexibility as indicated by using a Kruskal-Wallis Test, Chi Square = 2.26, (df = 2), p = 0.32.

4) Differences in the eating disorder and mental illness family histories between the EDR risk groups

As can be seen from Table 26 below of those that reported a history of ED in their family 5 (8%) were in the low EDR group, 2 (12%) were in the moderate EDR group and 3 (30%) were in the high EDR group. As regards the mental illness history reported, 9 (14%) were in the low EDR group, 1 (10%) moderate and 1 (10%) in the high EDR group.

Table 26- Counts and percentages for EDR groups in relation to ED history and mental illness history

			Eating Disorder risk categories			Total
			low	moderate	high	
ED history	no	Count	59	15	7	81
		% within Eating Disorder risk categories	92.2%	88.2%	70.0%	89.0%
	yes	Count	5	2	3	10
		% within Eating Disorder risk categories	7.8%	11.8%	30.0%	11.0%
Total	Count	64	17	10	91	
	% within Eating Disorder risk categories	100.0%	100.0%	100.0%	100.0%	
Mental Illness history	No	Count	56	9	9	74
		% within Eating Disorder risk categories	86.2%	90.0%	90.0%	87.1%
	Yes	Count	9	1	1	11
		% within Eating Disorder risk categories	13.8%	10.0%	10.0%	12.9%
	Total	Count	65	10	10	85
		% within Eating Disorder risk categories	100.0%	100.0%	100.0%	100.0%

A Chi-squared test of independence was used to compare the percentages of those reporting ED history and mental illness history across the EDR groups.

The results of this test suggested a borderline significance, Chi-square = 4.37, (df = 2) p = .11, indicating a higher prevalence of eating disorder cases (i.e. 30%) in the families of those girls that fell into the highest EDR risk group in comparison to the other EDR risk groups. The Contingency Coefficient representing an effect size correlation was found to be .21.

The Chi-squared test was repeated for mental illness history where no significant results were found. Chi squared = .201, (df = 2), p = .904, with a Contingency Coefficient of .05.

5) Drug and alcohol use between the EDR risk groups.

As can be seen in Table 27 below of the 10 that reported drug use 6 (55%) were in the moderate or high EDR groups and 4 (6%) were in the low EDR group. As regards alcohol use of the 20 that reported alcohol use 9 (45%) were in the low EDR group and 11 (55%) were in the moderate or high EDR groups. Of the 68 individuals that reported no alcohol use 57 (84%) were in the low EDR group and 11 (16%) were in the moderate and high EDR groups.

Table 27 - Counts and percentages for EDR groups in relation to drug and alcohol use

		Eating Disorder risk categories			Total	
		low	moderate	high		
Use of illicit drugs	no	Count	62	8	8	78
		% within Eating Disorder risk categories	93.9%	72.7%	72.7%	88.6%
	yes	Count	4	3	3	10
		% within Eating Disorder risk categories	6.1%	27.3%	27.3%	11.4%
Total	Count	66	11	11	88	
Use of alcohol	no	Count	57	4	7	68
		% within Eating Disorder risk categories	86.4%	36.4%	63.6%	77.3%
	yes	Count	9	7	4	20
		% within Eating Disorder risk categories	13.6%	63.6%	36.4%	22.7%
	Total	Count	66	11	11	88

A Chi-square test confirmed these percentage differences in drug and alcohol use between the EDR to be significant. As regards drug use, Chi-square = 7.37, (df = 2), p = 0.04 and the Contingency Coefficient was .28. With regard to alcohol use, Chi-square = 14.75, (df=2), p=.001 and the Contingency Coefficient was .38. The moderate and high EDR groups reported significantly higher use of alcohol or drugs compared with the use of the low EDR group apparent in Table 27.

6) Prevalence of bullying between the EDR risk groups

25 (28%) out of the 88 participants that answered the question on bullying reported having experienced bullying and 63 (72%) reported that they had not. Of those that had experienced bullying 50 (79%) were in the low EDR group with only 13 (15%) in the moderate and high EDR groups. These differences in percentages, however, were not significant, Chi-square = 2.48, (df = 2), p = .307, Contingency Coefficient .166.

Table 28 - Counts and percentages for EDR groups in relation to the reported experience of bullying

		Eating Disorder risk categories			Total	
		low	moderate	high		
Experience of bullying	no	Count	50	6	7	63
		% within Eating Disorder risk categories	75.8%	54.5%	63.6%	71.6%
	yes	Count	16	5	4	25
		% within Eating Disorder risk categories	24.2%	45.5%	36.4%	28.4%
Total		Count	66	11	11	88
		% within Eating Disorder risk categories	100.0%	100.0%	100.0%	100.0%

7) Differences in perfectionism between the EDR risk groups

As was explained in the method section, perfectionism was one of the subscales from the EDI-3 measure, which was not one of the subscales included in the EDR composite score. Due to its importance as a risk factor in the eating disorders it is considered here in relation to EDR. Boxplots and descriptive statistics can be found in Appendix 14. A Kruskal-Wallis found that there were no significant differences between the three EDR groups on perfectionism, Chi-square = 1.39, (df=2), p=0.50.

8) Differences in low self esteem between the EDR groups

Self-esteem is a subscale within the EDI-3 questionnaire, but again was not one of the subscales included in the forming of the EDR groups.

It is considered here as another important factor in the development of eating disorders as it might be a crucial mediator between body image dissatisfaction and the development of disordered eating. A Kruskal-Wallis test revealed highly significant differences in the level of self esteem between the EDR groups, Chi-square = 30.2, (df=2), $p < .001$, and Figure 21 reveals an upward trend in the means of low self esteem with rising level of risk for eating disorder.

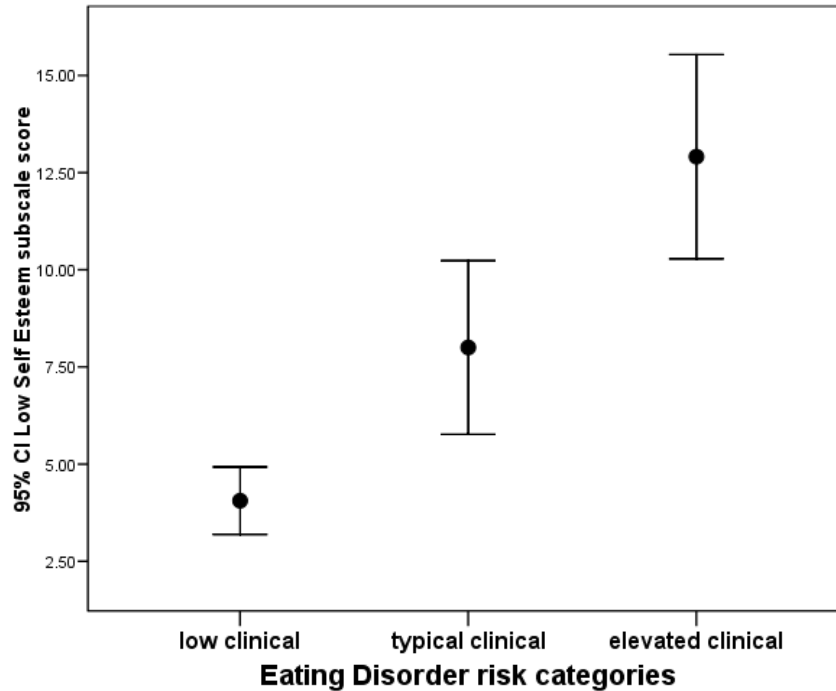


Figure 21 - Means and 95%-CIs of low self-esteem for the EDR risk groups

9) Association between the BMI groups and the EDR groups

The following crosstable displays the counts and percentages for the BMI groups in relation to the EDR groups.

Table 29 – Cross-tabulation of EDR and BMI

		Eating Disorder risk categories			Total
		low	moderate	high	
Healthy	Count	45	9	7	61
	% within Body mass index USA	73.8%	14.8%	11.5%	100.0%
Overweight	Count	5	6	3	14

	% within Body mass index USA	35.7%	42.9%	21.4%	100.0%
Underweight	Count	18	2	1	21
	% within Body mass index USA	85.7%	9.5%	4.8%	100.0%
Total	Count	68	17	11	96
	% within Body mass index USA	70.8%	17.7%	11.5%	100.0%

As can be seen from Table 29 above 74% of those in the low risk group are a healthy BMI weight with 26% of the healthy BMI being in the moderate or high risk groups combined. The overweight group has 64% in the moderate and high risk groups combined as opposed to 36% in the low risk group. The underweight group result appears perhaps more paradoxical with 86% in the low risk group and only 29% in the at risk group. A Chi-square test of independence found that there was a significant association, Chi-square = 11.30, (df = 4), p = 0.02, with a Contingency Coefficient 0.33.

Section IV – A multivariate analysis of predictors of eating disorder risk

As predicted, the two key factors of the ACT model – inflexibility and body image acceptance – were both found to be significantly associated with the EDR groups (see section II). However, it was also found that these two factors were themselves considerably correlated ($r = -.55$). It was therefore important to determine whether each factor would still be a significant predictor in its own right in relation to the EDR groups when controlled for by the other factor. This was achieved by a logistic regression analysis using the low EDR group (n = 68) and the moderate and high EDR groups (grouped together n = 28) as the criterion variable and the total scores of the Body Image Acceptance Questionnaire (BIAAQ) and the Avoidance and Fusion Questionnaire (AFQY) measuring inflexibility as the two predictors. This model was significant, LR = 12.2, df = 2, p = .002, Nagelkerke R-squared = .21, however, only inflexibility turned out to be a significant predictor (p = .01), but not body image acceptance (p = .76), which was therefore discarded from further analysis (see Table 31).

Table 31: Results of the logistic regression analysis (1)

		Variables in the Equation					95.0% C.I. for EXP(B)		
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1 ^a	AFQY	.083	.033	6.169	1	.013	1.087	1.018	1.160
	BIAAQ	-.003	.010	.095	1	.758	.997	.978	1.016
	Constant	-3.451	2.188	2.488	1	.115	.032		

a. Variable(s) entered on step 1: AFQY, BIAAQ.

In the next step of the analysis, the importance of depression, anxiety and low self esteem as important predictors of eating disorder risk was evaluated as these factors could be regarded as potential confounders in relation to inflexibility.

A logistic regression analysis involving these three predictors revealed that only low self esteem ($p < .001$) was a significant predictor of ED risk, whereas anxiety and depression could be removed from the model without loss in predictive power (see Table 32).

Table 32: Results of the logistic regression analysis (2)

		Variables in the Equation					95.0% C.I. for EXP(B)		
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1 ^a	LowSelfEsteem	.315	.073	18.396	1	.000	1.370	1.187	1.583
	Anxiety	.090	.084	1.155	1	.283	1.094	.928	1.290
	Depression	-.133	.100	1.771	1	.183	.876	.720	1.065
	Constant	-3.234	.798	16.414	1	.000	.039		

a. Variable(s) entered on step 1: LowSelfEsteem, Anxiety, Depression.

A final model was run using only inflexibility and low self esteem as predictors to answers the question, whether inflexibility would still make a significant contribution to the model when controlled for by low self esteem. As the previous models, this model was also significant, $LR = 32.5$, $df = 2$, $p < .001$, Nagelkerke R-squared = .41. However, when inflexibility was controlled for by low self esteem it was no longer a significant predictor of ED risk (see Table 33). By contrast, low self esteem turned out in the end to be the only significant predictor of ED risk even when controlled for by other predictors in the model.

Table 33: Results of the logistic regression analysis (3)

		Variables in the Equation					95.0% C.I. for EXP(B)		
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1 ^a	LowSelfEsteem	.284	.068	17.400	1	.000	1.329	1.163	1.519
	AFQY	.024	.024	.962	1	.327	1.024	.977	1.074
	Constant	-3.504	.833	17.697	1	.000	.030		

a. Variable(s) entered on step 1: LowSelfEsteem, AFQY.

Discussion

Overview of the hypotheses

This study aimed to test the primary hypotheses that inflexibility in emotional processing (from an ACT perspective, see Introduction) would be associated with disordered eating in adolescent females. In addition the clinical variables of body image acceptance (from an ACT perspective), depression and anxiety were also explored in relation to inflexibility and eating disorder risk (EDR). Disordered eating was measured by calculating the EDR from a composite score using the Eating Disorder Inventory -3 (EDI-3). The sample was divided into three groups of low, moderate and high EDR for comparison purposes. In addition, Body Mass Index (BMI) groups (of underweight, healthy weight and overweight) were compared in relation to inflexibility, body image acceptance, depression and anxiety as well as EDR groups. Additional potential contributing factors were also considered. The results and their relevance to theories and treatments for EDs will be discussed following a brief look at the epidemiology of the continuum of eating pathology.

Demographics of the sample and epidemiology of the spectrum of eating pathology

The prevalence of high eating disorder risk in this non-clinical sample was 11.5%. It is difficult to compare prevalence rates across epidemiological studies as measures and operationalisations of the concept of disordered eating/sub-clinical levels of Eating Disorder (ED) vary. In an epidemiological study conducted in Canada, it was found that 23% of 12-18 year olds reported current unhealthy dieting to lose weight.

Moreover, 13% of those aged 12–14 years and 16% of those aged 15–18 years had scores above the recommended cut-off (≥ 20) for disordered eating on the EAT-26 (Jones, Bennett, Olmstead, Lawson and Rodin, 2001). These figures are comparable to this study's findings, despite a different measure being used.

Other studies with less stringent criteria and lower cut offs for disordered eating present very high prevalence figures (e.g. Croll, Neumark-Sztainer, Story, Ireland, 2002). Croll, et al, (2002), found that 56% of 9th-grade females reported disordered eating behaviours with slightly higher rates among 12th-grade females, (i.e. 57%). Thus there are more cases of disordered eating in adolescent females than there are of eating disorders. EDs are at the most extreme end of the continuum with the prevalence of AN estimated at around .3% and BN under 1% (Nobakht & Dezhkam, 2000). Incidence rates of AN are highest for females aged 15–19, who represent approximately 40% of all identified cases and 60% of female cases (van Hoeken, Seidell, & Hoek, 2003). An Office for National Statistics survey (2000) reported a prevalence rate of eating disorders generally in U.K 11–15 year olds of 4 per 1,000 (Gowers and Bryant-Waugh, 2004). Thus our findings of disordered eating are as would be expected, as we did not anticipate finding clinical cases in a normal sample (of such a size) of 12-15 year olds. Evidently not all of the individuals displaying disordered eating go on to develop a clinical ED.

Why focus on disordered eating in adolescence?

The importance of investigating disordered eating in adolescence is to understand the continuum of eating disturbances as some of the sub-clinical individuals will go on to develop an eating disorder (e.g. Patton Selzer, Coffey, Carlin, and Wolfe, (1999). Kotler, Cohen, Davies, Pine and Walsh, (2001) reported that those with disordered eating or sub-clinical levels of eating disorders in adolescence were more likely to develop an eating disorder. Kotler, et al, (2001) found that early adolescent bulimic symptoms were associated with a nine-fold increase in the risk for late adolescent bulimia and a 20-fold increase in risk for adult bulimia.

Therefore comparing adolescent females with a high EDR to individuals with a lower risk would enable an exploration of differences (in particular in relation to inflexibility) amongst the adolescents at a potentially early stage of an eating disorder.

Overview of the results of the hypotheses

Support for inflexibility as a transdiagnostic process

A significant negative correlation (with a medium effect size) was found between inflexibility and body image acceptance so that higher inflexibility was associated with lower acceptance of body image. This was as predicted and lends support to the ACT theory that holds lower acceptance to be a part of inflexibility (presented in Figure 1, see Introduction). Flexibility includes ‘acceptance’ (defined above) which was looked at in relation to body image and inflexibility includes the opposite of ‘acceptance’ (i.e. experiential avoidance).

It was then predicted that those in the high EDR group would have lower body image acceptance and higher inflexibility. This was supported; the high EDR group had higher inflexibility as compared to the low EDR group and less acceptance of their body image, (both with medium to large effect sizes). Body image dissatisfaction has often been presented as a risk factor in eating pathology (e.g. Killen, et al, 1996). ACT maintains that it is not body image dissatisfaction per se that results in an increased risk but a lack of psychological ‘acceptance’ (i.e. higher levels of experiential avoidance). This is considered further below. These findings confirmed the hypotheses that inflexibility is implicated in eating pathology and add support to the ACT literature that identifies inflexibility (i.e. cognitive fusion and experiential avoidance) as an important generic psychopathological process to be included in the understanding and treatment of those at risk of an ED.

The clinical variables of anxiety and depression were explored as mood and its regulation are important in eating disorders. Furthermore, inflexibility has been found to cause and maintain anxiety (Kashdan et al, 2006). They have been implicated in the aetiology of all eating disorders and often found to present comorbidly (e.g. Killen et al., 1996; Stice et al, 2001, Polivy et al, 2002, Sim et al, 2004). A significant association was found between inflexibility and the variables of anxiety and depression so that higher inflexibility was found to be associated with higher levels of anxiety and depression (medium effect sizes).

A negative association was also found between depression and anxiety and acceptance of body image. This is as was hypothesised and as would be suggested in ACT as inflexibility is a process that is not only implicated in eating disorders but also in depression and anxiety. If an individual displays inflexibility they are more at risk of developing an ED, a mood disorder or to present comorbidly, as inflexibility is put forward as a transdiagnostic process. Furthermore, the high EDR group had higher levels of depression and anxiety than those in the low EDR group indicating that those at risk of an ED were also more likely to have anxiety and depression. Therefore, it appears that evidence for the transdiagnostic significance of the process of emotional inflexibility has been further accrued and will be discussed further below.

Relation of BMI to clinical variables including EDR

Regarding BMI in relation to inflexibility, body image acceptance and anxiety, no significant differences between the underweight and overweight BMI groups as compared to the healthy group were found. This suggests that inflexibility and lack of acceptance towards ones body image as well as anxiety can be found in all shapes and sizes. Body image dissatisfaction appears common across the BMI's, with female adolescents disliking their bodies regardless of objective size. This is as Sandoz et al, (2006) suggests, stating that body image dissatisfaction represents normative discontent in today's Western society.

An explanation could be that these females regardless of objective size, display inflexibility in terms of cognitive fusion whereby they may think ‘if I don’t look like X supermodel my body is not perfect/good enough’. They then take this thought as the truth that they need to behave in accordance with (i.e. engage in disordered eating in a vain attempt to become ‘perfect’).

A significant mean difference was however found in relation to depression which was found to be higher in the underweight group in comparison to the healthy BMI group. However the underweight group although more depressed, were not more at risk of an eating disorder, in fact the underweight group had the lowest distribution of high EDR (with only 4.7% of the underweight group in the high EDR group, 11.5% of the healthy and 21.4% of the overweight was in the high EDR group). Thus if more girls with a high EDR were underweight this finding would have been in accordance with research that has found an association between depression and eating pathology (e.g. Stice, et al, 2001). The finding that depression was associated with being underweight could be due to biological influences (i.e. serotonin dysregulation found in mood disorders, which may also influence weight (Jimerson, Lesem, Kaye, Hegg, and Breweerton, 1990). As the underweight group did not have a higher EDR it appears that these girls have higher levels of depression without engaging in disordered eating. This result would need to be considered further before reaching any conclusions as it is paradoxical and counter to the growing literature suggesting an association between obesity and depression not an underweight BMI (Roberts, Deleger, Strawbridge, and Kaplan, (2003).

Furthermore, as regards the lack of correspondence between EDR in relation to BMI, this is likely to be because the adolescents were from a non-clinical group whereby underweight girls would not be underweight due to an ED. Instead, being underweight is more likely to be due to maturation and genetics, not disordered eating.

Summary of additional findings

The additional research questions focused on the information collected as background hypothesised to act as further contributing factors. An eating disorder history in the family of the adolescent participants was considered in relation to inflexibility and a mean difference was found so that those that reported an ED family history had higher inflexibility scores. Furthermore, ED history was found to have a borderline significance in relation to EDR. These findings may indicate that an ED history in the family may increase the adolescents EDR and their inflexibility. The way this may occur will need further exploration. Social factors including family relations and learnt behaviours (as described in the Introduction) may explain this occurrence. Mental illness history was not related to inflexibility nor EDR. A significant mean difference was found between the BMI categories in relation to ED history with those in the overweight and underweight groups reporting a higher mean ED history. This suggests that those with a history of over/underweight BMI's in the family may have both biological (i.e. genetic factors, Clement, Boutin, and Froguel, 2002) and environmental factors (e.g. learning certain eating habits, exposure to more frequent opportunities for the consumption of high fat foods, James and Peters, 1998) that make their weight more likely to follow suit.

In relation to drug and alcohol use there was no association with inflexibility. It was thought that drug and alcohol use would be higher in those with higher inflexibility. Such behaviours could be being used by these individuals as secondary avoidance strategies to deal with the emotional consequences of managing adverse emotional experiences as disordered eating would be. Although this was not supported there was a mean difference between the EDR groups with an association between the higher EDR group and drug and alcohol use. Thus, those at risk of an ED were more at risk of drug and alcohol abuse. This may be because these individuals are more prone to risk taking behaviours without a shared psychological process applying. Moreover, bullying and perfectionism were not found to be associated with EDR as was hypothesised. Perfectionism has been implicated in the maintenance of EDs especially AN, (e.g. Fairburn and Shafran, 2003), it may be that perfectionism is only relevant in the clinical EDs as opposed to sub-clinical levels.

The experience of traumas are implicated in the development of eating disorders (e.g. Vanderlinden and Vandereycken, 1997), it is likely that the bullying reported was not to such a degree and therefore not relevant to increasing ones EDR. There was also no significant mean difference between the academic performance groups in relation to inflexibility, showing that better academic performance is not related to flexibility or inflexibility.

Lastly, self-esteem was found to be significantly associated with EDR and was found to be the strongest predictor of EDR. This finding is consistent with Fairburn and Shafran's (2003) transdiagnostic model in which it is proposed that in certain patients' one or more of four additional maintaining processes interact with the core eating disorder. These include core low self-esteem as well as clinical perfectionism, mood intolerance and interpersonal difficulties. Due to the importance of these maintaining processes they will be considered in relation to ACT below.

Relevance of the findings to theoretical issues and the literature

The hypotheses that have been confirmed add evidence to the ACT premise that inflexibility is associated with pathology.

If inflexibility is associated with pathology and acceptance (i.e. the reverse) associated with less pathology, then facilitating acceptance by working on experiential avoidance and cognitive fusion may be an important part to include in a transdiagnostic model of eating pathology. This may be useful as a preventative strategy with individuals engaging in disordered eating as well as in individual treatment for the clinical diagnostic categories of AN, BN or EDNOS.

The transdiagnostic CBT approach presented by Fairburn et al, (2003) states the importance of low core self-esteem in the maintenance of EDs.

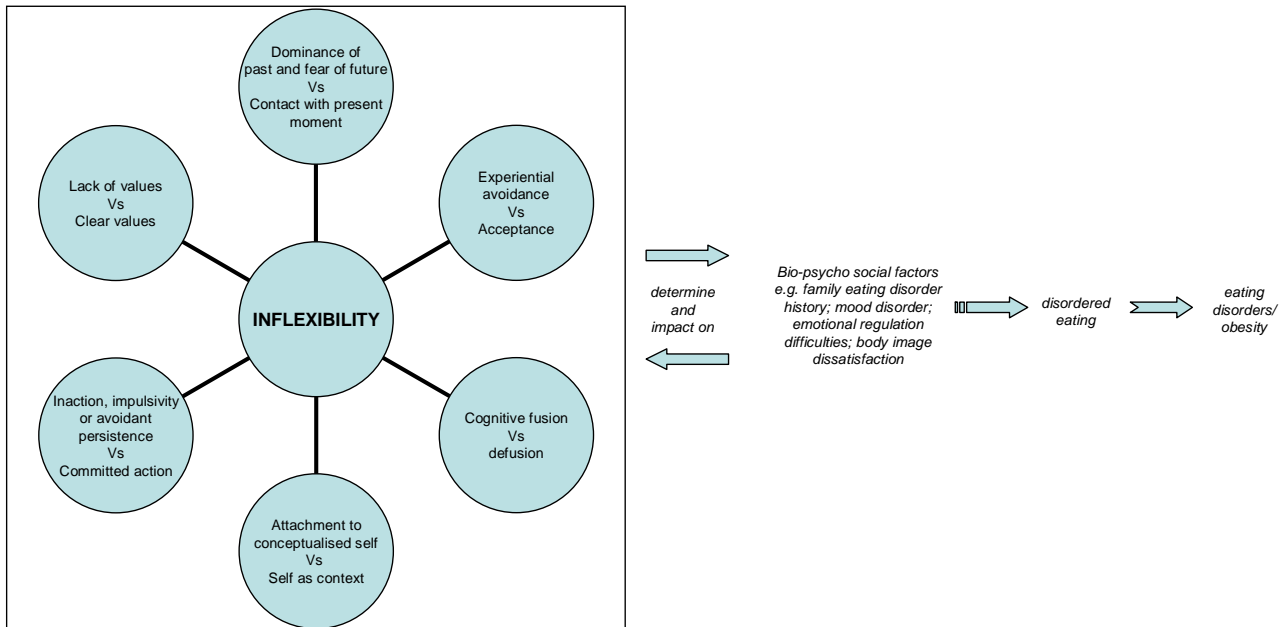
Low self esteem involves an unconditional pervasive negative view of the self which is seen as part of the individual's permanent identity. This low self esteem is thought to create hopelessness in patients about their capacity to change, which may make adherence with treatment less likely, and further promote a persistence in their pursuit of control over eating, shape and weight (Fairburn, et al, 2003). Furthermore, these patients show particularly pronounced negative cognitive processing biases, including over-generalisation; with the result that any perceived "failure" is interpreted as confirmation that they are failures as people. This thereby reaffirms their overall negative view of themselves. It may be that having inflexible emotional processing causes or maintains the low self esteem as cognitive fusion may make it more likely that these individuals will believe their biased views of themselves and act upon these. This study design does not allow for this question to be answered sufficiently but it is important to consider.

Inflexibility also appears to relate to Fairburn, et al's, (2003) other maintaining factors (i.e. mood intolerance). Experiential avoidance involves seeking to escape emotions, thoughts or physical sensations found to be overwhelming (these can be negative or positive). This concept seems to relate to 'mood intolerance' and both theories propose that disordered eating can become a habitual means of mood modulation. As regards interpersonal difficulties, inflexibility could make relationships more difficult due to cognitive fusion whereby thoughts are believed and acted on discounting alternative thoughts of others. The concept of mentalisation also appears to have much to offer as regards the interpersonal difficulties found across the eating disorders and appears to share similarities to cognitive fusion.

Mentalisation has been defined as the ability to understand feelings, cognitions, meanings and intentions in oneself and in others. It is considered a key determinant of self organisation and emotional regulation with impairment considered a central psychopathological feature of AN (Skarderud, 2007). It holds that inner and outer reality, mind and body are isomorphic in individuals with AN. This concretisation may be similar to the fusion proposed by ACT.

Although ACT concepts may share similarities to aspects of other theoretical models it provides a unique way of approaching the treatment of EDs which will be discussed below.

The ACT model of inflexibility is presented below in relation to other biological, psychological and social risk factors of disordered eating/ED (as detailed in the Introduction):



This model presents the inflexibility factors, (which include cognitive fusion and experiential avoidance of primary interest in this study) that determine and impact on as well as being influenced by the biopsychosocial risk factors that lead to disordered eating and may go on to lead to an ED.

This study has supported the relationship between an eating disorder history (in the family), mood disorders and body image dissatisfaction in relation to higher inflexibility and EDR. If the components of inflexibility are tackled they may decrease the other risk factors thus inflexibility may serve a function amongst other theoretical and empirical concepts constituting a base for tailored therapeutic input.

ACT holds that moving from inflexibility to flexibility involves six key processes. These are: achieving acceptance as an alternative to experiential avoidance (including embracing private events such as thoughts and physical sensations) without trying to change their frequency or form. Secondly, cognitive defusion as opposed to fusion, whereby the way one interacts with or relates to their thoughts are changed, so that they don't treat all thoughts as literal truths.

Thirdly, being present by non-judgmentally experiencing the world and fourthly, self as context refers to being aware of ones own flow of experiences without attachment to them. The last two are choosing life directions/values and taking committed action. These six processes are understood to be both overlapping and interrelated and can be chunked into two groupings. Mindfulness and acceptance processes involve acceptance, defusion, and contact with the present moment and self as context. Commitment and behaviour change processes involve contact with the present moment, self as context, values and committed action, (Hayes, Luoma, Bond, Masuda and Lillis, 2006).

The findings from this study suggest that the ACT concept of inflexibility could be useful in the understanding and treatment of eating disorders and other associated problems. Evidence for the current treatments for eating disorders will be considered below before further exemplifying the use of ACT in EDs.

Research into effectiveness of current treatment for eating disorders

Gowers and Bryant-Waugh (2004) point out that although eating disorders in children and adolescents remain a serious cause of morbidity and mortality, the evidence base for effective interventions is surprisingly weak. The adult literature is growing steadily, but this is mainly with regard to psychological therapies for Bulimia Nervosa. Their summary of the recent research literature covering psychological therapies in EDs concludes that although Fairburn and Harrison's (2003) CBT model is currently the most effective treatment most studies only achieve complete remission in about 40% of cases (Wilson and Fairburn, 2002), the enhanced CBT model continues to be evaluated.

Gowers et al (2004) suggest that future research should focus on psychological therapies for AN and evaluations of treatments for adult BN which are applied to the treatment of adolescents such as Cognitive Behavioural Therapy (CBT) and Interpersonal Therapy (IPT). As with adults, it is unlikely that CBT will be successful and/or acceptable as the primary treatment for all adolescents with BN, suggesting a need for further development and evaluation of a range of other outpatient therapies. It appears that further research to evaluate treatment approaches in adolescence across the continuum of eating disturbance is still very much needed.

Why might a transdiagnostic process be important?

Finding a transdiagnostic process appears to be a potentially valuable pursuit as evidence suggests that individuals do not fit neatly into a diagnostic ED category. There is a higher prevalence of Eating Disorders Not Otherwise Specified (EDNOS) in comparison to AN and BN with around half of all eating disorder patients not meeting full criteria for AN or BN (Turner and Bryant-Waugh, in press, in Gowers and Bryant-Waugh, 2004). Furthermore, there is a high incidence of movement from one diagnostic ED category to another over time and there is a high prevalence of co-morbidity alongside EDs or disordered eating/sub-clinical levels.

Co-morbidity with other psychopathology has been found to be as high as 89.5%. Depression in particular has been found to be very high in Full Syndrome (FS) and Partial Syndrome (PS) ED groups, with more than 70% of the adolescent FS and PS ED cases meeting criteria for an Axis I disorder in young adulthood, (Lewisohn, Striegel-Moore and Seeley, 2000).

A marked similarity in cognitive and behavioural processes (i.e. the progress or course of a disorder) has been identified as important across the different psychological disorders. Therefore, it has been suggested that assessment and treatment could be targeted at the processes in common across the disorders (Harvey, Watkins, Mansell and Shafran, 2004). Experiential avoidance and cognitive fusion have been identified as part of the transdiagnostic process of inflexibility in ACT, which although under the umbrella of 3rd wave CBT is distinct from other CBT approaches. CBT approaches involve teaching clients to purposively regulate or change emotions, physical sensations and cognitions; instead ACT promotes the acceptance of these. ACT assists clients to notice and abandon attempts to avoid or suppress and to move in a direction of chosen values despite pain or suffering. Further elaboration of how ACT has been used successfully in practice will now be presented below.

ACT treatment of adolescents with mental health problems including eating disorders

Evidence for ACT with adolescents with mental health problems has accumulated. Greco, Blomquist, Acra, and Moulton (2006) examined the utility of ACT in promoting life quality and decreasing school absence and functional disability among adolescents with functional abdominal pain. They found that adolescents demonstrated significant increases in life quality and significant decreases in functional disability and school absences from baseline to post-treatment and follow up. In addition, adolescents reported lower levels of somatic complaints and anxiety from baseline to post-treatment.

They recommended that future studies replicate this with larger, more diverse samples and appropriate control groups.

Heffner, Sperry, Eifert and Detweiler, (2002) presented the successful adoption of ACT techniques in the treatment of a 15-year-old female with AN. They showed how ACT techniques were successfully combined with, and set the stage for, more standard cognitive-behavioural interventions. The ACT approach was applied successfully to AN for which treatment results from other therapies such as CBT and Interpersonal Therapy (ITP) have not been as promising as they have with BN.

The concept of inflexibility may supplement the existing theories – ACT in practice

Heffner and Eifert's (2004) workbook on AN states the aim is for patients to learn to recognise that trying to control and change what they feel and think about themselves by losing weight is risky and does not work in the long term (although in the short term it can of course be hugely reinforcing). It also aims to help individuals with AN deal with out of control emotions, thoughts and situations more effectively and to identify what they value in life and what they want their life to stand for. They can then take steps towards leading a valued life and cope with barriers that may stand in the way of this. Treatment effectiveness is currently being investigated but preliminary findings are positive.

Heffner et al's (2002) clinical example of using ACT with a 15 year old girl with AN demonstrated how the patient is encouraged to view avoidant solutions as problems by employing paradox and metaphors to disrupt ongoing avoidance repertoires and exploring the ways in which avoidance behaviour was actually inhibiting functioning. The finger trap was used to explain a metaphor that was displayed to the patient in an experiential manner. The finger trap consisted of a tube of woven straw where both index fingers slide in, one finger at each end.

After insertion, if the fingers pull out, the tube catches and tightens and the only way to escape is to push the fingers in, then slide them out. The finger trap demonstrates that attempts to control an uncontrollable event (e.g., body weight) are futile, whereas efforts to push in and accept one's body are more beneficial. The control agenda (i.e., not eating) was discussed and its counterproductive consequences named (e.g. fatigue and hunger). The person was then encouraged to discriminate between oneself and one's problem behaviour, providing context in which acceptance is possible and avoidance is unnecessary.

Another metaphor was demonstrated by using chess pieces that are thought of as being at war with one another, while the board is merely an observer. The board never loses, but the pieces are constantly being attacked and knocked off the board. The patient was encouraged to see that she was functioning as a chess piece by fighting off the "fat thoughts," and she was losing at the game. Instead the patient was encouraged to play the game in a new way by serving as the board and observing the fight rather than participating in it. The patient was then asked to specify her valued life directions and these were referred to throughout. The map highlighted how eating would move her towards those directions (e.g., eating would give her more energy to succeed at swimming which was important to her). This paper concluded that with parental support, rapport, and other standard cognitive-behavioural techniques ACT techniques were successfully incorporated into a behavioural treatment for AN.

Interestingly, Heffner et al (2002) reported that although the treatment was considered successful, body dissatisfaction remained. It was emphasised that the treatment goal was not to eliminate body dissatisfaction, but to accept thoughts and feelings of body dissatisfaction and refocus her energy toward achieving chosen goals. Thus, although the patient was not satisfied with her body, she was able to resume a healthy lifestyle in spite of weight-related thoughts and feelings. This is an important difference between the CBT perspective and ACT. This point will be taken up further under consideration of body image in relation to acceptance and mood disorders which follows.

Body image dissatisfaction and mood disorders

The process of inflexibility (i.e. cognitive fusion and experiential avoidance) has been found to be negatively associated with body image acceptance thus having inflexible emotional processing is associated with a lower acceptance towards body image dissatisfaction. Furthermore, body image acceptance was negatively associated with depression and eating disorder risk. This may suggest a common process, as the literature suggests body image dissatisfaction and mood play important roles in eating disturbance. A consideration of the literature concerning body image and depression will therefore ensue.

ACT holds that a lack of acceptance of body image regardless of how negative it is, is associated with inflexibility and therefore with pathology. ACT would agree with other researchers that body dissatisfaction is so pervasive among adolescent girls that it represents normative discontent (Sandoz et al, 2006). Although body dissatisfaction is one of the most robust predictors of disordered eating (Killen et al., 1996; Stice, et al, 2001, Stice 2002), the majority of girls who exhibit body dissatisfaction do not go on to develop an eating disorder, this may be because an individual's level of acceptance or flexibility in emotional processing is a key factor.

Research has indicated that feelings of depression and high levels of negative affect lead to disordered eating (Killen et al., 1996; Stice, et al, 2001; Stice and Agras, 1998; Wertheim et al., 2001) and bulimic symptoms (Killen et al., 1996; Stice, 2001; Stice and Agras, 1998; Wertheim et al., 2001). However other studies for example Stice et al's (2001) longitudinal study ($n = 1,124$), concluded that elevated body dissatisfaction, dietary restraint, and bulimic symptoms at study entry predicted onset of subsequent depression among initially non-depressed youth after controlling for initial depressive symptoms. Results were therefore suggestive of disordered eating preceding depressive symptoms instead of depression preceding disordered eating.

This is consistent with the assertion that the body image and eating-related risk factors that emerge after puberty might contribute to the elevated rates of depression for adolescent girls. It may be that experiential avoidance and cognitive fusion increase the risk of both depression and disordered eating thus inflexibility acts as a common process.

Clinical implications

Due to the cross sectional study design it is not possible to know whether inflexibility leads to eating pathology (as a precipitating or maintaining factor) or whether eating pathology promotes higher levels of inflexibility. Or it might be that inflexibility leads to an increased risk of body dissatisfaction under certain circumstances (e.g. biopsychosocial risk factors detailed above) which may lead to disordered eating behaviours. This will be relevant to whether or not it would be useful preventatively; therefore further research could consider this question prospectively using a longitudinal study design.

Currently there is little research that evaluates preventative treatment in the adolescent sub-clinical eating disordered population. It may be that such prevention at this critical age and developmental stage will be beneficial.

Body image acceptance is associated with flexibility as opposed to inflexibility that is implicated in a variety of disorders including ED, therefore if psychological acceptance of body dissatisfaction can be facilitated it will decrease the risk of disordered eating progressing to an ED. The goal of prevention programmes has been to avoid or eliminate a collection of body related perceptions such as ‘I see myself as being fat’, feelings such as ‘I do not like my body because I am fat’ and beliefs such as ‘it is very important for me to be thin’ which are thought to motivate unhealthy behaviours, anxiety and social withdrawal (Smolak, Levine and Striegel-Moore, 1996). It may be more useful to encourage ‘acceptance’ of body image or alongside psycho-education about the representation of beauty in the media (given to US adolescents).

Limitations of study

Cross sectional study design:

This study employed a cross sectional design which offers a snap-shot of a sample at a particular time and therefore cannot offer a longer-term perspective or conclude on causative or maintaining factors.

Difficulties with BMI measurement in growing adolescents:

While BMI has a high correlation with relative fatness or leanness it is assessing the weight to height relationship which may give misleading results in girls who are very muscular and who might therefore appear obese on the BMI alone. When diagnosing for clinical purposes further assessments can be carried out to determine if excess fat is a problem (such as skinfold thickness measurements, evaluations of diet, physical activity and family history). Such a detailed assessment was not carried out for the purposes of this study.

A further issue as regards the BMI was categorising the BMI values from this sample using the USA as opposed the UK percentile groups. The UK percentile groups were more stringent than those of the US and consequently fewer participants fitted the categories. The US categorisation enabled better comparison of the groups but was used on a UK sample, which perhaps is not ideal.

Additional limitations:

Due to the focus of the study cultural and gender differences were not adequately considered. Ethnicities were simply classified under the generic label that denoted their membership in a racial group. More important information that may have promoted further understanding of the existence or non-existence, development, and course of eating disorders among minority groups was not sought.

The sample size was not adequate for further analysis of differences between ethnic groups with an over representation of white Europeans as would be expected. Moreover, the sample sizes of the various schools differed (e.g. one school only provided three participants) considerably, but this variation is unlikely to be related to the findings at the level of the individuals discussed in this thesis.

The relevance of adolescent developmental factors may be important in terms of flexibility in emotional processing (i.e. cognitive developmental factors such as ability to think abstractly). Although evidence suggests that inflexibility is associated with a wide variety of disorders in adults implying that flexibility does not increase with maturation, such factors would need to be considered longitudinally.

Another limitation is that information regarding physical health such as diabetes or thyroid difficulties was not ascertained and such factors may have had an important role to play.

Finally, most of the questionnaire data collected was self-reported and therefore liable to participant biases.

Suggestions for further research

It may be useful to consider the effects of ACT on ED from a longitudinal perspective so that to look at the prognosis of an ED in relation to ACT and to look to see whether inflexibility causes and/or maintains the ED. Keel, (1997) found that following the course of women's eating over twenty years demonstrated that women's disordered eating decreased with 'putative risk factors' (i.e. dieting and body image dissatisfaction). It might be useful to replicate this study to explore the relationship between flexibility and maturation.

If there are different expectations about the ideal body across cultures it may be interesting to measure inflexibility in the cultures that have a different body ideal to see whether they have higher levels of flexibility and or body image acceptance.

Randomised control trials to compare ACT treatment such as that for AN (Heffner et al, 2004) with other treatments should be undertaken to support the utility of ACT as a treatment.

Conclusions

The hypotheses investigated in this project included looking at the relationship between inflexibility in emotional processing and eating disorder risk (EDR), inflexibility was found to be significantly higher in the high eating disorder risk group as was hypothesised. Body image acceptance was associated with flexibility and higher depression and anxiety scores were found to be associated with inflexibility and higher EDR.

These findings provide evidence for both the ACT model and a transdiagnostic approach which is positive in light of research that suggests that current treatment and prevention approaches are not good enough as yet. This study suffered from various limitations primarily the cross-sectional design that disallows any firm conclusions about cause and effect and does not allow one to see the progression of a disorder. Nevertheless, it has added support to the literature that suggests the usefulness of ‘inflexibility’ as a transdiagnostic concept.

Conclusion

This study found that inflexible emotional processing from an Acceptance and Commitment Therapy (ACT) perspective was significantly higher in the high Eating Disorder Risk (EDR) group as compared to moderate and low EDR groups. Those with a higher acceptance of body image (from an ACT perspective) displayed less inflexible emotional processing. The low EDR group was found to have a higher body image acceptance than the moderate and high risk groups. Furthermore, as regards mood, a significant mean difference in depression between the Body Mass Index (BMI) groups was found such that the underweight BMI group had higher rates of depression. This is difficult to explain and needs to be considered further. Inflexibility was also associated with higher scores on depression and anxiety as was predicted, further supporting its transdiagnostic significance.

Therefore inflexibility was found to be higher in those with a higher eating disorder risk, higher rates of depression and anxiety as well as those with a less accepting stance towards their body image. There was also a negative association found between depression and anxiety and acceptance of body image. The results of this study support the ACT theory that states that inflexible emotional processing which includes cognitive fusion and experiential avoidance is associated with psychopathology including that of mood disturbance and eating pathology. This study is a cross sectional design and so cannot make firm conclusions about cause and effect and does not allow one to follow the progression of a disorder. This study offers support for ACT which needs to be evaluated in comparison to other approaches as regards the prevention and/or treatment of the eating disorders and associated problems.

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Item Booklet

David M. Garner, PhD

DIRECTIONS

Enter your name, the date, your age, gender, marital status, and occupation. Complete the questions on the rest of this page. Then, turn to the inside of this booklet and carefully follow the instructions.

Name _____ Date _____/_____/_____

*Age _____ Gender _____ Marital Status _____ Occupation _____

- A. *Current weight: _____ pounds
- B. *Height: _____ feet _____ inches
- C. Highest past weight (excluding pregnancy): _____ pounds
How long ago did you first reach this weight? _____ months
How long did you weigh this weight? _____ months
- D. *Lowest weight as an adult (or lowest weight as an adolescent if not yet age 18): _____ pounds
How long ago did you first reach this weight? _____ months
How long did you weigh this weight? _____ months
- E. What weight have you been at for the longest period of time? _____ pounds
At what age did you first reach this weight? _____ years old
- F. If your weight has changed a lot over the years, is there a weight that you keep coming back to when you are not dieting? _____ Yes _____ No
If yes, what is this weight? _____ pounds
At what age did you first reach this weight? _____ years old
- G. What is the most weight you have ever lost? _____ pounds
Did you lose this weight on purpose? _____ Yes _____ No
What weight did you lose to? _____ pounds
At what age did you reach this weight? _____ years old
- H. What do you think your weight would be if you did not consciously try to control your weight?
_____ pounds
- I. How much would you like to weigh? _____ pounds
- J. Age at which weight problems began (if any): _____ years old
- K. Father's occupation: _____
- L. Mother's occupation: _____

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INSTRUCTIONS

First, write your name and the date on the EDI-3 Answer Sheet. Your ratings on the items below should be circled on the Answer Sheet. The items ask about your attitudes, feelings, and behaviors. 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 on the Answer Sheet. For example, if your rating for an item is **OFTEN**, you would circle the "O" for that item on the Answer Sheet.

Respond to *all* of the items, making sure that you circle the letter for the rating that is true about you. **DO NOT ERASE!** If you need to change an answer, mark an "X" through the incorrect letter, and then circle the correct one.

1. I eat sweets and carbohydrates without feeling nervous.
2. I think that my stomach is too big.
3. I wish that I could return to the security of childhood.
4. I eat when I am upset.
5. I stuff myself with food.
6. I wish that I could be younger.
7. I think about dieting.
8. I get frightened when my feelings are too strong.
9. I think that my thighs are too large.
10. I feel ineffective as a person.
11. I feel extremely guilty after overeating.
12. I think that my stomach is just the right size.
13. Only outstanding performance is good enough in my family.
14. The happiest time in life is when you are a child.
15. I am open about my feelings.
16. I am terrified of gaining weight.
17. I trust others.
18. I feel alone in the world.
19. I feel satisfied with the shape of my body.
20. I feel generally in control of things in my life.
21. I get confused about what emotion I am feeling.
22. I would rather be an adult than a child.
23. I can communicate with others easily.
24. I wish I were someone else.
25. I exaggerate or magnify the importance of weight.
26. I can clearly identify what emotion I am feeling.

(continued)

27. I feel inadequate.
28. I have gone on eating binges where I felt that I could not stop.
29. As a child, I tried very hard to avoid disappointing my parents and teachers.
30. I have close relationships.
31. I like the shape of my buttocks.
32. I am preoccupied with the desire to be thinner.
33. I don't know what's going on inside me.
34. I have trouble expressing my emotions to others.
35. The demands of adulthood are too great.
36. I hate being less than best at things.
37. I feel secure about myself.
38. I think about bingeing (overeating).
39. I feel happy that I am not a child anymore.
40. I get confused as to whether or not I am hungry.
41. I have a low opinion of myself.
42. I feel that I can achieve my standards.
43. My parents have expected excellence of me.
44. I worry that my feelings will get out of control.
45. I think my hips are too big.
46. I eat moderately in front of others and stuff myself when they're gone.
47. I feel bloated after eating a normal meal.
48. I feel that people are happiest when they are children.
49. If I gain a pound, I worry that I will keep gaining.
50. I feel that I am a worthwhile person.
51. When I am upset, I don't know if I am sad, frightened, or angry.
52. I feel that I must do things perfectly or not do them at all.
53. I have the thought of trying to vomit in order to lose weight.
54. I need to keep people at a certain distance (feel uncomfortable if someone tries to get too close).
55. I think that my thighs are just the right size.
56. I feel empty inside (emotionally).
57. I can talk about personal thoughts or feelings.
58. The best years of your life are when you become an adult.
59. I think my buttocks are too large.
60. I have feelings I can't quite identify.

(continued)

61. I eat or drink in secrecy.
62. I think that my hips are just the right size.
63. I have extremely high goals.
64. When I am upset, I worry that I will start eating.
65. People I really like end up disappointing me.
66. I am ashamed of my human weaknesses.
67. Other people would say that I am emotionally unstable.
68. I would like to be in total control of my bodily urges.
69. I feel relaxed in most group situations.
70. I say things impulsively that I regret having said.
71. I go out of my way to experience pleasure.
72. I have to be careful of my tendency to abuse drugs.
73. I am outgoing with most people.
74. I feel trapped in relationships.
75. Self-denial makes me feel stronger spiritually.
76. People understand my real problems.
77. I can't get strange thoughts out of my head.
78. Eating for pleasure is a sign of moral weakness.
79. I am prone to outbursts of anger or rage.
80. I feel that people give me the credit I deserve.
81. I have to be careful of my tendency to abuse alcohol.
82. I believe that relaxing is simply a waste of time.
83. Others would say that I get irritated easily.
84. I feel like I am losing out everywhere.
85. I experience marked mood shifts.
86. I am embarrassed by my bodily urges.
87. I would rather spend time by myself than with others.
88. Suffering makes you a better person.
89. I know that people love me.
90. I feel like I must hurt myself or others.
91. I feel that I really know who I am.

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Appendix 2

Avoidance and Fusion questionnaire for Youth

AFQ-Y

(GRECO, MURRELL, & COYNE, 2005)

We want to know more about what you think, how you feel, and what you do. Read each sentence. Then, circle a number between 0-4 that tells how true each sentence is for you.

0 is not true at all and 4 is most true.

- | | |
|--|-----------|
| 1. My life won't be good until I feel happy. | 0 1 2 3 4 |
| 2. My thoughts and feelings mess up my life. | 0 1 2 3 4 |
| 3. If I feel sad or afraid, then something must be wrong with me. | 0 1 2 3 4 |
| 4. The bad things I think about myself must be true. | 0 1 2 3 4 |
| 5. I don't try out new things if I'm afraid of messing up. | 0 1 2 3 4 |
| 6. I must get rid of my worries and fears so I can have a good life. | 0 1 2 3 4 |
| 7. I do all I can to make sure I don't look dumb in front of other people. | 0 1 2 3 4 |
| 8. I try hard to erase hurtful memories from my mind. | 0 1 2 3 4 |
| 9. I can't stand to feel pain or hurt in my body. | 0 1 2 3 4 |
| 10. If my heart beats fast, there must be something wrong with me. | 0 1 2 3 4 |
| 11. I push away thoughts and feelings that I don't like. | 0 1 2 3 4 |
| 12. I stop doing things that are important to me whenever I feel bad. | 0 1 2 3 4 |
| 13. I do worse in school when I have thoughts that make me feel sad. | 0 1 2 3 4 |
| 14. I say things to make me sound cool. | 0 1 2 3 4 |
| 15. I wish I could wave a magic wand to make all my sadness go away. | 0 1 2 3 4 |
| 16. I am afraid of my feelings. | 0 1 2 3 4 |
| 17. I can't be a good friend when I feel upset. | 0 1 2 3 4 |

Appendix 3

Body Image Acceptance and Action Questionnaire

BI-AAQ ©

Directions: Below you will find a list of statements. Please rate the truth of each statement as it applies to you. Use the following rating scale to make your choices. For instance, if you believe a statement is 'Always True,' you would write a 7 next to that statement.

Never True	Very Seldom True	Seldom True	sometimes True	frequently True	Almost Always True	Always True
1	2	3	4	5	6	7

____ 1. I get on with my life even when I feel bad about my body.

____ 2. Worrying about my weight makes it difficult for me to live a life that I value.

____ 3. I would gladly sacrifice important things in my life to be able to stop worrying about my weight.

____ 4. I care too much about my weight and body shape.

____ 5. How I feel about my body has very little to do with the daily choices I make.

____ 6. Many things are more important to me than feeling better about my weight.

____ 7. There are many things I do to try and stop feeling bad about my body weight and shape.

____ 8. I worry about not being able to control bad feelings about my body.

____ 9. I do not need to feel better about my body before doing things that are important to me.

____ 10. I don't do things that might make me feel fat.

____ 11. I shut down when I feel bad about my body shape or weight.

____ 12. My worries about my weight do not get in the way of my success.

- _____ 13. I can move toward important goals, even when feeling bad about my body.
- _____ 14. There are things I do to distract myself from thinking about my body shape or size.
- _ 15. My thoughts and feelings about my body weight and shape must change before I can take important steps in my life.
- _____ 16. My thoughts about my body shape and weight do not interfere with the way I want to live.
- _____ 17. I cannot stand feeling fat.
- _____ 18. Worrying about my body takes up too much of my time.
- _____ 19. If I start to feel fat, I try to think about something else.
- _____ 20. Worrying about my weight does not get in my way.
- _____ 21. Before I can make any serious plans, I have to feel better about my body.
- _____ 22. I will have better control over my life if I can control my negative thoughts about my body.
- _____ 23. I avoid putting myself in situations where I might feel bad about my body.
- _____ 24. To control my life, I need to control my weight.
- _____ 25. My worries and fears about my weight are true.
- _____ 26. Feeling fat causes problems in my life.
- _____ 27. I do things to control my weight so I can stop worrying about the way my body looks.
- _____ 28. When I start thinking about the size and shape of my body, it's hard to do anything else.
- _____ 29. My relationships would be better if my body weight and/or shape did not bother me.

Appendix 4

Hospital Anxiety and Depression Scale

HADS

Instructions: Read each item and place a firm tick or circle the number in the box on the reply which comes closest to how you have been feeling in the **past week**. Don't take too long over your replies.

I feel tense or 'wound up':

- Most of the time
- A lot of the time
- Time to time, occasionally
- Not at all

I still enjoy the things I used to enjoy:

- Definitely as much
- Not quite so much
- Only a little
- Not at all

I get a sort of frightened feeling like something awful is about to happen:

- Very definitely and quite badly
- Yes, but not too badly
- A little, but it doesn't worry me
- Not at all

I can laugh and see the funny side of things:

- As much as I always could
- Not quite so much now
- Definitely not so much now
- Not at all

Worrying thoughts go through my mind:

- A great deal of the time
- A lot of the time
- From time to time but not too often
- Only occasionally

I feel cheerful:

- Not at all
- Not often
- Sometimes
- Most of the time

I can sit at ease and feel relaxed:

- Definitely
- Usually
- Not often
- Not at all

I feel as if I am slowed down:

- | | | |
|---|------------------------|---|
| 3 | Nearly all of the time | 3 |
| 2 | Very often | 2 |
| 1 | Sometimes | 1 |
| 0 | Not at all | 0 |

I get a sort of frightened feeling like 'butterflies in the stomach':

- | | | |
|---|--------------|---|
| 0 | Not at all | 0 |
| 1 | Occasionally | 1 |
| 2 | Quite often | 2 |
| 3 | Very often | 3 |

I have lost interest in my appearance:

- | | | | |
|---|---------------------------------------|---|--|
| 3 | Definitely | 3 | |
| 2 | I don't take as much care as I should | 2 | |
| 1 | I may not take quite as much care | 1 | |
| 0 | I take just as much care as ever | 0 | |

I feel restless as if I have to be on the move:

- | | | |
|---|------------------|---|
| 0 | Very much indeed | 3 |
| 1 | Quite a lot | 2 |
| 2 | Not very much | 1 |
| 3 | Not at all | 0 |

I look forward with enjoyment to things:

- | | | |
|---|--------------------------------|---|
| 3 | A much as I ever did | 0 |
| 2 | Rather less than I used to | 1 |
| 1 | Definitely less than I used to | 3 |
| 0 | Hardly at all | 2 |

I get sudden feelings of panic:

- | | | |
|---|-------------------|---|
| 3 | Very often indeed | 3 |
| 2 | Quite often | 2 |
| 1 | Not very often | 1 |
| 0 | Not at all | 0 |

I can enjoy a good book or radio or TV programme:

- | | | |
|---|-------------|---|
| 0 | Often | 0 |
| 1 | Sometimes | 1 |
| 2 | Not often | 2 |
| 3 | Very seldom | 3 |

.....

Is there a family history of mental illness? Please specify

.....

.....

Do you use any of the following?

	No	Yes
Non prescribed drugs		
Alcohol		

Have you experienced any of the following in your life? Please tick

	No	Yes	If yes, at what age(s)?
Move of house			
Move of school			
Loss of a family member or friend			
Parental separation			
Accident (e.g. car, fall). Please give details			
Illness. Please give details			
Bullying			
Hospitalisation. Please give details			
Other significant life event. Please circle:		e.g. physical assault unwanted sexual experience	

Appendix 6

Information sheet for parents and teachers



INFORMATION SHEET FOR PARENTS AND TEACHERS

Introduction

A group of students from your school will be invited to take part in a research study to investigate body image, emotional processing and disordered eating in adolescent females. Before you decide whether you would like to give consent for the student/ your daughter to take part, please take the time to read the following information which I have written to help you understand why the research is being carried out and what it will involve.

The researchers

The study is being carried out by Helen Eracleous, Trainee Clinical Psychologist, as part of a Doctoral qualification in Clinical Psychology. The study is supervised by Dr Saskia Keville, Clinical Lecturer and Chartered Clinical Psychologist, and Mr Joerg Shultz.

What is the purpose of the study?

This research is looking at how people's experience of their emotions impacts on their body image and eating behaviour. It is particularly focusing on adolescent females. This is an important area of investigation, as it can help clinical psychologists to better understand the development of some types of psychological difficulties, such as eating disorders including obesity. Eating disorders and obesity have a significant effect on people's lives; increased psychological understanding may help with its prevention and treatment.

What is involved?

If it is decided that the students will take part, they will be required to fill out three different questionnaires that each look at different aspects, i.e. eating behaviour, body image and emotional processing. They will be asked for some background information e.g. age and information about their current weight and eating behaviours. They will also be asked in the other two questionnaires, to rate how true they feel certain statements are for them.

Who is taking part?

This study will include females aged 12-16 years of age, attending local secondary schools. This study aims to recruit between sixty-eight one hundred and fifty female adolescents in total.

Do I have to take part?

No. If you do not want a student/ your child to take part, or you change your mind *at any time* during your participation in this study, you do not need to give a reason. Participation is entirely voluntary and you can withdraw at any time.

Title of project: Body image disordered eating and emotional processing in adolescent females.
p. 2 of 2

What do I have to do?

If after reading this information sheet you would like to take part in the research, you will be given this sheet to keep and parents need to sign two consent forms. Parents will keep one copy of the signed consent form and the researchers will keep another copy. The teachers will then be expected to distribute the small packs of the questionnaires to the female students taking part (as can be agreed with the researcher). As detailed above the questionnaire will ask students about their eating behaviour, body image and emotional processing. The questionnaire pack should take between half an hour to one hour to complete.

Will taking part be confidential?

Yes. If the students do decide to take part, their answers will be anonymous. This means that the questionnaire will not have their name or contact details on it. Instead each questionnaire is given a number before it is given out to participants. Completed questionnaires will be confidential to the researchers and kept at a secure location which will only be accessible by the researchers. To further ensure confidentiality, consent forms will be kept separately from the actual questionnaires. The overall findings of the project may be published in a research paper, but no individuals will be identifiable.

What are the benefits of taking part?

Taking part in this study may not benefit the students or school personally. However, it is hoped that this research will help develop psychological understanding of people who experience disordered eating. It is hoped that the study will be published in a research journal.

What if I have questions or concerns?

If you have any further questions about the research, please feel free to contact the researcher via email, telephone or post, details of which are below. In the unlikely event that participating in this research has caused a student distress in some way, please do not hesitate to contact the researcher who will be able to advise you on where they may be able to access further help.

Who has reviewed this study?

This study was reviewed by University of Hertfordshire Research Ethics Committee and given a sound ethical opinion.

Thank you for taking time to read this.

Contact details of the researcher: **Helen Eracleous**

Email address: h.eracleous@herts.ac.uk

Telephone number: 01707 286 322

Postal address: Doctor of Clinical Psychology Training Course
University of Hertfordshire
Hatfield, Herts., AL10 9AB

Appendix 7

Cover letter accompanying information sheet for parents and teachers



Doctor of Clinical Psychology Training Course
University of Hertfordshire
Hatfield
Herts
AL10 9AB

Dear Sir/Madam,

My name is Helen Eracleous and I am currently undertaking my Doctoral training in Clinical Psychology, at the University of Hertfordshire. I am undertaking this 'Major Research Project' as part of my training, and as such I am looking for adolescent females aged 12-16, to take part in my study.

With this letter you will find a research information sheet. I would be grateful if you could read this as it explains the study. If, after reading the information sheet you would like your child to take part, please sign the attached consent forms (two) and return one to your child's class teacher by **4th June 2007**. You will keep one of the consent forms and I will keep the other for my records.

Once you have filled out the consent forms I will arrange for the students to be given the questionnaire packs by their teacher and myself.

If you have any questions at any stage, please feel free to contact me:

Email: h.eracleous@herts.ac.uk
Postal address: as above

Thank you for your time.

Yours Sincerely,

Helen Eracleous
Trainee Clinical Psychologist

Appendix 8

Consent form



CONSENT FORM

Title of Project: Body Image Disordered Eating And Emotional Processing In Adolescent Females.

Researcher: Helen Eracleous, Trainee Clinical Psychologist

Please initial box

1) I confirm that I have read and understand the information sheet for the above study. I have had the opportunity to consider the information and if needed ask questions that were satisfactorily answered.

2) I understand that participation is voluntary and that the students are free to withdraw at any time, without giving any reason, without healthcare or legal rights being affected.

3) I agree for my daughter to take part in the above study

Name of parent of participant Date Signature

Name of person taking consent (if different from researcher) Date Signature

Name of researcher Date Signature

Appendix 8

Certificate of participation in the study

CERTIFICATE OF ACHIEVEMENT

This is to certify that

.....

took part in a research project for a Doctoral thesis. This project investigated body image, emotional processing and eating in adolescent females.

The researcher would like to thank you for your participation.

Signed

Helen Eracleous, Trainee Clinical Psychologist

Appendix 9

Debrief sheet



Debriefing sheet

Thank you very much for making this study possible!

This study is investigating how adolescence deal with their emotions. It seeks to find out whether they engage in certain ways of dealing with emotions and whether these are related to disordered eating and or body image satisfaction.

Eating disorders is a problem that can often begin with disordered eating such as unhealthy dieting e.g. severe caloric restriction and the use of meal supplements for weight loss, consumption of large quantities of high fat foods or skipping meals, or anorexic and bulimic behaviours. These behaviours have been associated with a negative body image.

This study is interested in whether certain types of emotional processing, for example, suppressing emotions can make disordered eating more likely. If this is the case this would help clinical psychologists and other healthcare professionals to improve the treatment and prevention of eating disorders.

It is hoped that this research will lead to a better understanding of the psychological factors associated with disordered eating/ future eating disorder and will add to the current understanding of psychological theory and treatment for Eating Disorders.

If you need to talk about this further or if you have recently been experiencing problems with your body image and eating habits please access the following sources of support:

Eating support:

<http://www.equip.nhs.uk/topics/neuro/eating.html>

[Anorexia and Bulimia Care](#), PO Box 173, Letchworth, Hertfordshire SG6 1XQ Tel: 01462 423351 Helpline for parents or those supporting school age children only: 01934 710336 (Tuesday - Friday 9am - 3pm) Email: anorexiabulimiacare@ntlworld.com A national charity with a Christian foundation working to support all those who struggle because of eating disorders, and related problems. Staffed mainly by recovered sufferers.

[The Obesity Awareness & Solutions Trust \(TOAST\)](#), Latton Bush Centre, Southern Way, Harlow CM18 7BL Tel: 01279 866010 Helpline: 0845 045 0225 Email: enquiries@toast-uk.org.uk

Eating disorders association <http://www.b-eat.co.uk/Home> **beat** is the UK's leading eating disorder charity. We believe that eating disorders will be beaten.

Childline- <http://www.childline.org.uk/>

Depression or anxiety support:

[Obsessive Compulsive Disorder \(OCD\) & Body Dysmorphic Disorder](#), Obsessive Action, Aberdeen Centre, 22-24 Highbury Grove, London N5 2EA Tel: 020 7226 4000 Mon/Wed/Fri

<http://www.samaritans.org/>

Support for abuse:

<http://www.supportline.org.uk/problems/childabuse.php>

Would you like to know the results of this study?

If so, please write your name together with *either* your email address or postal address in the space below, and the results will be sent to you when the project is completed

.....
.....
.....

Appendix 10

Ethics approval Form

**SCHOOL OF PSYCHOLOGY ETHICS COMMITTEE
APPROVAL**

Student Investigator: Helen Eracleous

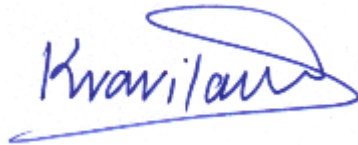
Title of project: Body image, disordered eating and emotional processing in adolescents.

Supervisor: Saskia Keville and Joerg Schulz

Registration Protocol Number: PSY/06/07/HE

**The approval for the above research project was granted on 13 June 2007
by the Psychology Ethics Committee under delegated authority from the Ethics
Committee of the University of Hertfordshire.**

Signed:



Date: 13 June 2007

Dr. Lia Kvavilashvili

Chair

Psychology Ethics Committee

STATEMENT OF THE SUPERVISOR:

From my discussions with the above student, as far as I can ascertain, s/he has followed the ethics protocol approved for this project.

Signed (supervisor):

Date:

Appendix 12

Boxplots and Descriptives for drug and alcohol use

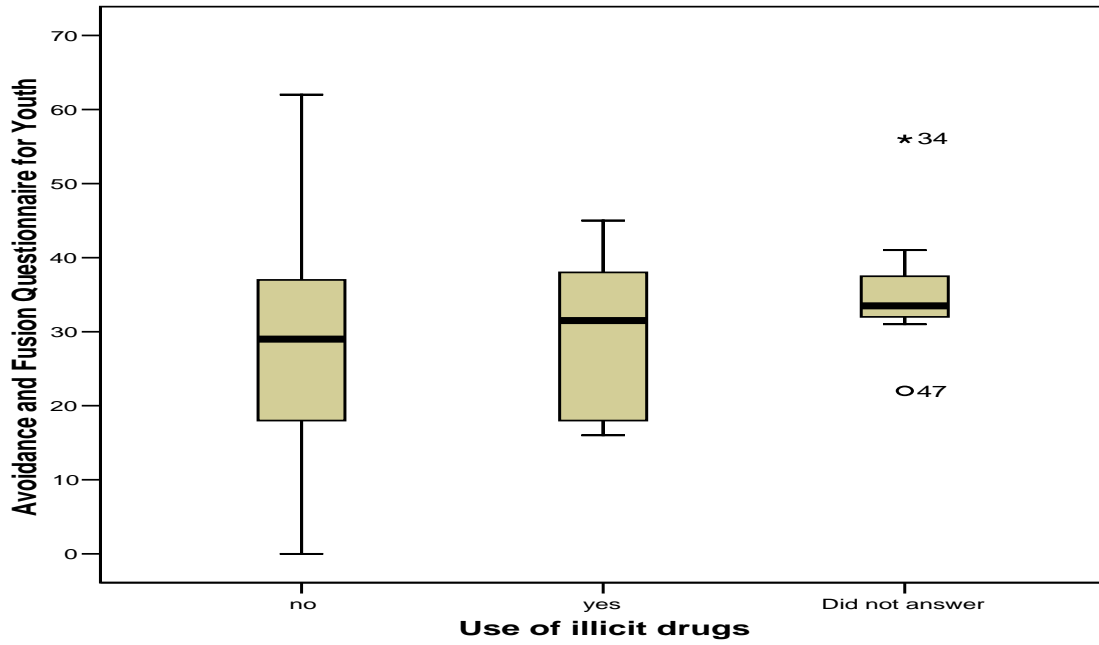


Figure 17 – Boxplot showing drug use and inflexibility

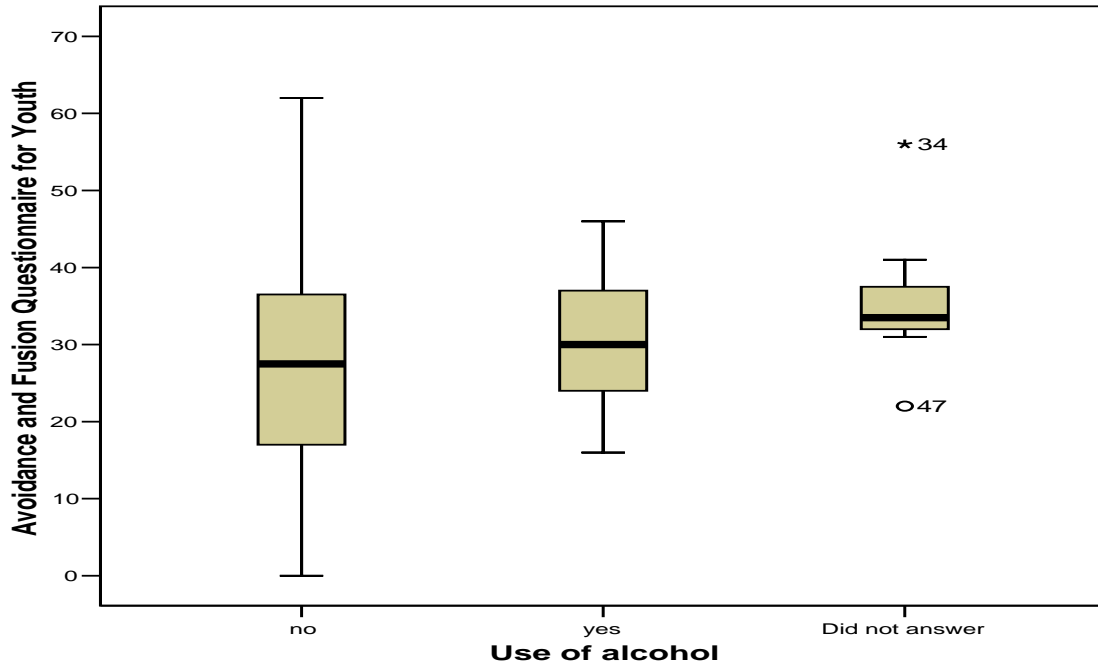


Figure 18 – Boxplot showing alcohol use and inflexibility

Table 23 – Descriptives for drug and alcohol use in relation to inflexibility

	Inflexibility Score	
	Yes	No
Alcohol Use		
N	20	67
Mean (Std error)	30.60 (1.149)	27.75 (1.557)
Median	30	28
SD	8.714	12.749
Min-Max	16-46	0-62
Skewness (Std error)	0.069 (0.512)	0.285 (0.293)
Drug Use		
N	10	77
Mean (Std error)	29.30 (3.393)	28.29 (1.386)
Median	31.50	29.00
SD	10.730	12.166
Min- Max	16-45	0-62
Skewness (Std error)	0.051 (0.687)	0.209 (0.274)

Appendix 13

Box plot and Descriptives for Academic Ability and Inflexibility

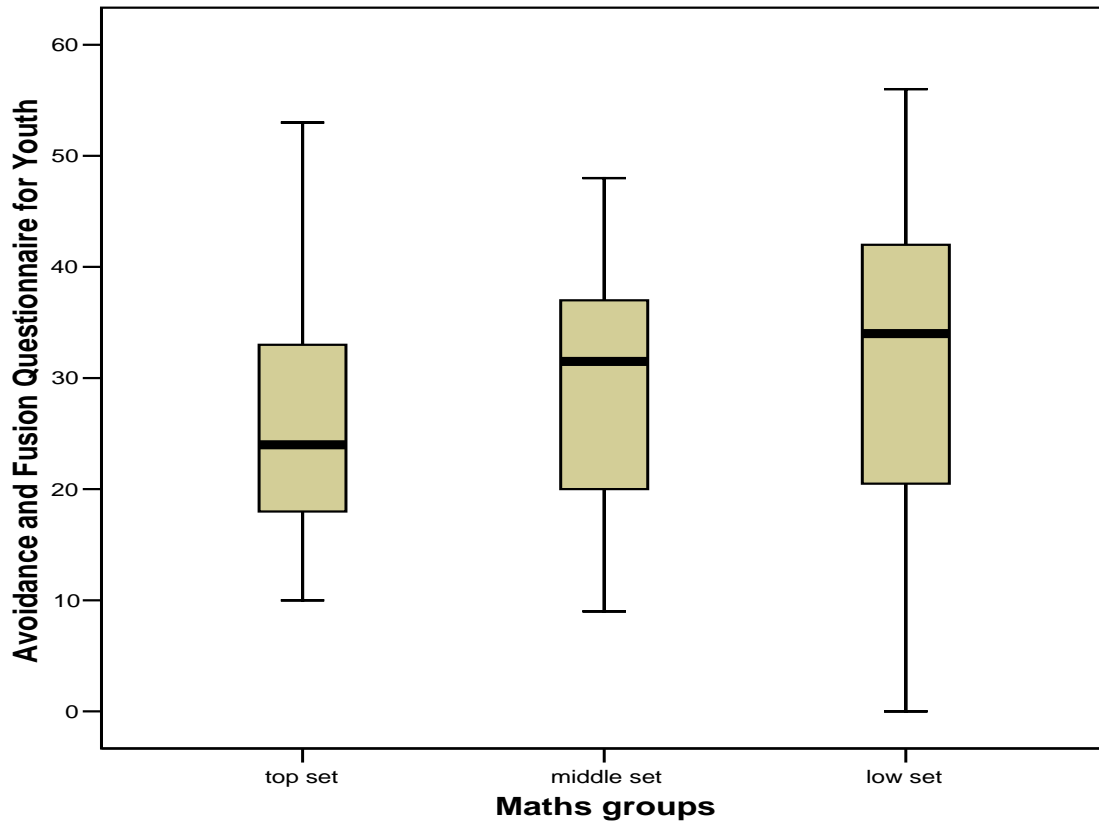


Figure 19 – Boxplot showing academic ability and inflexibility

Table 25 – Descriptives for academic ability in relation to inflexibility

	Inflexibility Score	Inflexibility Score	Inflexibility Score
Academic Ability	Top Set	Middle Set	Low Set
N	35	40	16
Mean (Std error)	27.00 (1.889)	29.58 (1.661)	30.88
Median	24.00	31.50	34.00
SD	11.175	10.505	15.046
Min-Max	10-53	9-48	0-56
Skewness (Std error)	0.579 (0.398)	-0.404 (0.374)	-0.408 (0.564)

Appendix 14 – Box plot and descriptive statistics for Perfectionism and EDR

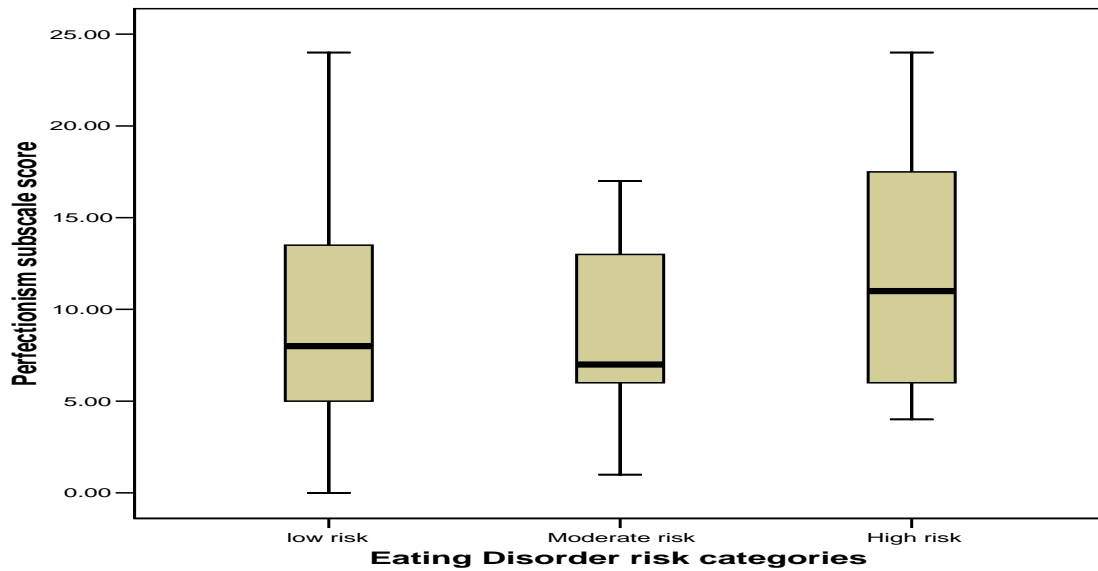


Figure 20 – Boxplot of perfectionism and EDR groups

Table 30 - Descriptive statistics for Perfectionism in relation to Eating Disorder Risk groups

	EDR group	EDR group	EDR group
Perfectionism	Low risk	Moderate risk	High risk
N	68	17	11
Mean (Std error)	9.5147 (.68647)	8.8235 (1.23144)	12.0909 (2.12541)
Median	8.0000	7.0000	11.0000
SD	5.66079	5.07734	7.04918
Min-Max	0-24	1-17	4-24
Skewness (Std error)	0.417 (0.291)	0.344 (0.550)	0.428 (0.661)

Journal-Ready Copy

Helen Eracleous

2008

Word count 4757
(Excluding Abstract and References)

Body Image, Disordered Eating and Emotional Processing in Adolescent Females

Helen Eracleous, Saskia Keville (for the first part),

Madeleine Tatham (the last part) and Joerg Shultz

University of Hertfordshire, Hertfordshire, UK

This research was conducted by the first author, under supervision of the above named authors, in fulfilment of the Doctorate in Clinical Psychology at the University of Hertfordshire. This paper is suggested for publication in *Eating Disorders: The Journal of Prevention and Treatment*.

Corresponding author:

Helen Eracleous, Doctor of Clinical Psychology Training Course, University of Hertfordshire, Hatfield, Herts, AL10 9AB, Tel: 01707 286 322, Email: h.eracleous@herts.ac.uk

Abstract

Objective:

The study investigated the relationship between ‘inflexibility’ in emotional processing (from an Acceptance and Commitment, ACT, perspective) and eating disorder risk. Body image dissatisfaction, depression and anxiety were also considered in relation to inflexibility and eating disorder risk.

Method:

The sample consisted of a non-clinical group of 96 12-15 year old females from secondary schools. The measures included Eating Disorder Inventory-3 (from which eating disorder risk was calculated), inflexibility and body image acceptance (using ACT measures), Body Mass Index (BMI) as well as depression and anxiety.

Results:

It was found that those with a higher eating disorder risk had higher levels of inflexibility and a lower body image acceptance as was predicted. Inflexibility was also associated with higher rates of anxiety and depression and acceptance of body image was negatively associated with depression and anxiety.

Discussion:

The relevance of inflexibility as a transdiagnostic process appears to be important in the understanding and potentially the prevention of eating pathology across the spectrum and associated problems of anxiety and depression. Clinical implications of these findings are discussed.

Keywords: ACT, inflexibility, disordered eating, body image dissatisfaction

Introduction

Disordered eating in adolescence

Eating Disorders can be viewed on a continuum, with disordered eating not reaching diagnostic criteria but potentially leading to either an eating disorder or obesity. Disordered eating refers to unhealthy eating behaviours such as severe caloric restriction followed by bingeing and the consumption of large quantities of high fat foods, which increase the risk of obesity (Stice, Presnell, Shaw and Rohde, 2005). Disordered eating also includes the use of meal supplements for weight loss, skipping meals or laxative, diuretic and diet pill use, binge eating, exercising obsessively and self-induced vomiting, (Neumark-Sztainer, 2005). It has been found that those with disordered eating or sub-clinical levels of eating disorders in adolescence have an increased risk for developing Bulimia Nervosa (BN), (i.e. up to a nine-fold increase in risk in late adolescence and a 20-fold increase in adulthood, Kotler, Cohen, Davies, Pine and Walsh, 2001).

Transdiagnostic approach in understanding eating disorders and obesity

Obesity and the different eating disorders can be considered together as overweight adolescents are at a high risk of using unhealthy weight control behaviours (i.e. disordered eating, Neumark-Sztainer 2005). Secondly, the commonalities between the eating disorders are apparent when they are viewed longitudinally as individuals can cross over from one diagnostic condition to another over time (i.e. about a quarter of patients with BN have had AN in the past, Agras, Walsh, Fairburn, Wilson and Kraemer, 2000). Thirdly, there is much co-morbidity in relation to mood disturbance across the eating disorders and obesity (Pryor and Wiederman, 1998).

Studying disordered eating instead of looking at the diagnostic categories of eating disorders separately, may enable findings to be generalised to the understanding, prevention and treatment of all forms of eating disorders and obesity.

Taking such a perspective may also provide an explanation for the co-morbidity in clinical practice as ‘pure’ cases of a disorder are thought to be relatively rare with many individuals diagnosed with ED also having depression/anxiety (Kessler, McGonagle, Zhao, Nelson, Hughes, Eshleman, Wittchen and Kendler, 1994). Thus a treatment that reverses the maintaining processes in one disorder could improve all the disorders present.

Gowers and Bryant-Waugh (2004) point out that although eating disorders in children and adolescents remain a serious cause of morbidity and mortality, the evidence base for effective interventions is surprisingly weak. Fairburn, Shafran and Cooper (2003), have concluded that available therapies that have undergone evaluation are not effective enough, as at best, only half the patients make a full and lasting response which raises the question “Why aren’t more people getting better?” There is research currently being conducted into a transdiagnostic perspective on the maintenance of eating disorders, with Fairburn (2008) pioneering an enhanced approach. However, Fairburn’s approach does not consider ‘inflexibility’ as investigated in this study.

A further indicator of a transdiagnostic model of understanding eating pathology is the shared risk factors identified of which body image dissatisfaction has been put forward as the single strongest predictor of eating disorder symptomatology among women (Polivy and Herman, 2002).

Body image dissatisfaction and mood regulation

Body image dissatisfaction defined as ‘subjective dissatisfaction (negative thoughts and feelings) with ones physical appearance’ (Littleton and Ollendick, 2003) is higher in adolescent females reporting disordered eating, (Croll, Neumark-Stainer, Story & Ireland, 2002). Individuals with body image dissatisfaction have also been found to present with negative cognitive distortions, (Williamson, 1996), thus helping to explain the link between body image dissatisfaction and depression.

Negative affect has been identified as the most common trigger of a binge-episode (Polivy et al, 2002) and is thought to mediate the relationship between body dissatisfaction and disordered eating (Stice, 2002). Thus, these findings imply that there may be a psychological process that is common to eating disorders and depression in those with a negative body image such that impacts on emotion regulation.

ACT considers the processing of emotional experiences as significant in the development of eating disorders and other psychopathology. ACT holds that pathology results from inflexibility (i.e. unhealthy efforts to control emotions, thoughts, memories, and other private experiences called experiential avoidance) (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Inflexibility also includes cognitive fusion (i.e. attachment to private events by responding to internal experiences such as thoughts, feelings, physical bodily sensations as if they were literally true). The general goal of ACT is to diminish the role of literal thought ('cognitive defusion'), and to encourage a client to contact their psychological experience directly and without needless defense ('psychological acceptance'), while at the same time behaving consistently with their 'chosen values'.

ACT and Body image dissatisfaction

ACT holds that if an individual exhibits psychological acceptance toward negative thoughts and feelings about their body image, it may be embraced and as 'normative discontent' and consequently not lead to eating pathology, (Sandoz and Wilson, 2006).

Gaps in the literature and rationale for this project

The literature does not clearly specify how the risk factors may combine in some people to result in the development of an eating disorder or the protective factors prevent this. Moreover it does not allow for us to differentiate between those who cross diagnostic categories. Therefore further investigation is needed to explore the psychological processes that may be at play in the relationship between risk/protective factors and eating pathology.

ACT suggests that inflexibility (i.e. cognitive fusion and experiential avoidance) may act as a risk factor in the development of such problems. This project therefore seeks to examine cross-sectionally whether inflexibility is indeed related to disordered eating and body image acceptance in adolescent females.

Method

Design:

A non experimental, cross sectional, correlational research design was employed in order to enable an examination of the relationships between the variables; disordered eating measured as Eating Disorder Risk (EDR), body image dissatisfaction acceptance and inflexibility in emotional processing.

Participants:

Ninety-six school aged female adolescents between the ages of 12-15, who returned a signed parental consent form, were included in the study. Those who could not read and write in English were excluded from the study, as the measures required written English.

Procedure:

Recruitment

The researcher approached seven secondary schools in London to ask for participants for this study. Four schools agreed to take part and one school agreed but did not have any consent forms returned so was not involved further in the study, the other two schools refused to participate stating no reason. Those schools that accepted the invitation to be a part of this study were given copies of a cover letter with information sheets and a consent form for the parent/guardian, to be signed for each adolescent.

At each school the researcher distributed the measures and asked the adolescent girls to complete all the questions on all the questionnaires. The participants were also asked to take it in turns to be weighed and measured by the researcher using scales and a ruler.

Measures:

Four self report standardised questionnaires were used and additional background information was collected. The questionnaires used were the:

1) Eating Disorder Inventory – Third Edition (EDI-3), Garner, Olmsted and Polivy, (2004). This questionnaire has 91-items and 12 sub-scales. The subscales include nine psychological scales (e.g. perfectionism, self-esteem) and three eating disorder risk scales. As the present study was concerned with disordered eating the Eating Disorder Risk Composite Score (EDRC) which sums the T scores for the Drive for Thinness, Bulimia and Body Dissatisfaction scales was used in order to obtain one score reflecting an eating disorder risk (EDR). The total EDRC is divided into the following three categories elevated clinical range, which was renamed high EDR, typical clinical range, renamed moderate EDR and low clinical range, renamed low EDR. The elevated clinical range category is in the 99th percentile for the adolescent non clinical U.S sample indicating extreme eating and weight concerns that consist of fear of weight gain, desire to be thinner, binge eating tendencies and body dissatisfaction. The typical clinical range score is between the 91st and 98th percentile and the low clinical range is less than the 90th percentile. Individuals from the latter group do not have significant problems with eating and weight concerns.

Items are presented on a 6-point forced-choice format where respondents rate how each item applies to them ranging from always to never. Higher scores represent a greater level of eating-related pathology.

The EDI has been the measure of choice in the investigation of eating pathology and has been shown to produce positive correlations with clinician ratings, patterns of convergent and discriminant validity (Garner & Olmsted, 1984) and good predictive validity (Norrington, 1990).

2) Avoidance and Fusion Questionnaire for Youth (AFQ-Y), Greco, Murrell, & Coyne, (2006).

This is a 17-item measure, for ages 9-17, intended for assessing psychological inflexibility as defined by Acceptance and Commitment Therapy (ACT). It measures (a) experiential avoidance/control, (i.e., attempts to escape, alter, or otherwise control negatively evaluated private events); and (b) cognitive and emotional fusion, (i.e., attachment to private events and responding to internal experiences such as thoughts, feelings, physical bodily sensations as if they were literally true). Greco, Lambert, & Baer, (2006) have provided adequate validity and reliability data.

3) The Body Image - Acceptance and Action Questionnaire (BI-AAQ), Sandoz, & Wilson, (2006)

The BIAAQ is a 29 item self-report scale that has been designed to measure the extent to which an individual exhibits an accepting posture toward negative thoughts and feelings about his or her body. This measure has promising initial psychometric data but is yet to be fully evaluated.

4) Hospital Anxiety and Depression Scale (HADS), Zigmond & Snaith, (1983)

The HADS is a brief measure of anxiety and depression consisting of 14 items (7 for each). White, Leach, Sims, Atkinson, and Cottrell (1999) validated the HADS for use with a British adolescent population (aged 12–16).

5) Background Information and BMI

The information sought included the number, age and gender of siblings, ethnicity, living arrangements, learning sets at school, family history of eating disorders/obesity and mental illness, use of non prescribed drugs and alcohol and certain life experiences such as move of house/school, loss of a family member/friend accident, illness, bullying, hospitalisation and abuse.

In addition, a calculation of the Body Mass Index (BMI) was undertaken, which uses weight and height as well as age to indicate body fatness. BMI is considered a reliable indicator of body fatness for most children and adolescents (Lask and Bryant-Waugh, 2000) and was calculated using the Center for Disease Control and Prevention website. It is calculated by dividing weight in Kg by square of length/height (m²). After BMI is calculated it is plotted on the BMI-for-age and sex growth charts to obtain a percentile ranking. The percentile indicates the relative position of the child's BMI number among children of the same sex and age.

The BMI-for-age weight status categories differ in the U.K from the U.S. In the U.S 'underweight' represents those in less than the 5th percentile, 'healthy weight' the 5th percentile to less than the 85th percentile, those 'at risk of becoming overweight' the 85th to less than the 95th percentile. Finally the 'overweight' group includes those equal to or greater than the 95th percentile. For the U.K weight categories 'underweight' is less than the 2nd percentile, 'healthy weight' is the 3rd percentile to less than the 90th percentile, 'overweight' is the 91st to less than the 98th percentile and 'obese' those equal to or greater than the 98th percentile.

Data Analysis

Group comparisons were made between the EDR groups in relation to the variables by carrying out Mann Whitney U Tests and considering the effect sizes using Cohen's d. Inflexibility was considered in relation to the key variables by carrying out Pearson's Correlational analysis.

Additional research questions were tested and a Logistic Regression analysis was conducted in order to build a prediction model whereby the five key variables were entered as predictors in order to decipher the log odds of the outcome of EDR defined by the values of covariates in the model (i.e. inflexibility, body image acceptance, depression, anxiety and self-esteem).

Results

Socio-demographic description of the sample

The ages of the 96 participants ranged from 12-15 with an ethnicity mix of White, 46%, Black/Mixed 27%, Asian 13% and other 11%. Their academic performance was obtained by acquiring information regarding maths set. 36% were in the Top set, 42% were in the Middle set and 17% were in the Bottom set.

As regards the distributions of BMI classification, the majority were in the healthy range (63%), followed by 22% in the underweight range and 15% in the overweight range. The distribution of participants into eating disorder risk (EDR) groups were 70% in the low, 18% in the moderate and 12% in the high EDR group.

A history of eating disorders (including obesity) in the family was reported by 10% with 85% reporting no such history. 12% reported a history of mental illness in the family and 77% reported that they had no such history. 71% reported no alcohol use and 21% reported drinking alcohol, 8% reported illicit drug use and 78% reported no such use. Finally, bullying was reported by 28% with 71% reporting no such experience.

Testing the hypotheses of the study

The first group of hypotheses considered inflexibility in relation to body image acceptance and EDR.

Hypotheses I

The hypothesis that higher inflexibility will be associated with lower body image acceptance was supported, Pearson's, $r = -0.55$, $p = 0.00$, ($n=81$). Furthermore, there was a significant association between EDR and inflexibility, such that the high and moderate EDR groups were more inflexible than the low EDR group, high compared to low EDR $z = -1.67$, $p = 0.05$, Cohen's $d = 0.71$ Moderate compared to high EDR $z = -0.19$, $p = 0.43$, Cohen's $d = 0.61$ confirming the main hypotheses. Moreover, the effect sizes were between medium and high (0.71 and 0.61).

There was a significant difference between the low and moderate EDR groups as compared to the high EDR group regarding body image acceptance. Low compared to high EDR group $z = -3.29$, $p = 0.00$, Cohen's $d = 1.87$. Moderate compared to high EDR group $z = -2.85$, $p = 0.00$, Cohen's $d = 1.87$. The effect sizes of the low EDR group compared to the high and for the moderate EDR group compared to the high EDR group were large (1.87).

The second set of hypotheses considered BMI groups in relation to inflexibility, body image acceptance, depression and anxiety.

Hypotheses II

No significant difference was found in inflexibility between the underweight and overweight groups as compared to the healthy BMI groups. There was also no significant difference in body image acceptance in the underweight and overweight groups as compared to the healthy BMI groups. There was however a significant mean difference between the healthy as compared to the underweight group on their levels of depression but not on anxiety. There is also a mean difference between the overweight and healthy group as regards depression but not on anxiety. The effect sizes for underweight and overweight BMI in relation to depression were medium (0.6 and 0.4 respectively).

The third set of hypotheses investigate depression and anxiety in relation to inflexibility, body image acceptance and EDR.

Hypotheses III

Inflexibility was positively associated with both depression $r_s = 0.46$, $p = 0.00$ and anxiety, $r_s = 0.55$, $p = 0.00$ with medium effect sizes. Body image acceptance was negatively associated with depression $r_s = 0.44$, $p = 0.00$, and negatively associated with anxiety, $r_s = -0.50$, $p = 0.00$ again with medium effect sizes. Moreover, there was a significant difference between the low and high EDR groups as regards anxiety ($z = -2.67$, $p = 0.00$) and depression ($z = -1.60$, $p = 0.05$) with large (0.9) and moderate (0.49) effect sizes for anxiety and depression respectively.

Additional research questions - Background information in relation to EDR

The additional research questions considered the contributing factors that were collected as part of the background information and were explored in relation to the key variable of inflexibility and then compared across the EDR groups. Lastly, a prediction model was devised using logistic regression analysis.

A significant mean difference between inflexibility and eating disorder family history was found, $z = -1.86$, $p = 0.03$, Cohen's $d = 0.57$, thus a medium effect size. There was no significant difference found between mental illness family history and inflexibility and between drug and alcohol use and academic performance in relation to inflexibility. Thus those with an eating disorder history in their family had higher levels of inflexibility.

Eating disorder family history was compared across the EDR groups and a borderline significance was found $\chi^2 = 4.37$, $df = 2$, $p = 0.11$, Contingency Coefficient = 0.21. No significant difference was found across the groups regarding mental illness history. It was also found that the moderate and high EDR groups had a higher mean difference of drug and alcohol use with alcohol use being highly significant $\chi^2 = 14.75$, $df = 2$, $p = 0.00$, Contingency Coefficient = 0.38.

Bullying was considered across the EDR groups predicting a higher EDR but no significant mean difference was found between the groups.

There was also no significant difference found between perfectionism and EDR counter to previous research that has found perfectionism to be a risk factor in the eating disorders. Moreover, EDR was considered in relation to BMI groups and an association was found $\chi^2 = 11.30$, $df = 4$, $p = 0.02$, Contingency Coefficient 0.33. Furthermore self-esteem was found to be positively associated with EDR as was predicted.

Lastly the logistic regression analysis found that low self esteem was the strongest predictor of EDR. The other four predictor variables included in this analysis included inflexibility, body image acceptance, depression and anxiety.

Discussion

This study aimed to explore the primary hypotheses that inflexibility would be associated with disordered eating in adolescent females measured as eating disorder risk (EDR). Body image acceptance (defined by ACT), depression and anxiety were also explored in relation to EDR and BMI groups.

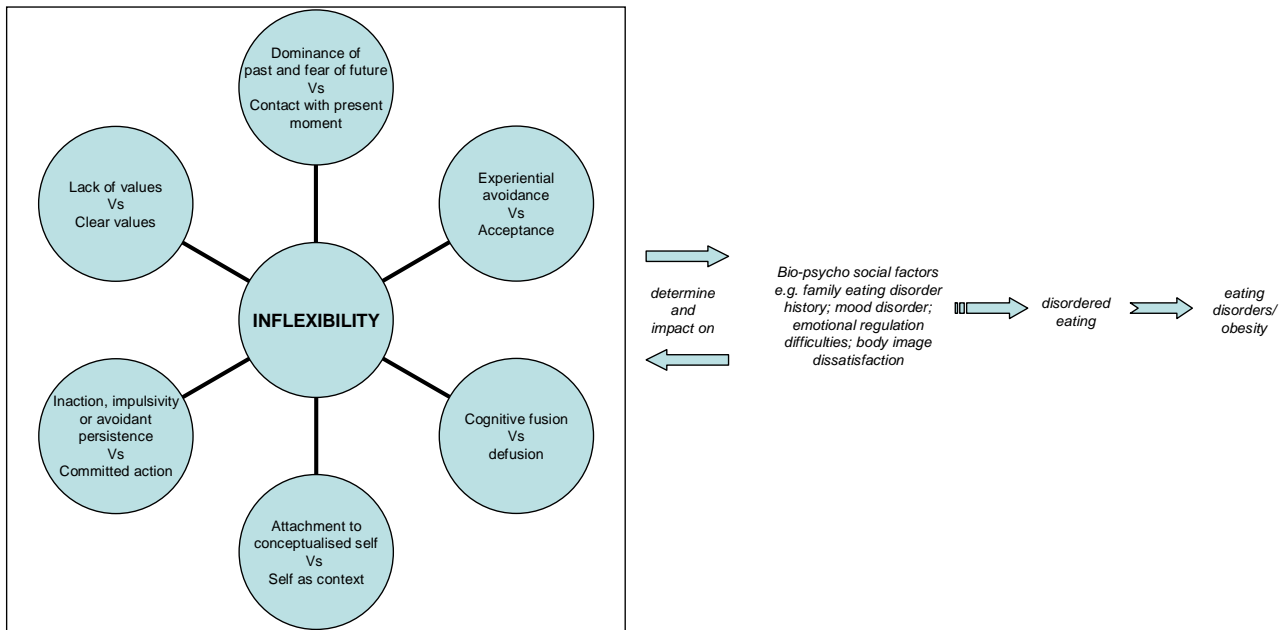
Inflexibility was associated with lower acceptance of body image and those most at risk of an eating disorder were found to be less accepting of their body image and had higher inflexibility, depression and anxiety. This was as predicted and is in accordance with the ACT theory that holds lower acceptance to be a part of inflexibility as flexibility includes 'acceptance' (defined above) and inflexibility includes the opposite of 'acceptance' (i.e. experiential avoidance). Therefore, inflexibility is implicated in eating pathology and these findings add weight to its importance as a transtheoretical process to be included in the understanding and treatment of eating pathology as well as co-occurring disorders.

Of the additional research questions focusing on other contributing factors, it was found that those reporting an eating disorder history in the family had higher inflexibility and significantly more were in the high EDR group.

A potential explanation may be that inflexibility or eating habits in response to experiential avoidance are learnt within the family, so that those that engage in high eating disorder risk behaviours do so in response to their inflexibility. There was also more drug and alcohol users in the high EDR group, these individuals may be prone to more risk taking behaviour or be more exposed to drugs and alcohol in their family/peer systems. Lastly, self-esteem was also positively associated with EDR and was found to be the best predictor of EDR, this is in accordance with the CBT perspective which holds low self esteem as one of the most significant factors relevant across the EDs.

Relevance of the findings in relation to ACT

If inflexibility is associated with pathology and acceptance (i.e. the reverse) associated with less pathology, then facilitating acceptance may be an important part to include in a transdiagnostic model of eating pathology. The above results have been displayed in the following model and an explanation of the approach will ensue.



This model presents the inflexibility factors that determine and impact on as well as being influenced by the biological, psychological and social risk factors that lead to disordered eating and may go on to lead to ED. If these components of inflexibility are tackled they may decrease the other risk factors. ACT holds that moving from inflexibility to flexibility involves six key processes. These are achieving acceptance as an alternative to experiential avoidance (i.e. embracing private events such as thoughts and physical sensations) without trying to change their frequency or form. Secondly, cognitive defusion as opposed to fusion, whereby the way one interacts with or relates to their thoughts are changed, so that they do not treat all thoughts as literal truths. Thirdly, being present by non-judgmentally experiencing the world and fourthly, self as context refers to being aware of ones own flow of experiences without attachment to them.

The last two are choosing life directions/values and taking committed action, (Hayes, Luoma, Bond, Masuda and Lillis, 2006).

Those advocating a transdiagnostic approach have suggested that assessment and treatment could be targeted at the processes in common across disorders, (Harvey, Watkins, Mansell and Shafran, 2004). The ACT approach allows for such a strategy, its treatment technique will be elaborated below to exemplify how this is done.

ACT treatment of adolescents with eating disorders

Heffner and Eifert's (2004) workbook on AN states the aim is for patients to learn to recognise that trying to control and change what they feel and think about themselves by losing weight is risky and does not work in the long term. It also aims to help individuals with AN deal with out of control emotions, thoughts and situations more effectively and to identify what they value in life and what they want their life to stand for. Preliminary findings have been positive with Heffner, Sperry, Eifert and Detweiler, (2002) presenting the successful adoption of ACT techniques to AN for which treatment results from other therapies (such as CBT and Interpersonal Therapy) have not been as promising as they have with BN. Heffner et al, (2002) concluded that with parental support, rapport, and other standard cognitive-behavioural techniques ACT techniques were successfully incorporated into a behavioural treatment for AN.

Interestingly, Heffner et al (2002) reported that although the treatment was considered successful, body dissatisfaction remained. It was emphasised that the treatment goal was not to eliminate body dissatisfaction, but to accept thoughts and feelings of body dissatisfaction and refocus toward achieving chosen goals. Thus, although the patient was not satisfied with her body, she was able to resume a healthy lifestyle in spite of weight-related thoughts and feelings. This was supported in this study as body image acceptance was not associated with an overweight BMI. This is an important difference between the CBT perspective and ACT, therefore a consideration of body image and mood disorders is warranted.

Body image acceptance and mood disorders

ACT holds that a lack of acceptance of body image is associated with inflexibility and therefore with pathology. ACT would agree with other researchers that body dissatisfaction is so pervasive among adolescent girls that it represents “normative discontent” (sandoz et al, 2006). Although body dissatisfaction is one of the most robust predictors of disordered eating (Killen, Hayward, Haydel, Wilson, Hammer, Kraemer, Blair-Greiner , & 1996; Stice, et al, 2001, Stice 2002), the majority of girls who exhibit body dissatisfaction do not go on to develop an eating disorder, this may indicate that an individual’s level of acceptance or flexibility in emotional processing is a key protective factor as supported by this study.

Research has indicated that feelings of depression and high levels of negative affect lead to disordered eating (Killen et al., 1996; Stice, et al, 2001; Stice and Agras, 1998; Wertheim, Koerner, & Paxton, 2004). However other studies for example Stice et al’s (2001) longitudinal study ($n = 1,124$), concluded that elevated body dissatisfaction, dietary restraint, and bulimic symptoms at study entry predicted onset of subsequent depression among initially non-depressed youth after controlling for initial depressive symptoms. Results were therefore suggestive of disordered eating preceding depressive symptoms instead of depression preceding disordered eating. This is consistent with the assertion that the body image and eating-related risk factors that emerge after puberty might contribute to the elevated rates of depression for adolescent girls. It may be that the process of inflexibility increases the risk of both depression and disordered eating thus acting as a common process.

Clinical implications

Due to the cross sectional study design it is not possible to know whether inflexibility leads to eating pathology or whether eating pathology promotes higher levels of inflexibility. Or it might be that inflexibility leads to an increased risk of body dissatisfaction which may lead to disordered eating behaviours. This will be relevant to whether or not it would be useful preventatively; therefore further research could consider this question prospectively. Currently there is little research that evaluates preventative treatment in the adolescent sub-clinical eating disordered population. The number of adolescents scoring high regarding eating disorder risk suggests that such prevention at this critical age and developmental stage may be beneficial.

Body image acceptance is associated with flexibility as opposed to inflexibility that is implicated in a variety of disorders including ED, therefore if body dissatisfaction can be accepted by females it will decrease their risk of their disordered eating progressing to an ED. The goal of prevention programmes has often been to avoid or eliminate a collection of body related perceptions such as 'I see myself as being fat', feelings such as 'I do not like my body because I am fat' and beliefs such as 'it is very important for me to be thin' which are thought to motivate unhealthy behaviours, anxiety and social withdrawal (Smolak, Levine and Striegel-Moore, 1996). Instead it may be more useful to encourage acceptance of either a positive or negative body image.

Limitations of study

The cross sectional design employed offers a snap-shot of a sample at a particular time and cannot conclude on causative or maintaining factors. The relevance of adolescent developmental factors in relation to inflexibility could not therefore be considered.

As regards measures, although the BMI has a high correlation with relative fatness or leanness it assesses the weight to height relationship which may give misleading results in girls who are very muscular and who might therefore appear obese on the BMI alone.

A further issue as regards the BMI was categorising the BMI values from this sample using the USA as opposed to the UK percentile groups which were more stringent and consequently fewer participants fitted the categories. The US categorisation enabled better comparison of the groups but was used on a UK sample, which is not ideal.

Due to the focus of the study cultural and gender differences were not adequately considered. The sample size was not adequate for further analysis of differences between ethnic groups with an over representation of white Europeans. Another limitation is that information regarding physical health such as diabetes or thyroid difficulties was not ascertained and such factors may have had an important role to play. Finally, most of the questionnaire data collected was self-reported and therefore liable to participant biases.

Suggestions for further research

It may be useful to study inflexibility in relation to disordered eating longitudinally. Such a perspective can consider the prognosis of disordered eating and decipher whether inflexibility causes and/or maintains eating disorders/obesity. Disordered eating has been found to decrease over time along with a decrease in 'putative risk factors' (i.e. dieting and body image dissatisfaction (Keel, Fulkerson & Leon, 1997)). It might therefore be useful to replicate such a study to explore whether inflexibility decreases alongside the other risk factors.

Measuring inflexibility in the cultures that have a different body ideal to see whether they have higher levels of flexibility and or body image acceptance may be useful in considering the social factors implicated. Lastly, randomised control trials to compare the ACT treatment for AN with other treatments should be undertaken to support the utility of ACT.

Conclusion

The hypotheses investigated in this project included looking at the relationship between inflexibility and body image acceptance (from an ACT perspective) and eating disorder risk (EDR), inflexibility was found to be significantly higher in the high eating disorder risk group. Body image acceptance was also associated with flexibility as was hypothesised. Depression and anxiety were found to be associated with inflexibility and higher EDR. These findings have provided evidence for both the ACT model and a transdiagnostic approach. The study suffered from various limitations primarily the cross-sectional design that disallows any firm conclusions about cause and effect and does not allow one to see the progression of a disorder.

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