

# **Anorexia Nervosa in 21<sup>st</sup> Century Females: An intellectual illness, an affliction of affluence and a disease of the driven.**

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## **Anorexia Nervosa in 21<sup>st</sup> Century Females: An intellectual illness, an affliction of affluence and a disease of the driven.**

*“The dizzy rapture of starving. The power of needing nothing. By force of will I make myself the impossible sprite who lives on air, on water, on purity.”*

**Kathryn Harrison, The Kiss**

### **Introduction**

At my all girls' independent school in West London, we were taught a huge amount about mental illnesses. After all, my school prized itself on producing well-rounded young ladies with all the skills necessary to tackle the real world. So then why, in my last year in the sixth form did I find my friend, Maya, on an online blog writing about her experiences with anorexia nervosa as an inpatient? Why then, three years on is she still doing the same? And why has this illness taken the youth of so many other young females?

In this modern age of social mobility and equal rights, an illness that fails to comply with neither and which remains a silent killer, is Anorexia nervosa. Deeply embedded in culture, sociology, and politics it has become somewhat of an ethnic disorder. Yet despite the significant mortality rate associated with the illness, it carries a stigma as well as a designer label, with sufferers being scrutinised, glamorised and pitied simultaneously. Perhaps unique to anorexia are the social stereotypes that accompany it. Unlike the hushed tones one hears when listening to conversations of illnesses such as depression and schizophrenia, having an eating disorder is apparently something to be celebrated and is actively endorsed by media figures such as Samantha Brick, who angered many with her Daily Mail article stating that being thin was a necessity for happiness. Two years ago Kate Moss, an icon and role model for many young girls and women, openly declared that “nothing tastes as good as skinny feels” – an alarming statement, but one that a sizeable proportion of the population is likely to identify with.

This piece examines the unique aspects of anorexia nervosa that set it apart from other mental illnesses: its association with affluence, ambition and intellect; the effect of its portrayal in the media and contemporary treatments that target cognitive components of the illness.

## **Anorexia Nervosa**

*“These bones are a blanket. Hide me from the real problems. A soft cover can also be a cage of thorns. Do I look in the mirror and see beauty? Never. Failure stares back at me. Ugly. I will never be enough. Zero is the best number. Nothing. Gone. It is an empty shell. Not enough for most. They want more. Appropriate that is me. In tennis, love. I love.”*

*Maya, Wednesday 3<sup>rd</sup> October 2012*

<http://eat-for-me.blogspot.co.uk>

The DSM-IV-TR defines Anorexia nervosa as the refusal to maintain body weight at a or above the minimum normal weight for a person’s age and size, combined with an intense fear of gaining weight despite being underweight and a disturbance in the way in which one’s own body weight is perceived (APA, 2000). Methods of weight loss include diet restriction, excessive exercise, induced vomiting and purging, and the use of appetite suppressants, laxatives and diuretics. Hence, the disorder can be further divided into two subtypes: restricting type and purging type anorexia nervosa. Anorexia typically presents in mid-adolescent females, with estimates of lifetime prevalence ranging from 0.9-4.3% (Klump, Bulik, Kaye, Treasure & Tyson, 2009; Hudson, Hirpi, Pope & Kessler, 2007; Wade, Bergin, Tiggemann, Bulik & Fairburn, 2006). Such young ages of presentation coupled with a high lifetime prevalence makes this disorder a fascinating one to study. However despite the expected biological, psychological and familial risk factors, it is a condition further complicated by societal norms, stigma and the media.

## **Anorexia and the Middle Classes**

*“I think of my friends, those I went to school with, shared adolescence with, played sport with, socialized with. Where are they all now? Some have started their first ‘real’ jobs, jobs that will begin their careers. Many have finished university, having achieved fantastic marks from impressive institutions. One has just got her first flat. Others are travelling.”*

*Maya, Thursday 5<sup>th</sup> December 2013*

<http://eat-for-me.blogspot.co.uk>

Perhaps no characteristic is more stereotypically associated with eating disorders than that of socioeconomic status, or “affluence”. However whether this is simply a socially constructed stereotype, or an evidence-based association, is questionable. It was Samuel Fenwick (1821-1902), an English physician, who first suggested that anorexia nervosa was found more frequently in the wealthy and less so in those who were in manual labouring jobs. (Fenwick, 1980). This notion was further supported by clinicians in the 1960s and 1970s, one example of which is Bruch, who observed in 1973 that a disproportionate number of her patients came either from families of the super-rich or middle-class backgrounds. Similar findings were reported by Theander in Sweden who found that his patients had a tendency to have fathers in professions that made them “guardians of traditional values” (Theander, 1970). Case series in England and Scotland have found the fathers of anorexics to be from upper and middle social classes. Furthermore, a case series in England noted that the majority of patients’ fathers were doctors, teachers, barristers, artists, businessmen, architects, stockbrokers and accountants (Dally, 1979). However, one of the greatest flaws of such studies examining this association is their liability towards strong selection biases. Bruch, for example, was a well-known and established consultant and as a result his patients travelled from far for the opportunity of a consultation. It therefore follows that this would be a highly select group.

Early epidemiological studies, an advance on observational trends, also confirmed the skewed distribution of anorexic patients towards upper socioeconomic classes. Research by Kendall et al. (1973), for example, examined the number of anorexic patients in psychiatric registers in Camberwell, London, Monroe County, London and North-East Scotland and found the association between upper social classes and the number of anorexia patients to be strongest in Camberwell, London. However, such epidemiological studies neglect factors such as the differences in access to healthcare services between socioeconomic groups, as well as their varying propensities to seek help. Furthermore, the interpretation of weight and disease differ enormously amongst different

cultures. Therefore, in such studies, those who achieved the status of 'patient' may in themselves represent a highly select group.

The presentation of anorexia nervosa in medical writing and wider culture remains as a disorder of the "elite" and was likely to be perpetuated by the early writings of clinicians such as Bruch. However, it is possible that social factors that were once restricted to more affluent groups have now diffused through the wider population. Such values may include access to education, a change in attitudes that have promoted female achievement and consumer culture. As a result, the disorder has become far more independent of social "class" than ever before.

On considering modern associations between socioeconomic status and anorexia in conjunction with more historical associations such as those made by Bruch, the question remains that if anorexia nervosa is, in reality, an affliction of affluence, why still are a note-worthy proportion of patients from lower socioeconomic groups? A possible answer to this may come from Bruch herself when she observed that her patients from working-class families were driven by the ethic of achievement and upward mobility (1973). Therefore, the central issue surrounding this link lies not in income level but rather cultural values. This factor, especially in today's modern social climate of social mobility and universalised aspirations may explain the social construct of anorexia nervosa.

## Success, Ambition and Drive as Risk Factors

*"Losing weight is what I am good at. I don't know what else is the same."*

*Maya, Tuesday 6<sup>th</sup> March 2012*

<http://eat-for-me.blogspot.co.uk>

The majority of patients with anorexia nervosa, regardless of socioeconomic group and ethnicity appear to be female. Furthermore, they appear to be driven women with ambition and high aspirations. A number of epidemiological studies support these trends although many of the theories, particularly psychological theories, are purely speculative.

The far greater prevalence of anorexia nervosa in females may be deep-rooted in biological differences between the genders (Henry, 2001). This difference may be of evolutionary significance in that during times of food scarcity, the female would have been able to maintain her reproductive role. This theory may be of little relevance in anorexia nervosa, which is known to occur under conditions of relative affluence. However, starvation as a means of coping with a stressful period may shed some light on females' predisposition to the illness. Biologically, females have a higher ratio of fat to lean tissue and is also likely to contribute to females' evolutionary role of species propagation and lactation, especially in times of adversity (Widdowson, 1976; Tanner, 1978; Henry, 1984). However, in cultures that emphasise the importance of thinness in women, females may experience more stress in dieting efforts given their natural tendency towards adiposity.

However, with a condition that is so socially and culturally embedded, it would be negligent to regard the predisposition of females to the illness as solely biological. Furthermore, such a theory would have little to offer by way of explaining why anorexia nervosa so commonly occurs in ambitious, competitive females striving for success. A factor common to a significant number of anorexic patients is the intense pressure to achieve. The families of patients tend to place a huge emphasis on achievement and performance. Although not necessarily "affluent", most of these families are driven by typically middle-class values of upward mobility, performance and work ethic. (Bruch, 2001). Bruch (1985) suggests that the instigation of anorexia stems from young women's upbringing which prepares them to be "clinging-vine" wives. However on reaching adolescence, they are suddenly expected to prove themselves as women of achievement. Such unpreparedness, Bruch states, leads to a sense of insecurity and uncertainty in the individual, leading the young woman to opt for the fashionable dictum of being slim as an alternative method of earning respect. Many of

these women have a history of economic instability and have advanced their economic status far beyond that of previous family generations. As a result, there is often an underlying sense of anxiety about maintaining such a position and this concern falls heavily on the shoulders of the young female, who goes on to develop anorexia nervosa.

It is important to note that because of their desire to please as a personality trait and external focus, anorexic patients often feel their achievements are a performance for others, rather than proof of their own worthiness. One of the paradoxes of anorexia nervosa is the internal feeling of worthlessness, despite achieving a high level of objective “success”. This is not an abnormal experience, nor an exclusively pathological experience unique to anorexia. Instead this is one that is characteristic for a contemporary, modern young woman. Jean Baker Miller (1927-2006), a prolific psychiatrist who dedicated her career mainly to female mental health, suggests that women often enter an emotional cycle of “doing good and feeling bad” (Miller,1976) and that this is the consequence of adopting an identity that is based almost entirely on pleasing and supporting others, rather than meeting their own needs and self-chosen goals.

The entire complex of externally orientated achievement and pleasing behaviour has been idealised in popular culture and in the media. The notion of a “superwoman” – the modernised version of the far more traditional “good girl” appears regularly in television, fiction novels and films. However it is this “have it all” attitude, as well as many of the proposed biological theories that lead to a predisposition to a state of dissonance in the ambitious female and in turn, may be responsible for triggering anorexia nervosa.



## The Role of the Media

*“We cannot simply blame the media for the influx of eating disorders in the Western World and weight conscious ten year olds. Yes, they do not help, but I did not starve myself to look beautiful.”*

*Maya, Sunday 25<sup>th</sup> March 2012*

<http://eat-for-me.blogspot.co.uk>

Mental illness is commonly portrayed in film and can be found at the crux of some of cinema's greatest storylines. However, eating disorders are rarely presented in film and it seems the dramatic and in some cases disturbing exaggerations of other illnesses appeal much more to film-makers. With such a limited portrayal of anorexia nervosa in films, comes decreased public exposure causing the illness to become a “taboo” and for many sufferers to become stigmatised. However, two films that very explicitly convey the intricate and convoluted aspects of the illness are Aronofsky's *Black Swan* (2010) and Greenfield's *Thin* (2006). The latter, being an HBO documentary, is a frank exposé of the lives of eating disorder sufferers at the Renfrew Residential Facility in Florida whilst *Black Swan* is a much more artistic depiction of the instigation and subsequent development of abnormal behaviour in anorexia nervosa. However with the portrayal of such a sensitive condition being placed on a platform as public and accessible as film, one could argue that this would have a major effect on the public perception of eating disorders, even acting to increase or decrease stigma surrounding this topic.

Aronofsky's *Black Swan* illustrates some of the complex behavioural patterns and thought processes of an anorexia nervosa sufferer. The film focusses on a young lady named Nina, played by Natalie Portman, in the highly competitive environment of a top ballet school. She is the only daughter of an ex-ballet dancer mother and strives to please her in all that she does. The film does well in confronting many of the condition's risk factors, the development of poor eating habits and their escalation. The film also alludes to Bruch's earlier mentioned theories on eating disorders. At no point in the film is any father figure introduced and instead, viewers learn very early on in the film that Nina tolerates her mother's fragile state and adopts the traditionally masculine role within the family unit. Moreover, the pressure to achieve stems mainly from her mother, who lives vicariously through Nina resulting in the protagonist facing the impossible task of fulfilling her mother's unaccomplished ambitions.

Lauren Greenfield's HBO documentary film, *Thin*, provides viewers with a view of eating disorders from a very different angle. An outstanding example of cinema verité, the film reveals the hideous

realities and warped ideas that come from suffering with an eating disorder. As a fly-on-the-wall documentary, the audience is able to gain a unique insight into life at Renfrew Residential Facility in Florida, a specialist eating disorder centre for eating disorder patients. A unique quality of this film is that it manages to honestly depict the strict, mundane and often prosaic rituals undertaken by recovering anorexics, yet at the same time manages to incorporate the finer details of the personality of an eating disorder sufferer. In the case of many of the Renfrew patients this was headstrong, rebellious but highly ambitious.

The film allows for a thorough exploration of aspects of anorexia that would, in a group of like-minded individuals, perhaps be less palpable. Such aspects include a negative body image, low self-confidence, low mood and a highly competitive nature. The inclusion of family in the film also illustrates the negative affects of anorexia on familial relationships and the pervasive nature of the illness. However, when considering that familial environment and pressures exerted by the familial unit may be responsible for instigating the illness, viewers are reminded of the many paradoxes and poignant ironies that anorexia is so riddled with.

At the end of the film, the audience learns of the fate of all the inpatients – none of the patients featured in the film make a full recovery even after their discharge, the audience witness the women's gradual decline in health and tragic return to their former lives. Whilst perhaps an interesting 'panorama-esque' film, there is a fine line between the frank exposé of a medical institution and the cruel freak shows of the Victorian era, and this is especially true when filming in a secure institution such as Renfrew. While *Thin* secures itself firmly on the panorama end of the spectrum the audience is, at some points, made to feel slightly guilty in their viewing, as the portrayal of Renfrew itself has frightening similarities to the one depicted in *One Flew Over the Cuckoo's Nest* (perhaps one of the most well-known films relating to mental illness).

Erving Goffman, a prolific sociologist and writer commented that the difference between a 'normal' and a stigmatised individual was a question of perspective rather than reality (Goffman, 1963) and based on this view of stigma, it may be suggested that the temptation in commercial film-making to focus on dramatic and clichéd caricatures, may have a potentially detrimental effect on patients' quality of life. Clichéd presentations of eating disorders on chat shows and trite television programmes have had at best two outcomes. Some enable those struggling with an eating disorder to feel less isolated or ashamed. However, presentations of the illness that relentlessly associate eating disorders with stardom, lead to the reinforcement of the notion that having such a problem has an underlying glory associated with it.

Given that the portrayal of women in the popular media is widely viewed as one of the most pernicious causes of eating disorders (Polivy & Herman, 2002), it would be ironic if the portrayal of the illness and distribution of information through these media were found to be effective in reducing stigma towards affected individuals. However, if fear and lack of information play a large part in the development of stigmatising attitudes, then these can be addressed through film. Furthermore, a basic level of education through the medium of film appears to be the most obvious means to increase knowledge, soften attitudes and influence behaviour.

According to Anderson (2003), film is essentially an integration of an individual's point of view, symbolic representation, gratification and pleasure. However, on breaking down film into the components identified by Anderson, the portrayal of anorexia in film soon becomes a dangerous minefield. The drawbacks of incorporating an individual's opinion into a film centred on a mental illness that has people's perceptions at its very core, seem catastrophic. Despite both of these award-winning films sensitively portraying anorexia nervosa, there is much to be lost from placing eating disorders on such a platform as public as film; particularly in an age where fame, fortune and the big screen is valued more than the health of the individual.

## **A Clever Disease, A Disease Most Perfect**

*“When I stood up, I was ridiculously drunk. Swaying gently. The alcohol had trumped the anorexia and my immaculate control was lost.”*

*Maya, Wednesday 7th March 2012*

<http://eat-for-me.blogspot.co.uk>

The intelligence quotient (or IQ) represents a complex, integrated measure of the scores in a number of cognitive areas. Anorexia nervosa has been described as an “intellectual illness”, and it has been hypothesised that those with the illness have a higher IQ than the rest of the population. Whilst this has been partly attributed to social stereotyping, it has also been linked to perfectionism as a personality trait and this, rather than an increased IQ may explain a better level of school performance in this group (Blanz, Detzner, Lay, Rose & Schmidt, 1997). Furthermore, what is currently even more poorly understood is whether such an elevated IQ is a pre-requisite in developing the illness, whether an otherwise normal IQ becomes elevated in these patients due to the various techniques used to conceal low body weight, or whether the increase in IQ is a direct consequence of the brain changes associated with anorexia nervosa.

Whilst a decline in concentration and school performance is a well-documented symptom of established anorexia (Fox, 1981), much less is known about prior school performance in this group compared to others. Dura and Bornstein (1989) found that school performance, as measured by reading, spelling and arithmetic scores, of anorexia patients was much better than predicted by their IQ. Such a result is in keeping with the results of epidemiological and historical data, which associate the disorder with higher socioeconomic status and ambition. A recent 2009 study (Ahrén-Moonga, Silverwood, af Klinteberg & Koupil, 2009) examined school performance in relation to the incidence of hospitalisation for eating disorders among females in a large, multigenerational Swedish cohort. The study found females with higher school grades to be at greater risk of hospitalisation for an eating disorder, compared to their colleagues with more average school grades. However, this is also in line with historical observations of the illness which link ambition in females to the development of anorexia. Perhaps the most noteworthy finding of this large cohort study, though, was the higher risk of eating disorders among females with higher grades specifically in Swedish language. This finding may reflect cognitive strategy preferences among females, but also reinforces the findings of pre-existing studies on perfectionism in anorexia, whilst justifying more contemporary research on cognitive rigidity.

Historical accounts by the French physician, Charles Lasegue (1873), described patients' unrelenting high standards and incessant demands for the highest standards of behaviour in order to obtain external approval. Such observations have, since then, found empirical support in studies that showed anorexic patients to have significantly greater cognitive inflexibility, restraint and perfectionism traits. More over, research has also shown that this strive for perfection in anorexia nervosa was a time-stable trait, and was found at higher levels in anorexic patients, even after long-term recovery. From a social perspective, perfectionism traits in anorexia nervosa may be an extreme take on modern social ideals. Emma Woolf (2013) comments on the paradoxes of the modern female's mindset in her book *The Ministry of Thin* and points out daily oxymorons such as the general consensus that fuller figured women should be featured more in weekly magazines, yet take a guilty pleasure in scrutinising such women when they are criticised by these same magazines. When taking into account some of the maintaining and precipitating factors of the illness previously discussed such as the need to adopt or fulfil failed "masculine" roles, it is of no surprise that the endeavour to maintain perfection is such an ever-present trait in an anorexic patient. However what is less well-known, is whether perfectionism in anorexia nervosa differs by clinical subtype (e.g patients who engage in strict dietary restriction versus patients with strict purging regimes) or whether it is associated with core behavioural and cognitive features of the illness such as the intense fear of gaining weight. A recent multi-site study (Halmi et al. 2000) examined multidimensional aspects of perfectionism across clinical subtypes and found that levels of perfectionism were greater in each of the anorexia nervosa subtypes than in healthy subjects. Hewitt, Flett & Ediger (1995) suggest that a strong need for perfectionistic self-presentation may influence eating behaviour by not allowing the individual to display imperfections and therefore the concealment of eating a "forbidden" food may perpetuate unhealthy eating patterns. Other components of perfectionism include the tendency to view achievements in a particularly critical light and to view anything less than perfection as a failure. Furthermore, the drive in upholding such perfecting standards may, according to Hewitt et al. (1995), be either a conscious or subconscious attempt at gaining the approval of others, something many studies have shown to be very closely associated with the precipitation of anorexia (Hsu, 1986; Murray, 2003)

In addition to the notion of a raised IQ being linked to perfectionism, there has also been the suggestion that anorexia may be linked to autism traits (Hambrook, Tchanturia, Schmidt, Russell & Treasure, 2008). Anorexia involves a level of cognitive and behavioural rigidity, not entirely dissimilar to the narrow spectrum of interest and repetitive behaviours observed in autism. In anorexics, these behaviours revolve around dietary issues and their weight. In addition to this, patients with anorexia

display a preoccupation with their own weight, control over themselves and the right to act as they choose. Although such an exclusive focus on 'self' may simply reflect western cultural and societal values, an extreme focus may lead to a lack of empathy and other social difficulties seen in autism spectrum disorders. Both autism and anorexia patients also show social anhedonia, alexithymia (the inability to reflect on one's own emotions) and struggle with theory of mind tests (Tchanturia et al., 2004). Although, a high level of co-morbidity between the two conditions may help to explain such symptomatic similarities, this does not explain why the two appear to be associated (Gillberg, Rastam, Wentz & Gillberg, 2007). A recent study by Baron-Cohen et al. (2013) confirmed that anorexia is indeed associated with autism traits and that whilst anorexic patients have superior systemising skills than other members of the population, they scored poorly in measures of their empathic skills. This is a phenomenon is typical in autism but is also a trend associated with the male gender, suggesting that females with anorexia may have a more "masculine" brain. This may be further support for the historical hypothesis that suggests that anorexia is born from the necessity for females to maintain or adopt the roles and responsibilities previously undertaken by males. However, the strong systemizing tendency may also suggest that if the systemising was applied to another domain (instead of food, weight, exercise and body image) then the anorexia may not have occurred and the obsession may have had an entirely different focus.

## Locked-In: A Critical analysis of the Cognitive Flexibility Literature

*"I wish they could cut out a little part of my brain labelled 'anorexia' and insert 'normal cognitive behaviour'."*

*Maya, Tuesday 9<sup>th</sup> April 2013*

<http://eat-for-me.blogspot.co.uk>

Given the complexity of eating-disorder behaviour and the setbacks encountered during treatment, the most recent research has focussed on understanding the cognitive processing that occurs in individuals with eating disorders. Cognitive flexibility, or set-shifting, refers to the ability to shift between mental sets either behaviourally or cognitively, and research has highlighted that a deficit in this aspect of executive function may contribute to the preoccupations and compulsions associated with eating-disorder behaviour (Lezak, Howieson & Loring, 2004). In this section we review the cognitive flexibility literature in the context of anorexia nervosa and discuss whether this is an area that may be amenable to treatment.

The results from cognitive flexibility tasks, although provoking, have been mixed in associating anorexia nervosa with reduced cognitive flexibility. Cognitive flexibility is often assessed in set-shifting tasks, where the patient is asked to change their responses based on changing cues or instructions and assessed on the number of errors made, or the time taken to complete the task. An example is the Trail Making Task, which asks patients first to connect a sequence of letters (Trail A) and then switch between letters and numbers (Trail B). The additional time required to complete the second part of the task relates to the effort involved in switching between two rules (Lezak, Howieson & Loring, 2004). Some findings show no difference in task performance between patients and controls (Steinglass, Walsh & Stern, 2006) whilst others report that patients take more time to complete Trail B (Roberts, Tchanturia & Treasure, 2010). Largely, many studies conclude that individuals with anorexia make significantly more errors on the task, indicating difficulties in rule-switching (Steinglass, Walsh & Stern, 2006; Fassino et al., 2002; Nakazato et al., 2009). However studies drawing both conclusions are limited by their cross-sectional design and instead, longitudinal studies would be better in addressing whether this quality is due to individuals' anorexia nervosa status, or whether it is an established personality trait. In addition, studies do not employ consistent measures of IQ between studies and in some cases, between experimental and control groups.

Impaired cognitive flexibility has recently been examined as a potential endophenotype for anorexia. Several studies have demonstrated an association between set-shifting difficulties and the illness in

its acute form (Fassino et al., 2002; Tchanturia, et al., 2004; Tchanturia, Harrison & Davies, 2011; Tchanturia et al., 2012). In addition, studies have also shown that these difficulties do not improve with weight gain, suggesting that this deficit is a trait, rather than a state (Roberts, Tchanturia, Stahl, Southgate & Treasure, 2007; Tchanturia et al., 2004). Further supporting this evidence is research by Holliday, Tchanturia, Landau, Collier and Treasure (2005), which concludes that set-shifting difficulties remain as a trait in well-recovered individuals and have been found in a greater proportion in relatives of anorexic patients, compared to healthy controls. However, only further investigations shall establish whether poor cognitive flexibility, instead of acting as an endophenotype, may act as an underlying maintaining factor of the illness, facilitating the expression of phenotypic traits that hinder progress in traditional psychotherapies (Southgate, Tchanturia & Treasure, 2005).

According to the model for anorexia nervosa proposed by Schmidt and Treasure (2006), interventions that translate findings from neuropsychological studies into clinical interventions may help improve symptoms. This maintenance model proposes that there are four main maintaining factors and represents a departure from other models, in that it does not emphasise the role of weight and body shape-related factors in the maintenance of the disorder. The factors identified by Schmidt and Treasure (2006) are: perfectionism and cognitive rigidity; experiential avoidance; pro-anorectic beliefs and the response of close others. Subsequently, cognitive remediation therapy (CRT) was developed to address cognitive impairments such as the cognitive rigidity associated with anorexia nervosa. This intervention consists of 10 therapist-led sessions, typically lasting 40 minutes, delivered twice a week and initiated within the first two weeks of a hospital admission. The intervention targets components of sufferers' cold cognition and is designed to encourage patients to overcome information-processing biases and improve cognitive flexibility using exercises, reflection and behavioural exercises (Tchanturia, Davies & Campbell, 2007). Furthermore, patients are encouraged to reflect on their current skills and to develop, practise and reinforce set-shifting skills for use in their daily lives.

A number of studies have examined the quantitative outcomes of cognitive flexibility training in CRT, with many showing promising results. An encouraging case report by Davies and Tchanturia (2005) illustrated the role of CRT as part of a treatment programme in acutely anorexic patients and found it to be an effective intervention in improving cognitive flexibility. Baseline tests and self-report instruments were undertaken before the patient underwent CRT incorporating cognitive flexibility tasks. 10 sessions were conducted over a four-week period, with each session lasting approximately 25 minutes and containing 15 tasks per session. In each session three tasks were timed. Overall, the study concluded that CRT improved cognitive set-shifting skills after ten sessions although the



authors state that such a case report serves only as an indicator and that further case series are necessary before more comprehensive conclusions may be drawn. Genders and Tchanturia (2010) expanded on these findings and carried out a pilot study on the use of CRT in anorexic patients, as an intervention to address reduced cognitive flexibility. The study recruited 30 patients and involved four group-intervention sessions. The outcome measures of this study were self-reported cognitive flexibility, self-esteem and motivation to change, which were all measured in the first and last sessions. A significant improvement was noted in patients' self-reported ability to change.

A conclusion that all these quantitative studies draw is that in order to assess the cognitive flexibility outcomes after CRT, qualitative as well as quantitative data is necessary. As a result qualitative outcomes of CRT, focussing on cognitive flexibility, have recently been investigated. A study by Whitney, Easter and Tchanturia (2008) combined patients' scores from a satisfaction questionnaire completed at the end of their CRT treatment, with the content of 19 patients' 'goodbye letters'. This study revealed that 89% of patients were satisfied with the treatment and 63% would recommend the treatment to others. Furthermore, most stated that they were equipped with skills to incorporate into their daily lives. However, some limitations were highlighted by the authors. The language used by patients when giving feedback on the intervention mirrored the language used by clinicians, suggesting that the clinicians' language may have influenced patients in some way. In addition, patients were informed that the aim of the letter was to give feedback about the intervention to improve future practice and this information may have biased the focus and content of patients' letters. Lastly, although theoretical saturation was achieved and valuable qualitative data obtained, feedback from a larger number of patients would have increased generalizability.

Research on cognitive flexibility suggests that set-shifting difficulties may represent a potential biomarker for anorexia nervosa, although the model presented by Schmidt and Treasure (2006) proposes the quality as a maintaining factor of the disorder instead. Nevertheless, the results of both quantitative and qualitative research point towards CRT, with its focus on metacognition, as an effective treatment for the condition. However, randomised controlled trials have yet to be conducted, and these will help to ascertain how effective CRT could be in treatment and whether individual or group forms of therapy are more beneficial. Furthermore, extending the therapy to include the exploration of emotional expression, regulation and awareness (factors more in line with historical theories of anorexia) may be therapeutically advantageous, representing a new and exciting therapeutic genre for anorexia nervosa patients (Davies, Schmidt, Stahl & Tchanturia, 2011; Oldershaw et al., 2011).

## Conclusion

Gordon (2000) describes anorexia nervosa as an ethnic disorder - the symptoms of which, exaggerate cultural values to the point of caricature and are therefore both an affirmation as well as a repudiation of society's esteemed ideals. This is only added to by the suggestion, accompanied by some empirical evidence, that it is associated with a higher level of intelligence, with affluence and with ambition. Because of this, the response to those with ethnic disorders is typically an ambivalent one: whilst some view them as pariahs or rebels, they are the object of envy, admiration and even awe for others. However, in today's era where increasing social mobility sits alongside economic instability, anorexia represents a serious and pressing social, political and medical challenge.

*"The sudden comprehension that you are not in control. You are its ship, once strong and fearless and headed for new and beautiful lands, now delicate and beaten. No more voyages for you my friend. The captain has driven you through too many dangerous seas for such a fragile vessel. Keep going and together you will be sunk. Dilapidated.*

*There is no glamour once you are here. You are a we. One of a pair. Controlled by another. She befriends you slyly, like any good friend makes you feel you can trust her, makes you feel safe. Then convinces you she can make things better. You believe your beautiful heroine. Feeding off the pain of starvation she thrives, while you empty. Hollow. 'Organs, muscles and bones' the nice doctor says, 'that's all that's left'. By this stage it's too late for me. I have been snared. She is feasting on the heart that was once strong enough to love so many fiercely, the muscles I need to run away and the bones that are my ironic trophy, on display for all to see. I let her gorge as I wither. No choice anymore. That was the first thing she stole when she caught me. Freedom."*

*Maya, Notes from Vincent Square*

<http://eat-for-me.blogspot.co.uk>

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