CHAPTER TWO

OVERVIEW OF LITERATURE

2.1 Definitions of Eating Disorders

Eating disorders are a group of disorders, characterized by dysfunctional eating patterns that conform to the American Psychiatric Association (Diagnostic and Statistical Manual of Mental Disorders: DSM-IV-R: APA, 1994) criteria for Anorexia Nervosa, Bulimia Nervosa and Eating Disorders Not Otherwise Specified (EDNOS). It has been estimated that 10% of females in western countries will suffer from a diagnosable eating disorder (APA, 1994) making it one of the more prevalent psychiatric disorders faced by women (Stice, Telch & Risvi, 2000).

Anorexia Nervosa is characterized by extreme emaciation (body weight less than 85% of that expected for age and height), intense fear of gaining weight or becoming fat, despite a low body weight; disturbed perception of weight and shape, undue influence of weight or shape on self-evaluation or denial of the seriousness of low body weight; and amenorrhea. Anorexia Nervosa has a life-time prevalence of almost 1% amongst females, shows a chronic course, results in serious medical complications and is associated with psychiatric co-morbidity (Stice, Telch & Rizvy, 2000). Onset frequently occurs in adolescence with the highest risk period occurring between 15-19 years, where the average point prevalence across studies is estimated at 0.3% (van Hoeken, Seidell & Hoek, 2003).

Bulimia Nervosa involves recurrent episodes of uncontrollable consumption of large amounts of food; compensatory behavior to prevent weight gain such as self-induced vomiting, laxative abuse, diuretic abuse, or excessive exercise; and undue influence of weight or shape on self-evaluation (APA, 1994). Bulimia nervosa has a life-time prevalence of approximately 2% for females (Newman, Moffit & Caspi et al., 1996); is marked by a persistent course, and associated with high levels of co-morbid psychopathology (Garfinkel, Lin & Goering et al., 1995). Point-prevalence rates for bulimia nervosa have been indicated at 8% (Pyle, Halvorson & Neuman et al., 1986) and 19% (Halmi, Falk & Schwartz, 1981) of female college students, whereas later studies suggested a decline in point prevalence, with estimates ranging from 1.3% (Schotte &

Stunkard, 1987) to 2.9%-3.3% (Drewnowski, Yee & Krahn, 1988). The onset of bulimia nervosa frequently occurs in adolescence and the highest-risk group occurs in young females 20-24 years old, where the average point prevalence across studies has been estimated at 1% (van Hoeken et al., 2003).

Subjects who display all of the symptoms of a full eating disorder syndrome, but who do not reach the required thresholds of symptom for disorder, such as weight criteria, are defined as having sub-threshold disorder. Those who do not fulfill one of the diagnostic features, such as amenorrhea, are considered to have partial-syndrome disorder (Santonastaso, 2005). Collectively these are grouped under the category Eating Disorders Not Otherwise Specified (EDNOS) which includes a variety of patients who do not qualify for a clinically significant eating disorder. This heterogeneity makes it a difficult category for epidemiological or etiological study. Community surveys among normal student populations suggest that sub-clinical eating disorders are five times more common than full-blown syndromes (Dancyger & Garfinkel, 1995), with up to 20% of adolescent girls experiencing various forms of sub-clinical binge-eating, purging and unhealthy dieting practices (Schwartz, Thompson & Johnson, 1985; cited from Graber, Tyrka & Brooks-Gunn, 2003). Partial syndromes are usually brief and self-limiting (Patton, Coffey & Sawyer, 2003).

Criteria for Binge-eating Disorder are also outlined, but to date, this disorder is categorized as a particular case of EDNOS. Binge-eating Disorder involves repeated episodes of uncontrollable binge-eating characterized by rapid eating or eating alone because of embarrassment; marked distress regarding binge eating; and the absence of compensatory behaviors. Binge-eating Disorder has a life-time prevalence of approximately 4% in the community and is present in about 30% of individuals attending weight control treatment (Brody, Walsh & Devlin, 1994; cited from Stice, Telch & Rizvy, 2000). This disorder appears to follow a persistent course and is associated with obesity, weight cycling, health complications and psychiatry co-morbidity (Stice, Telch & Risvi, 2000).

2.2 Eating Disorders as Culture-bound Syndromes

Until recently, anorexia was considered the 'quintessential western culture-bound syndrome' (Prince, 1985) and eating disorders were considered unique among psychiatric disorders in the degree to which socio-cultural factors may influence their epidemiology, development and etiology (Gordon, 2001). The term 'culture-bound' refers to a syndrome of signs and symptoms which is restricted to a particular culture or group of cultures (Pow Meng Yap, 1951; cited from Nasser, 1997). The Culture-specific approach (Kleinman, 1977; cited from Nasser, 1997) argues that a culture-bound disorder symbolizes core meanings and behaviors that are considered norms of that specific culture. The Generalist approach (Kraepelin, 1904, cited from Nasser, 1997) disputes that there may be factors in any culture that are necessary and sufficient to account for causation and considers culture-bound syndromes as atypical, culturally local variants of universally recognized pathology. Anorexia is thus seen as an expression of neurotic distress that is shaped by western cultural values, such that western ideals of thinness become the 'socially sanctioned coloring of distress and not the cause' (Russell & Treasure, 1989).

2.2.1 The Acculturation Hypothesis

The culture-specific model attributes the development of eating disorders to specifically western cultural values where appearance is seen as a central evaluative dimension and the thin body type is idealized as a metaphor of beauty and attractiveness (Stice, Schupak-Neuberg & Shaw et al., 1994). Social pressures to conform to these ideals are believed to render women vulnerable to dissatisfaction with their bodies (Stice, Maxfield & Wells, 2003) and a preoccupation with weight and dieting behavior (Powell & Kahn, 1995), which has been seen as a powerful antecedent of eating disorders (Hsu, 1997). Dieting is seen to fall on a continuum of severity, with body image disturbances and dieting behavior at one end and anorexia and bulimia nervosa at the pathological end of this 'normative' discontent and corrective behavior (Nylander, 1971).

Evidence for this model has largely been drawn from data which suggests that, the increasing prevalence of eating disorders in the west during the 20th century has been accompanied by an increasingly 'thin' body ideal as portrayed by popular role models and media images (Garner & Garfinkel, 1980) which has placed increasingly stringent expectations for thinness on women.

2.2.2 Eating Disorders in the West

Anorexia nervosa was first introduced in the medical literature (Gull, 1874; Laseque, 1873; cited from Di Nicola, (1990 a) as a somatic expression of hysteria (apepsia hysterica) to describe deliberate weight loss in adolescent girls. At this time, Picasso's painting 'The Girl in Chemise' endorsed thinness as an expression of fashionability (Nasser, 1997). Cases of anorexia nervosa were documented among the western bourgeoisie and for some time, remained a condition that predominantly afflicted female teenagers in affluent families of Western Europe and North America (Jilek, 2001). By the end of the 19th century, physicians began to differentiate anorexia as a syndrome that is distinct from the more general categories of hysteria (Keel & Klump, 2003).

During the 1920's, fashion demanded a tubular style of clothing which deemphasized breasts, waist and hips and beauty, cosmetics and fashion became institutionalized in consumerist society, which began promoting the idea that thinness was a crucial dimension of female beauty (Brumberg, 1988); as recorded by Helena Rubenstein (1930; cited from Nasser, 1997) who noted, 'an abundance of fat is not in accord with the principles that rule our conception of the beautiful.'

Incidence rates of anorexia nervosa in Western Europe increased gradually from the mid 1930's until the mid 1960's and then accelerated into the 1970's and 1980's so sharply that anorexia nervosa began to be referred to as a 'social epidemic' (Bruch, 1978). This increase appeared most substantial in females (15-42 years) who demonstrated a significant linear, increasing trend between 1935 and 1984 (Lucas, Beard, O'Fallon et al., 1991).

This ‘social epidemic’ spread over Western and Southern Europe, finally involving young women of all socioeconomic classes (Jilek, 2001). This apparent increase in anorexia nervosa appears to coincide with drastic changes in the western feminine body-ideal, as propagated by Miss America and the centerfold of Playboy magazine which became increasingly thin and less curvaceous between 1959 and 1988 (Garner & Garfinkel, 1980; Morris, Cooper & Cooper, 1989). During the period 1979–1988, the majority of Miss America contestants (Wiseman, Gray & Mosimann et al., 1992) and Playboy centerfold models (Szabo, 1996) were 15% or more below expected body weight; suggesting that western women were pursuing an ‘anorexic’ body-ideal. The popular ‘Twiggy’ in the late 1960’s epitomizes the ‘waif-like’, thin, non-curvaceous body ideal prevalent at this time.

The number of magazine articles on dieting and exercise also increased significantly between 1959 and 1988 (Garner et al., 1980; Wiseman et al., 1992) which also parallels the period of increasing incidence of eating disorders in the west. These trends appeared to continue through the 1990’s although the incidence of anorexia nervosa in Europe appears to have remained relatively stable after the 1980’s (Hoek, van Hoeken & Katzman, 2005).

The term ‘bulimia nervosa’ (BN) was first coined by Russell in 1979 (cited from Halmi, 2005) to describe a syndrome of fat-phobia, and episodes of overeating followed by compensatory purging. Soundy, Lucas & Suman et al., (1995) documented a rapid increase in the incidence of bulimia nervosa in females from 1980 to 1983; which then remained relatively stable from 1984 to 1990. By the mid 1980’s, bulimia nervosa was more common than anorexia nervosa with 18.6% of college students reporting a history of bulimia nervosa (Pope, Hudson & Yurgelen-Todd et al., 1984); while Whitehouse, Cooper & Vize et al., (1992) reported a prevalence of 1.5% for full-syndrome bulimia nervosa in the early 1900’s. Keel, Todd and Heatherton et al., (2006) found a steady decline in the point-prevalence of bulimia nervosa from 1982 to 1992 to 2002.

2.2.3 Eating Disorders in non-western populations

Until recently there were few reports of eating disturbances among black and non-western women (Dolan, 1991) and it was argued that these women were less vulnerable to eating disorders as they frequently value plumpness as a metaphor of attractiveness, fertility and prosperity (Furnham & Alibhai, 1983), are more accepting of larger body types (Rucker & Cash, 1992; Powell & Kahn, 1995) and experience less social pressures towards thinness (Greenberg & La Porte, 1996).

Since the 1990's, however, reports of disturbed eating attitudes and cases of eating disorder have been reported from many non-western countries (Gordon, 2001) and in black and native – American women in America (Crago, Shisslak & Estes et al., 1996) and South Africa (Szabo, Berk & Tlou et al., 1995). The acculturation hypothesis attributes this apparent increase of eating disturbances in non-western women to their exposure and assimilation of specific western cultural values of thinness, or 'western contagion'. Evidence for this hypothesis is drawn from epidemiological, cross-cultural, immigrant and acculturation studies.

With the exception of Japan and Chile, the first case reports of anorexia appeared in the 1980's, from India (Chakraborty, 1985); Singapore (Ong, Tsoi & Cheah, 1982); Hong Kong (Lee, Chiu & Chen, 1989); Taiwan (Tseung, Lee & Lee, 1989), South Korea (Lee, Kwak, Rhee et al., 1987), Egypt (Okasha, Kamel, Sadek et al., 1977) and Eastern Europe (Faltus, 1986; cited from Rathner 2001). Reports of bulimia also began to emerge in Hong Kong in the early 1980's (Lam & Lee, 2000; Tseng et al., 1989). Many of these early cases of eating disorder did not suffer from body image concerns and were from lower socio-economic levels (Lee, 2000). Since the 1990's, reports of dysfunctional eating attitudes and behaviors and cases of eating disorder, have been increasing across the non-western world.

2.2.3.1 Asia

Increasing numbers of cases of anorexia were found in Hong Kong between 1984 and 1998 (Lee, 2000) and the number of clinic referrals increased from 2 per year in 1990 to one per week in 2000 (Lee, 2001). By the mid 1990's, several cases of anorexia and binge-purging behavior were reported in Singapore (Ung, Lee & Kua, 1997) and prevalence rates for South Korea were reported at 0.7% for anorexia nervosa and 0.8% for bulimia nervosa (Efron, 1997). Several cases of anorexia were also reported in India (Chandra, Shah & Shenoy et al., 1995) and studies indicated that a pattern of weight consciousness was emerging (Srinivasen, Sresh & Vasantha, 1998; cited from Gordon, 2001). By the late 1990's, weight consciousness was common amongst female students in Hong Kong (Lee, 2001) and high schoolgirls in South Korea (Tsai, 2000) and Singapore (Kok & Tian, 1994). Despite this apparent increase in weight consciousness, the prevalence of anorexia nervosa in Singapore, remained low (Gordon, 2001) and 60% of these cases reported no conscious fears of 'fat'.

The Eating Attitudes Test (EAT40; Garner & Garfinkel, 1979; EAT26: Garner, Olmsted & Bohr et al, 1982) is a screening test that identifies risk for developing an eating disorder (Lee & Lee, 2000) where about 25% of those scoring positively (greater than or equal to 20) may develop an eating disorder (Patton, Johnson-Sabine & Wood et al., 1990). By the late 1990's, positive EAT scores were recorded in 10.8% of young females in Hong Kong and 18% of South Korean female undergraduates (Lippincott & Hwang, 1999). High rates of positive EAT scores were also found in Indian females 14-23 years (29%; King & Bhugra, 1989) and female medical and nursing students in Pakistan (21.7%; Barbar, Alam & Ali et al., 2002). Choudry and Mumford (1992) found that 7% of Urdu-speaking schoolgirls in Pakistan scored positively on the EAT26 while 10.3% of Pakistani schoolgirls in an English-medium school scored positively (Mumford, Whitehouse & Platts, 1992). The authors concluded that dysfunctional eating increased with increasing westernization and was mediated through greater dissatisfaction with body shape.

2.2.3.2 The Middle-East

Eating disorders were considered rare in the Israeli Kibbutz until 1965, when the annual incidence of anorexia rose 800% over the next 25 years (Kaffman & Sadeh, 1989). Nasser (1986) found that 12% of female Arab students in Cairo scored positively on the EAT-40 while none qualified for anorexia nervosa or exhibited bulimic symptoms. Nasser (1994 b) found that 11.4% of a sample of female adolescents scored positively on the EAT26 while 1.2% qualified for a diagnosis of bulimia nervosa and 3.4% for partial syndrome bulimia nervosa. Apter, Abu Shah & Iancu et al., (1994) found that 27.3% of Israeli schoolgirls in Kibbutzim scored positively on the EAT26 while 19.4% of Bedouin and 18.6% of Arab Muslim schoolgirls scored positively. Greater risk of eating disorder was understood in terms of changing female role expectations.

Abou-Saleh, Younis & Karim, (1998) reported on five cases of anorexia in the United Arab Emirates, one of whom had no contact with western influences; while female Saudi-Arabian adolescents demonstrated widespread fear of fatness, dieting and drive for thinness that was similar to Canadian adolescent females at the time (Al-Subaie, 2000). By the mid 2000's, studies across the Middle East indicated that 23.4% of a sample of high school girls in the United Arab Emirates scored positively on the EAT while 2% met the full criteria for anorexia nervosa (Eapen, Mabrouk & Bin-Othman, 2006). Nobakht & Dezhkam (2000) found that 24.16% of a sample of female adolescents in Tehran scored positively on the EAT26, while 0.9% qualified for anorexia and 3.23% for bulimia nervosa. In all, 47.8% of the subjects reported using some form of compensatory behavior to control their weight. The authors speculated that this may be due to conflict between conformity to Islamic values and western cultural influences. In another sample of females in Teheran, 58.6% were found to restrict food to control weight and shape; 42.4% fasted for long periods; 58.6% felt fat; 5.2% vomited to control weight; 3.4% took laxatives; and 46.4% exercised strenuously (Abdollahi & Mann, 2001).

Al-Adawi, Dorvio and Burke et al., (2002 a) found that 29.4% of female Omani adolescents scored positively on the EAT26. Elal, Altug and Slade, (2000) compared the EAT scores of two groups of Turkish female college students over a ten year period. The 'bulimia' factor and 'ambivalence about eating' only emerged in the later study. This was interpreted in terms of increasing exposure to modern values that clashed with traditional Turkish values.

2.2.3.3 Eastern Europe

Apart from a few case reports of anorexia, eating disorders were generally considered rare in Eastern Europe before the dissolution of the Iron Curtain in 1989, and it was claimed that bulimia was scarcely known in these countries (Rathner, 2001). In general, the few studies conducted prior to unification, indicated that, overall, Eastern and Western European students showed similar weight indices and prevalence of disorder (Rathner, Tury & Szabo et al., 1995).

Studies conducted immediately prior to unification, indicated that East-Berlin anorexics scored significantly lower than West-Berlin anorexics on subscales measuring drive for thinness and body dissatisfaction on the Eating Disorders Inventory (EDI; Garner et al., 1983); which is another screening test for eating disorder, (Steinhausen, Neumarker & Vollrath, 1992). In contrast, non-clinical groups of East-Berlin school girls scored significantly higher on the EAT than their West-Berlin peers, and scores were comparable to scores obtained by school girls in Britain and Belgium (Neumarker, Dudeck, Vollrath et al., 1992).

Szabo and Tury (1991) found that 6.2% of female medical students in Hungary scored positively on the EAT while 1.3% met criteria for bulimia nervosa. Hungary was seen as more liberal than the rest of communist Europe and these prevalence rates have been interpreted as evidence of western influence (Rather, 2001).

The study by Neumarker, Dudeck, Vollrath, et al., (1992) was replicated in East-Berlin, following German unification (Hein, Neumarker & Neumarker, 1998) and found that while the EAT scores of school girls were similar to those of East-Berliners in the 1980's, there was a notable increase in body dissatisfaction, dieting behavior and a quest for thinness. Another study that was conducted following unification (Rathner, Tury & Szabo, 2001) demonstrated no significant differences on the EAT and similar rates of bulimia nervosa and sub-clinical bulimia between large population samples from Austria, Hungary, the Czech Republic and Poland. No cases of anorexia were detected. Rathner et al., (2001) concluded that the emergence of eating disorders in Eastern Europe may be underscored by socio-political transformation which brought a western free-market economy and an over-identification with western values.

2.2.3.4 South America

Chile was first to report cases of anorexia nervosa and observed a notable increase in incidence during the 1970's (Pumarino & Vivanco, 1982; cited from Gordon, 2001). These patients presented with a 'relentless drive for thinness' that was indistinguishable from that described in the west. Chile was undergoing 'momentous socio-political and economic change during the 1970's (Gordon, 2001).

More recent studies have indicated that 29% of a sample of female adolescents in Argentina scored positively on the EAT (Bello, 1995; cited from Hoek, van Hoeken & Katzman, 2005) and 9% of these high scorers qualified for a diagnosis of eating disorder. A study in Brazil found that 16.5% of women (12 to 29 years) scored positively on the EAT26 (Nunes, Barros & Olinto, 2003) of whom 0.6% qualified for anorexia nervosa and 5.6% for bulimia nervosa in a follow-up study (Nunes, Camey, & Olinto et al., 2003). Eating disorders in Brazil have recently made newspaper headlines following the death of four prominent women from anorexia nervosa (The New York Times, March 15, 2007) and claim that 8.0% of Brazilian women suffer from an eating disorder.

2.2.3.5 Africa

Prior to the 1970's, eating disorders were considered rare on the African continent. In an early review of cross-cultural attitudes, Powdermaker (1960; cited from Gordon, 2001) found that the traditional body ideal among Africans tended towards a large, full form where fatness was closely tied with fertility and pubescent girls were 'fattened up' to make them more marriageable.

During the 1980's a few case reports of eating disorder in black Africans began to emerge from Nigeria (Nwaefuna 1981; Famuyiwa, 1988), Zimbabwe (Buchan & Gregory, 1984) and Ethiopia (Fahy, Robinson, Russell et al., 1988); most of whom had exposure to western cultural influences. In a sample of black Zimbabwean females, Hooper and Garner (1986) found that high scores on the Eating Disorders Inventory (EDI; Garner et al., 1983) were more evident on the general psychological subscales of this screening test than subscales that focus on body image. Eddy, Hennessey & Thompson-Brenner (2007) also found that the majority of a sample of young black females in Tanzania, did not achieve subscale scores on the EDI that were suggestive of eating disorder; although 39.8% of this sample displayed cognitive symptoms of eating disorder. Moreover, 10% of this sample had a Body Mass Index of less than 17.5; 1.9% met modified criteria for anorexia nervosa, 0.46% qualified for bulimia nervosa; 4.7% indicated clinically significant symptoms of eating disorder not otherwise specified; and 10% engaged in binge-eating and 5% purged. Symptoms were most common in those with exposure to western media. The authors concluded that the intended factor structure of the EDI was not supported. Bennett, Sharpe and Freeman et al., (2004) also found that while 1.5% of a sample of secondary schoolgirls in Ghana, were pathologically underweight due to self-starvation, these girls did not score any differently to control groups on the EAT40 and attributed their food restriction to religious motivations rather than body image issues. In contrast, Oyewumi and Kazarian (1992) found that 18.6% of a sample of black female high school students in Nigeria scored positively on the EAT.

2.2.3.6 South Africa

The first published reports of eating disorders in South Africa appeared in the 1970's but were focused on the emergence of eating disorders in the white female population (Beumont, George & Smart, 1976; Norris, 1979; Ballot, Delaney & Erskine et al., 1981). A survey of hospital admissions in Cape Town, between 1979 and 1989 (Nash & Colborn, 1994) revealed that no black South Africans had been referred for hospital treatment for either anorexia or bulimia nervosa, during this time. Norris (1979) documented a 20-fold increase in admissions of white female patients during the 5 years prior to this study.

Shefer (1987) found that 11.8% of white female undergraduate students scored positively on the EAT40; 21.9% engaged in binge-eating and 6.3% used self-induced vomiting as a means of weight control. Until recently, eating disorders have thus been seen as the 'exclusive domain' of white South Africans who have been closely aligned with western cultural ideals (Norris 1979; Shefer 1987; Nash & Colborn, 1994; Le Grange, Louw, Breen & Katzman, 2004).

In January 1993, Szabo first diagnosed an eating disorder in a black South African female, which led to the publication of a series of cases describing anorexia (bulimic subtype) in black South African females (Szabo et al., 1995), all of whom were urbanized, receiving higher education and presented with fears of fatness. Szabo et al., 1995 concluded that cultural homogenization within this setting may be more relevant than race as an underlying factor in eating-related psychopathology. Since 1995, several surveys among racially diverse groups of adolescents and young adults also suggest the emergence of disturbed eating attitudes in young black women in South Africa. In an article entitled 'Africans look for beauty in the western mirror' (Christian Science Monitor, Dec 1999), the current views of black women in South Africa were reported as as: 'Its embarrassing to be a fat African mama now. We are more aware since we got democracy. We want to be healthy, independent women who look good' (cited from Gordon, 2001).

In a study conducted in 1996, Szabo and his colleagues (Szabo & Allwood, 2004 a & b) found that 18.7% of a sample of urban black high-school girls scored positively on the EAT26 while only 3% of a sample of rural black school girls scored positively; suggesting that an increased risk of eating disorder may have been associated with urbanization. Szabo and Hollands (1997) found that 37.5% of the black girls in an exclusive urban high school scored positively on the EAT26.

In a sample of male and female college students Le Grange, Telch and Tibbs (1998) found that 13% scored positively on the EAT40 while 5% scored positively on the Bulimic Investigatory Test Edinburgh (BITE; Henderson and Freeman, 1987). Caradas, Lambert and Charlton (2001) found that 17.9% of a sample of black female adolescents aged 15 to 18 years had positive scores on the EAT26; while Senekal, Steyn and Mashengo et al., (2001) found that 14% of black female college students scored positively. Edwards and Moldan (2003) found that 10% of black female college students scored positively on the Bulimia Test (BULIT; Smith & Thelen, 1984).

Le Grange, Louw and Russell et al., (2006) found that 11.9% of a sample of black, male and female adolescents and young adults scored positively on the EAT26 while 5.6% scored positively on the BITE. This study eliminated results obtained from all of the 128 black subjects from a black school in an informal settlement as these authors concluded that they 'yielded a much higher proportion of potentially eating disordered subjects than one would expect from any cohort' and self–starvation was found to have meanings that were more about inadequacy of food resources than cosmetic ideals of attractiveness. Le Grange et al., (2004) note that there does not appear to be any studies that suggest anorexia nervosa among black females in South Africa. Other research has suggested that there may be a tendency amongst black South Africans to present with bulimic symptoms (Szabo et al., 1995).

2.2.3.7 Limitations and Potential of Prevalence Data

The acculturation hypothesis rests on the assumption that the 'sine non qua' of eating disorders is a specifically western over-evaluation of body weight and shape which may be acquired by non-western individuals who are exposed to these cultural ideals. The rise of eating disorders in non-western communities since the 1990's is seen as evidence for this hypothesis. Eating disorders are, however, probably the most difficult of all mental disorders to study epidemiologically (Lee, 2005) such that prevalence rates actually remain unclear and any increase in non-western countries remains conjecture (Palmer, 2001).

Evaluating the impact of western ideals of thinness on the prevalence of eating disorders in non-western cultures requires reliable base-line rates of eating disorders before and after westernization (Bisaga, 2001). The low prevalence of eating disorders makes it necessary to study a large number of subjects (Hoek, van Hoeken & Katzman, 2005) which is time and cost intensive. Epidemiological data on eating disorders in non-western populations is, therefore, extremely limited, particularly prior to the 1990's (Dolan, 1991) and most prevalence data has been gathered from case reports or records. Case reports and records notoriously underestimate the magnitude of any medical problem in the community (Dolan, 1991) as they only report on subjects who have presented for treatment, which is heavily influenced by the help-seeking patterns of subjects, the degree of public awareness of eating disorders, the availability of user-friendly services and Eurocentric assumptions of clinicians, which may influence the diagnosis and referral of cases, with whites more likely to receive a diagnosis than blacks (Dolan, 1991). Many developing communities also do not have the infrastructure to gather salient data on eating disorders over time (Furnham, 2005). Existing epidemiological evidence does not, therefore, exclude the possibility that eating disorders existed in non-western communities in some form, before westernization. Conversely, the establishment of treatment facilities typically leads to sudden increases in the clinical prevalence of eating disorders (Lee, 2005), suggesting that apparent increases in non-western communities, after westernization, may be artifact.

Secondly, the use of different methods of case finding, different population samples, different prevalence measures and the adoption of different definitions of illness have also had considerable impact on prevalence estimates for anorexia and bulimia nervosa and seem as likely to account for variation between studies as real population differences (Okasha, 2005). Most surveys have, for example, used convenience samples, which range from high risk adolescent female samples (Szabo & Allwood, 2004), to mixed gender and age-group samples (Le Grange et al., 1998). Keel and Klump (2003) note that earlier prevalence studies tended to produce higher estimates of symptoms than interview assessments, which were more often used by later studies. These authors also point out that early definitions of bulimia nervosa did not specify a minimum frequency of weekly binge-eating and that stipulating a frequency of binge-eating more than once a week, reduces these early point prevalence rates of bulimia nervosa from 8% in college females (Pyle et al, 1986) to 1% in 1980 and 3% in 1983. Studies relying solely on formal diagnoses may thus be tracking changing diagnostic criteria over time rather than a true increase in prevalence.

The Diagnostic and Statistical Manual for Mental Disorders (APA, 1994) also stresses the importance of weight and shape concerns in the diagnosis of anorexia and bulimia nervosa (Gowers and Shore, 2001). An accumulating amount of evidence has, however, demonstrated that in non-western countries where thinness has not been traditionally valued as a symbol of attractiveness, anorexia nervosa has not been accompanied by weight concerns, but by other, more culturally relevant complaints (Lee, Lee, & Leung, 1998; Hsu & Lee, 1993), although non-western women who live in the West and develop eating disorders also demonstrate weight phobia (Woodside, 2005). Lee, Ho and Hsu, (1993) found that 58.6% of Chinese anorexic patients in Hong Kong displayed no conscious fear of fatness and attributed their food refusal to somatic complaints and other rationales although they resembled western anorexic patients. When placed in a western treatment program, these eastern anorexics frequently 'acculturate' towards a more western anorexia and body image concerns and fear of fatness replaces their earlier concerns (Woodside, 2005).

Most community samples have also used western screening tests such as the EAT and the EDI to establish risk for eating disorder. Lee et al., (1998) showed that while the psychological profile of Chinese, 'fat-phobic' anorexics and bulimics, on the EDI, was similar to that of Canadian patients with eating disorder, non-fat-phobic Chinese anorexics scored significantly lower on cardinal features such as drive for thinness. Lee, Kwok, Liau and Leung (2002) demonstrated that 61.6% of Chinese anorexics scored atypically low on the EAT26, where only 11.4% of non-fat phobic anorexics scored positively, while 58.5% of fat-phobic anorexics and 76.1% of bulimics scored positively. Surveys in non-western countries have traditionally revealed a low prevalence of anorexia nervosa, suggesting that some potential cases of anorexia may have been missed by western screening instruments which endorse 'fat phobia' as a cardinal symptom of anorexia (Lee & Katzman, 2002).

Indeed, although early reports from Eastern Europe indicated that eating disorders were rare prior to unification in 1989, the few studies conducted shortly before unification, indicated that the prevalence of eating disorders was very similar across East and Western Europe (Rathner et al., 1995). Anorexics in East-Berlin also reported significantly less body dissatisfaction and drive for thinness than West-Berlin anorexics (Steinhausen et al., 1992), suggesting that eating disorders in East-Berlin may have lacked the presence of fat phobia prior to westernization and thus failed to be included in early reports from Eastern Europe.

'The application of western diagnostic criteria and instruments in non-western communities may therefore, merely realize a self-fulfilling prophecy that the disorder is non-existent or extremely rare in these settings or, as in more recent years, be used to explain the emergence of familiar eating disorders due to the homogenizing toxin of westernization' (Lee, 2004). Following Woodside (2005), evidence for the increasing incidence of eating disorders with westernization may, therefore, simply reflect the westernization of existing pathology.

Consideration of the historical context within which self-starvation and other symptoms of eating disorders have occurred, also suggests that eating disorders may indeed have existed since ancient times, within diverse cultures and communities (Halmi, 2005), long before the western cosmetic culture of thinness. Spiritually-motivated self-starvation was noted in early eastern and western religions as a means of penance, purification or ascetic control of the body. Many Christians who practiced piety and self-starvation were elevated to sainthood; which has been viewed as a variant expression of anorexia nervosa or 'holy anorexia' (Bemporad, 1996). Many Victorian girls explicitly followed the ascetic aspirations of St Catherine and were named the 'miraculous maids' or 'fasting girls' (Keel & Klump, 2003). Chipley (1860; cited from Keel & Klump, 2003) described cases of emaciation among females who actively refused to eat as 'sitomania'. A condition called 'chlorosis' was also used to describe a syndrome similar to anorexia nervosa. Di Nicola (1990 a) refers to these syndromes as 'clinical analogues' of anorexia. Parry-Jones (1985) studied inpatient admissions in England between 1812 and 1917, and found 40 cases of anorexia as well as a range of other admissions that could be described as historical analogues of anorexia nervosa.

The practices of binge-eating and vomiting have also been widely prevalent, since early history and across diverse cultures (Halmi, 2005). Galen (AD 130-200) described the episodic ingestion of considerable amounts of food as bulimos (James 1743, from Halmi, 2005) which could be treated by tickling the back of throat to induce emesis. Ancient Egypt, Greece, Rome and Arabia also describe orgies of eating and Rome is notorious for the 'vomitorium' which allowed them to relieve the effects of excessive eating (Miller & Pumariega, 2001). Many of the fasting saints were also known to engage in binge-eating (St. Veronica) and self-induced vomiting (St. Catherine) (Keel & Klump, 2003). Medical literature of the 17th and 18th century defined periods of insatiable appetite as bulimy or canine appetite (Parry-Jones and Parry-Jones, 1991) and 'cynorexia' which described eating that is out of control followed by compulsive vomiting (Forestus, 1602; cited from Keel & Klump, 2003).

Interestingly, none of these early descriptions of self-starvation included any reference to weight and shape concerns or fears of fatness and even the first medical definitions focused on anorexia as a somatic expression of hysteria such as 'bradypepsia' and 'visceral neuroses' (Brumberg, 1988). Typical 'fat phobia' was not described until the 1930's (Brumberg, 1988) and it was not until the mid 20th century that weight concerns came to dominate the rationale for food refusal. Negative findings do not, therefore, mean that eating disorders did not exist in non-western countries before 1990 or before the culture of thinness in western countries. Apparent increases in non-western communities could, therefore, be artifact or due to factors other than the assimilation of western ideals.

A review of cross-cultural literature (Rieger, Touyz, Swain, et al., 2001) indicated that when weight loss is defined in terms of positive value instead of 'fear of fat', anorexia is not limited to contemporary western cases of anorexia, suggesting that other cultures may also value thinness, that may be underscored by culturally different meanings and motivations. These authors speculated that while assumptions focusing on western ideals of thinness remain 'remarkably resilient', they may also have exaggerated the role of westernization in non-western cultures; and that the intrinsic ideologies, values and practices of non-western cultures also need to be considered in the etiology of eating disorders.

Meta-analysis of a wide range of sources (Keel & Klump, 2003) found that anorexia nervosa has indeed been observed in every non-western region of the world and in the absence of western influence. Food refusal was reported for all cases, but the presence of weight concerns was not universal. These authors also found only a moderate effect size for an increase in the incidence of anorexia in western society over the 20th century which has been seen to coincide with increasing idealization of thinness. They concluded that, although cultural factors may influence rates of anorexia, cultural ideals of thinness may not be sufficient or necessary in the background of anorexia and that deliberate or self-motivated food refusal and starvation may have many different motivations, including weight concerns.

Miller (2005) concluded that 'given all the methodological problems, it is doubtful whether an epidemiological approach to the question of cultural or temporal trends in the incidence of eating disorders, is of any use at this stage'. Despite these limitations, the increase of eating disorders in non-western cultures has been interpreted as 'evidence for the exportation of western culture and the culture-bound nature of eating disorders, which sets up eating disorders and western influence as both evidence and explanations for each other, thereby setting up a process of circular reasoning wherein the notion of culture is reified and is used to bolster existing epistemologies rather than challenge them' (Lester, 2004). Moreover, atypical cases which may shed light on the etiology of eating disorders are systematically excluded. 'This gives the illusion of cross-cultural substantiation for psychiatric diagnostic criteria while obscuring genuine cultural analysis and other factors which may have etiological salience' (Lester, 2004).

Nasser (1997) noted that although epidemiological studies have typically demonstrated a higher prevalence of eating disorder in the United States of America than in Britain and Europe, these differences within western countries have, traditionally, been ignored; although exploration of differences within cultures as well as the similarities between cultures may provide significant insight into potential etiological factors. Surveys within non-western countries (see previous section) have indeed demonstrated highly variable scores on screening tests between different samples, with some recent studies (Nobakht & Dezhkam, 2000) recording higher percentages of positive EAT scores than Canadian samples. High scores on the EAT in non-western populations are frequently attributed to a lack of validity in the trans-cultural application of these screening tests (King & Bhugra, 1989). Following Nasser and Katzman (2003) however, these variable findings could provide valuable etiological insights.

Apter et al., (1994), for example, found that the EAT profiles of middle-eastern adolescents were most similar to the profile of diagnosed anorexics when they were exposed to western body ideals and the presence of conflict between traditional and modern expectations of the female role. The EAT scores of girls in an Israeli Kibbutzim were the highest (27.3%) and were most similar to the

anorexic profile, followed by the Bedouin (19.4% EAT-positive) and Arab Muslim (18.4% EAT-positive) groups; while the Circassians scored lowest (8%). The authors concluded that changes in the female role within the Kibbutz had placed these adolescents under severe role conflict which may have been associated with elevated EAT scores; while the Circassians had maintained traditional female roles. Bedouin society was also undergoing rapid social change from a pastoral, nomadic lifestyle, to an urban, industrialized existence at the time; suggesting that variable EAT scores may have reflected varying degrees of social transition and role conflict. Kaffman and Sadeh (1989) also identified an association between the increased prevalence of eating disorders in the Israeli kibbutz and changes in the structure of family life and the role of women. Nasser (1997) noted that the Arab world has been experiencing a feminist movement during the last decades; suggesting that variable EAT scores within these non-western populations may reflect varying degrees of female emancipation and socio-cultural transition.

Research also indicates that shortly before unification in Eastern Europe, East-Berlin high school girls scored significantly higher on the EAT than West-Berlin schoolgirls (Neumarker et al., 1992) suggesting an over-identification with western cultural norms within the rapidly changing socio-political context of East-Berlin at the time. Surveys conducted in East-Berlin shortly before unification, also demonstrated that clinical samples were only discriminated from non-clinical samples by significantly higher scores on general psychological subscales of the EDI; ineffectiveness, perfectionism and maturity fears (Steinhausen et al., 1992). Following Apter et al., (1994) this suggests that the onset of clinical disorder may have depended on the simultaneous presence of individual conflict within the rapidly changing socio-political context of Eastern Europe at the time. Hooper and Garner (1986) also found that high scores on the EDI were most evident on the general subscales in black Zimbabwean females. The authors speculated that subjects may have been experiencing acculturative stress encountered during a process of westernization where western ideals are juxtaposed with traditional values. In 1980, Zimbabwe achieved a black-majority government after years of white-dominated rule, suggesting that Zimbabwe may also have been experiencing a period of sociopolitical transition at the time.

Lee et al (1998) found that fat-phobic Chinese anorexics also scored higher than non-clinical samples in ineffectiveness and maturity fears and suggested that drive for thinness needs to be fueled by more general pathology to produce disorder. Hungarian female students also demonstrated higher EDI scores and a higher rate of eating disorder than Austrian female students (Rathner et al., 1995) and scored highest on the General Health Questionnaire-28 (Goldberg & Hillier, 1979) which measures general psychological distress. The authors speculated that exposure to cultural and social change may lead to significant stress and changes in health, which may be seen as an 'epidemiological risk' factor for the development of eating disorders. Chile also observed an increase in the incidence of eating disorders during the socio-political changes that occurred during the 1970's (Gordon, 2001).

These considerations suggest that the mechanisms that link culture and eating disorders may be more complex than once believed and that the acculturation hypothesis may not be sufficient or even perhaps necessary as an etiological explanation of eating disorders. These considerations also suggest that conflicts and stress associated with socio-cultural transition may provide an important risk factor in the development of eating disorder, particularly in societies undergoing rapid socio-cultural transition.

South Africa achieved black-majority rule in 1994, after years of white-minority political oppression and discrimination that were institutionalized in the racist policies of apartheid. Since the dissolution of apartheid in 1994, South Africa has also experienced a period of intense socio-political transition. Rapid urbanization has occurred and economic, employment and educational opportunities have escalated for the previously disadvantaged black community (Szabo & Le Grange, 2001). Previously disadvantaged black South Africans have also experienced upward social mobility and changes in the structure and functioning of families and the roles and expectations of women (Szabo & Le Grange, 2001); suggesting that apparent increases in dysfunctional eating and cases of eating disorder in South Africa may also reflect conflicts and stress that have been associated with rapid socio-cultural and political transition.

2.2.4 Westernization or process of socio-cultural transition?

The apparent rise of eating disorders in the west has coincided with a period of rapid social modernization that has occurred in the second half of the 20th century such as industrialization and urbanization which have been paralleled by technological advances, the emergence of a consumer economy, media saturation, individualism and achievement orientation, upward mobility, changes in the structure and functioning of families and the roles and expectations of women, and increasing intergenerational conflict (Gordon, 2001).

Rathner (2001) noted that the 20th century has witnessed transformations 'from full-blown industrial society to globalization, from colonialism to post-colonialism, and from industrial production to the post-modern information age'. Westernization has also been 'dismantled into the changes pursuant to industrialization' including urbanization, female emancipation, individualism, economic transformations, the translation of social conflicts into individual medical morbidity, and the disappearance of traditional idioms of distress' (Katzman & Lee, 1997); suggesting that socio-cultural transition may be the common denominator associated with the development of eating disorders in westernizing societies and that eating disorders may represent an idiom of distress or protest within this changing socio-cultural context. Important questions arise from this such as 'what do we mean by westernization of a society? Does this refer to the acculturation of particular 'western' ideas and behaviors or does it refer to a process of socio-cultural transition to a more modernized society?

As data emerges from various cultures and contexts, these social and psychological tensions associated with modernization have also emerged as potential risk factors that are shared across cultures, suggesting that an increased risk of eating disorders may be associated with the process of socio-cultural change or modernization, as opposed to a simple compliance to a western cosmetic ideal; particularly in communities undergoing rapid social transition.

2.2.4.1 Industrialization and Urbanization

Japan has demonstrated a temporal increase in eating disorders that parallels the apparent increase in western countries, and similar patterns of weight preoccupation and dieting as western countries (Nakamura, Hoshino & Watanabe et al., 1999; Nakai, 2005). Japan was also the first non-western nation in contemporary history to become a major industrialized economic power and the rise of eating disorders in Japan has correlated with increasing industrialization, urbanization and consumerism and the fraying of traditional family forms (Gordon, 2001).

The incidence of anorexia nervosa was also found to be four times higher in Japanese cities than in rural Japan (Azuma & Henmi, 1982; cited from Nasser, 1997) and three times more prevalent in densely populated areas of Japan (Ohezeki, Hanaki & Motozumi et al., 1990; cited from Nasser, 1997). Weight concerns were also found to be greatest in Hong Kong and least prominent in rural Hunan, suggesting that 'fat phobia' may be grounded in the global culture of modernity which is characterized in many rapidly urbanizing parts of the world (Lee & Lee, 2000).

Ruggiero (2001) noted that the process of modernization in Italy has created two distinct territories, the industrialized north, and the rural South. The prevalence of eating disorders in the south was comparable to other western European countries while rates in the industrialized north were lower than the South. During that time, life in the south was in the process of social change in areas such as economy and female gender roles. Ruggiero et al., (2000; cited from Ruggerio, 2001) found that while southern girls were less sensitive to western influences on body ideals than their northern counterparts, they had lower self-esteem, greater emotional confusion and maturity fears. Ruggiero (2001) concluded that modernization places the individual in a position of conflict between traditional and modern expectations and may be accompanied by feelings of disconnection, social insecurity and lower self-esteem; which may be just as powerful a psychological determinant for eating disorder as body dissatisfaction and media influences.

Becker, Burwell, Gilman et al., (2002) also demonstrated a dramatic increase in disturbed eating in adolescent girls during the years (1995-1998) following the introduction of western television to a predominantly agricultural, Fijian community undergoing rapid social and economic transition. Positive EAT scores increased from 12.7% (1995) to 29.2% (1998) and self-induced vomiting increased from 0% (1995) to 11.3% (1998). Becker (2004), however, found that the shift towards thinness in Fiji was more about economic and social competition than ideals of attractiveness as these young women saw thinness as a route to 'getting a job'. Becker concluded that Fijian women were attempting to reshape their identities by reshaping their bodies in accordance with television characters that were seen as role models for success in modern consumerist lifestyles.

Fairburn (1997) noted that 'eating disorders are known to flourish at times when there is a need for self-change, particularly when a sense of competence and efficacy is lacking. At these times, individuals may attach themselves to role models that exemplify the 'new' social order in an attempt to navigate the changing social environment (Becker, 2004). Eating disorders have thus been seen as one of the most sensitive barometers of culture change and its impact on human beings (Di Nicola, 1990; Nasser, 1997; Nasser and Di Nicola, 2001).

2.2.4.2 Socio-economic Status

Modernization may also be associated with participation in a global market economy (global market capitalism) and upward economic and social mobility which frequently conflicts with traditional resources, which are ill-equipped to assist the individual through the changing social landscape. Socio-economic changes that take place in non-western and developing societies also promote an emphasis on education and achievement orientation; which has long been linked to the development of eating disorders.

Towards the end of the 19th century in the west, anorexia was overrepresented amongst upper socio-economic groups which endorsed the idea that anorexia was a disorder of upper classes (Hoek, van Hoeken & Katzman, 2005) and perpetuated the notion of thinness as a symbol of competitiveness, achievement and success. The picture that emerges for bulimia nervosa is entirely different. Keel and Klump (2003) found that while anorexia nervosa (using a wider definition of anorexia) appeared more stable across different times, cultures and socio-economic groups, bulimia nervosa appeared to have increased against the background of westernization, industrialization, urbanization, upward social mobility, predisposition to overweight and increased accessibility to large quantities of food; suggesting that processes and stresses associated with social transition may be more important than mere exposure to western ideals of thinness in the development of bulimia nervosa.

Contrary to former beliefs, the risk of eating disorders may thus actually be as high or even higher among ethnic minority and socially disadvantaged young women (Crago et al., 1996; Pumariega, Gustavson & Motes et al., 1994; Smith & Krejci, 1991). Ethnic minorities with eating disorders have also been found to have a slightly higher socioeconomic level than their non-eating disordered controls (Andersen & Hay, 1985), suggesting that upward social mobility may be more important in the development of eating disorders than social class per se (Anderson-Fye & Becker, 2003). Katzman, Hermans & van Hoeken et al., (2004) found that women who presented with anorexia on the island of Curacoa saw thinness as a sign of financial accomplishment and those who were more financially accomplished reported a greater desire to lose weight. These women were also those who were 'straddling' several worlds simultaneously. They aspired to fit into the mobile elite subgroup yet were unable to feel acceptance within that group and they encountered frustrations and tensions when re-entering Curacoa after a time overseas. Katzman et al., (2004) concluded that eating disordered women were those caught between worlds of educational, social and economic aspiration, and the 'typical' reality of an island woman; supporting the idea that upward social mobility and transition may be more important in the development of eating disorders than social class per se.

2.2.4.3 Obesity

Early theorists accounted for the western cultural specificity of eating disorders in terms of the affluence and abundance of food in western and industrialized nations which were termed 'societies of abundance' (Prince, 1983). As Selvini-Pallazoli (1985) argued 'people do not play games around food when availability is limited and the specter of hunger is pervasive'. A major post-industrial shift was, however, made from production towards consumption which brought changes in diet (fast foods) and lifestyle (reduced activity). This shift heralded increased obesity, particularly in American populations (Nasser, 1997); which heralded a concurrent rise in 'fat phobia' as a defining feature of eating disorders in the west (Hsu & Lee, 1993).

Recognized risk factors for obesity in western societies include lower socio-economic status and minority group membership; suggesting that thinness may set upper classes apart from lower classes and be an outer sign of achievement, success and upward mobility (Nasser, 1997) in a developing economy. Where plumpness may have traditionally been valued as a sign of prosperity in a subsistence economy, thinness may therefore, herald success in a consumer economy. Conversely, obesity is stigmatized, resulting in acute tension between the factors which lead to weight gain in the general population and the forces that drive a need for thinness (Hebl & Heatherton, 1998); suggesting that the starving and binge-eating of bulimia may form a parallel to the production-consumption dialectic and represent the 'unity of opposites in contemporary society' (Fine, 1998; cited from Neumarker & Hein, 2001).

A meta-analysis of epidemiological studies (Keel & Klump, 2003) found a highly significant increase in the incidence of bulimia nervosa in the west during the period 1970-1993 with a secular trend of increasing incidence in the non-west. These authors concluded that bulimia may well be a western 'culture-bound syndrome' which occurs as a result of western weight concerns against the background of industrialization and increased accessibility to large quantities of food.

Gowers and Shore (2001) also noted that bulimia nervosa may be predated by binge-eating rather than dieting; with weight concern and then dieting ensuing. Purging behavior has also been found to be a common form of weight control in 21% of females at a low-income population family practice clinic (Martin & Wollitzer, 1988). Early onset obesity has also been associated with distorted body image and the development of eating disorders (Stunkard, 1959). The higher the weight among native -American women, the higher was the desire to lose weight and engage in weight-reducing measures (Rosen, Hafer, Dummer, et al., 1988).

Negative attitudes towards obesity have also developed from recognition of associated health risks and the promotion of fitness. The 'thin ideal' has thus become synonymous with a trend of health, youthfulness and athleticism suggesting that the recent rise in weight consciousness in the west may be a reaction against obesity rather than mere compliance to a cosmetic ideal. Interestingly, a condition known as 'orthorexia nervosa' has recently been popularized to account for extreme obsessiveness around maintaining healthy or 'pure' eating patterns (Bratman, 2003), and a condition known as 'activity anorexia' has been proposed to characterize excessive exercising to achieve or maintain perfect body weight (Epling & Pierce, 1996); suggesting that new variants of anorexia may be emerging within a socio-cultural context of healthfulness rather than a simply cosmetic ideal of attractiveness.

2.2.4.4 Gender Role Confusion

During the latter part of the 20th century, increasing industrialization and urbanization has also heralded an increasing fragmentation of the family with an emphasis on the nuclear family that has demanded changes in the roles, expectations and identity of women and children; and has resulted in conflicts regarding gender roles and intergenerational conflict that have introduced great strain and confusion, particularly into the experiences of adolescents (Gordon, 2000). Changes in the social position of women has led to an increase in the number of educated and working women which requires transitions in female role and identity. Expectations of women in

a male-dominated workplace, conflict sharply with demands for traditional feminine postures; promoting increased uncertainty, self-doubt, powerlessness and identity confusion (Gordon, 2000, cited from Gordon, 2001). Feminist writers argue that contemporary ideals of 'thinness' may be a way of resolving conflict between two sets of contradictory social expectations for women, namely, traditional female stereotypes of dependency, passivity, frailty and helplessness along with the qualities required of the modern women such as autonomy, power, self- control, achievement and success (Nasser, 1997). 'Thinness promises that women can look like a woman and succeed like a man: the female superwoman that has it all (Gutwill, 1994)'. Silverstein and Perlick (1995; cited from Catina & Joga, 2001) coined the term 'gender ambivalence' to describe the ambiguities in the female role during periods of social transition which, they believe, leave women vulnerable to develop eating disorders. The pursuit of thinness is seen as metaphorical to a woman's struggle to formulate a new identity in the face of changing social roles (Orbach, 1986); and the degree of gender ambivalence is related to the degree of general social ambivalence, at macro-economic and socio-political levels (Catina & Joga, 2001). Interestingly, when anorexia was first identified as a medical syndrome, both London and Paris were witnessing their first feminist movement (Nasser, 1997).

The 1920's was also a period of female emancipation in the west; when women were finally given the vote and many women started working outside of the home. 'A woman with a slender body distinguished herself from the plump Victorian matron and her old-fashioned ideas of nurturance, service and self-sacrifice' (Brumberg, 1988). The rail thin, androgynous style of the 1920's 'flapper' may, therefore, have reflected contradictions during the emancipation of women at the time and have been an expression of competition and success in a male-dominated work-place. Similarly, the introduction of oral contraception (1965) marked an era of sexual-liberation for women who were faced with contradictory expectations to be sexually liberated and aggressive yet also traditionally demure and naive. Could it be co-incidence that Twiggy was launched as a super-model in 1966 to convey an image of 'a skinny kid with a face like an angel'? (www.twiggylawson.co.uk/ fashion.html). This official Twiggy website also notes that 'with her

waif-like, slim figure and short boyish hair' Twiggy represented 'youthfulness and the new-found Sixties freedom'. Twiggy is also described as a 'reflection of an era' rather than the cause and may have been socially created as a pure, child-like, boyish, non-sexual alternative to the sexual (Hippie) revolution occurring at the time. These considerations suggest that a 'culture of thinness' may have emerged in western society as a solution to the psycho-social conflicts of women, rather than simply a cosmetic ideal. Interestingly Miss America (1967) was a similar weight (86.5% of expected body weight) to Miss America of 1959 (87% of expected body weight) and Miss America 1971, (88.5% of expected body weight), suggesting that although the weights of these popular icons decreased in the few years after Twiggy's launch, Twiggy may not have made as significant an impact on ideals of thinness as popular literature would suggest.

Pike and Borovoy, (2004) also found that shifting gender role expectations in contemporary Japan may contribute towards an increased risk of eating disorders. These authors found that division of labor in Japan has become increasingly gender–polarized such that marriage and motherhood are seen as the only possible route to female maturity yet also as a mechanism of social entrapment. Japanese women thus appear to have created some developmental space to delay maturity by the 'culture of cute', portrayed in icons such as 'Hello Kitty' and the teenage schoolgirl figure (shojo) which is neither girl nor mother, neither asexual nor a fully realized woman (mother). Conforming to this culture may thus represent a form of escape or protest against these gender-role expectations, reminiscent of Crisp's account (1980) of eating disorders as a strategy for delaying maturation. These authors thus question the importance of western ideals of thinness as a reason for self-starvation, and point instead to local Japanese meanings of starvation (Lester, 2004); suggesting that western ideals of thinness may not be necessary as an etiological explanation for eating disorders, and that a more culturally sensitive search for the meaning of eating disorders is required.

2.2.4.5 Socio-cultural Transition and Eating Disorders

Periods of rapid social transition have been characterized as a 'social predicament' which is seen as a 'complex, unstable, morally charged and painful social situation' that requires new and adaptive socio-cultural mechanisms (Taylor, 1985; cited from Nasser & Katzman, 2003). Such changes may result in loss of certainty, disruption of familiar social networks and patterns of every day life, which may be a time of psychological vulnerability in countries experiencing rapid social transition. Confrontation with modernization has been seen as a' social predicament' (Nasser & Katzman, 2003) and especially disturbing for agrarian populations where exposure to new cultural expectations destabilizes the society's traditional norms and requires new and adaptive socio-cultural mechanisms (Rathner, 2001).

Jilek (2001) noted that imposed modernization may transform small tradition-directed communalist societies consolidated over many centuries, into modern mass societies and create an anomic situation for vulnerable groups. This may also lead to conflict between modern and traditional values and create cultural identity crisis and confusion (Jilek, 2001). Transitional processes have thus been seen to produce a number of ill effects on mental health (Rathner, 2001) which may, in a hitherto tradition-directed population, lead to the emergence of types of psychosocial pathology previously unknown in that population' (Jilek, 2001).

Rathner (2001) argued that, as hysteria was the most prevalent psychiatric disorder among women at the end of the 19th century, eating disorders may now be seen to reflect social pressures associated with westernization. Rathner (2001) continued to note that one of the main features of a western free-market economy is individualism, which 'tends to translate social conflicts into socially acceptable, individualized morbidities' such that social distress becomes articulated through medical and psychiatric terminology. Skarderud (2001) also argued that a major characteristic of eating disorder is the degree of concrete communication, whereby symbolic conflicts and boundaries are communicated and expressed through the explicit and concrete

medium of the body (Skarderud and Nasser, 2007). The body may thus also become 'the dominant means by which the tensions and crises of society are thematized' (Turner, 1992; cited from Nasser and Di Nicola, 2001).

Nasser & Katzman (2003) argued that, historically, during periods of cultural transition, the locus of power has been displaced onto the body; suggesting that eating disorders may be powerful markers of social change (Nasser & Di Nicola, 2001). Di Nicola (1990 b) described anorexia as a 'culture change syndrome' where women undergoing rapid socio-economic or cultural change may experience 'enormous acculturation stresses' which may place them at risk for anorexia nervosa. According to this hypothesis, migrants and individuals in cultures that are in rapid economic and socio-cultural transition are especially vulnerable to eating disorders. Jilek (2001) proposed that culture-bound syndromes are not exclusively linked to a particular culture but rather related to a particular cultural emphasis which can become important in diverse societies at different historical periods. Nasser and Di Nicola (2001) concluded that the body 'has gone through phases and manifestations reflecting significant milestones in human history – from the fasting of medieval saints to the secularization of the body into a commodity in our modern era, suggesting that body history may have mirrored human history'. Di Nicola (1990 a) noted the changing face of anorexia which he described as 'anorexia multiforme; a medical chameleon that changes with the times'.

Indeed, even within the west, the 'thin' ideal appears to have become a symbolic expression of attributes such as power, and self-efficacy; self-control, assertiveness, autonomy and self-determination, competitiveness, achievement and sexual liberation, as well as a measure of beauty and attractiveness. Positive stereotypes such as beauty, health, class and success thus appear to have merged with 'normal' western dieting behavior (Nasser, 1997) and the body is seen as a commodity that is created by the individual such that the attainment of bodily perfection exemplifies individual self-regulation control and success which is equated with self-value and self-worth. Deliberate self-starvation has also been used as a demonstration of

personal distress (Katzman & Lee, 1997) and protest (Brumberg, 1988). Given the plurality of meanings and motivations behind self-motivated starvation, Rieger, Touyz, Swain et al., (2001) recommend replacing weight phobia with ego-syntonic emaciation as a diagnostic criterion for anorexia nervosa. These considerations suggest that popular trends of body modification may reflect society's conflicts during periods of social transition rather than simply a western cosmetic ideal and that eating disorder symptoms may be an expression of individual conflict and distress within a changing socio-cultural context.

Nasser (1997) argued that the concept of Ethnic Disorder (Devereux, 1955; cited from Nasser, 1997) may provide a more plausible alternative to the 'culture-bound' approaches to eating disorder as it is identified as a condition that occurs frequently within a particular culture and expresses core conflicts and psychological tensions that are pervasive in that society. Symptoms are seen as the final common pathway for the expression of a wide variety of personal problems and represent exaggerations of normal attitudes and behaviors that are prevalent in that culture that have become highly patterned and imitated 'idioms of distress.' This approach provides a theoretical framework for the individual-social dialectic such that 'culture' reflects core, conflicts, contradictions and tensions that are pervasive within in a particular society, while also providing an 'idiom of distress' for the expression of individual problems.

Ethnic Disorder may also embrace the broad array of cultural forces that are shared by a large number of societies rather than a particular geographic locale (Gordon, 2004). Following this approach, it may thus be speculated that the increased prevalence of eating disorders in western and non-western women during the 20th century may well have been underscored by stress encountered within a period of rapid modernization and socio-cultural transition that has taken place during this time. Stress encountered during the process of change or socio-cultural transition may thus be considered as an important risk factor for the development of eating disorders in modernizing or westernizing populations such as black women in post-apartheid South Africa.

2.2.5 Cross-cultural Studies

It was previously believed that eating disorders occurred almost exclusively in Caucasian women (Bruch, 1973). Reports of eating disorders appear, however, to be increasing in a wide range of ethnic groups (Miller, 2005). This has led to a plethora of cross-cultural studies, which the acculturation hypothesis has used as evidence that, with continued exposure to western culture, black women may be adopting western ideals of thinness; and that traditionally protective cultural factors may be rapidly eroding; leaving black women as vulnerable to eating disorders as white women (Perez & Joiner, 2003).

Many studies have suggested that anorexia nervosa is quite limited amongst African-Americans (Striegel-Moore, Dohm, Kraemer et al., 2003; Taylor, Caldwell, Baser et al., 2007). Katzman et al., (2004) also found few, if any, cases of anorexia nervosa in the black population on the island of Curacoa. Hooper and Garner (1986) also found drive for thinness, body dissatisfaction and anorexia were more common in white than black Zimbabwean schoolgirls. Several studies have however, shown higher levels of disordered eating among African-American women than in their white counterparts. Black-American females have been found to demonstrate greater drive for thinness (Striegel-Moore, Schrieber, Pike et al., 1995) and are more likely to report fasting, recurrent binge-eating, and abuse of laxatives or diuretics than white-American women (Striegel-Moore, Wilfey, Pike et al., 2000). Normal-weight female black-American dieters have also been also been found to be more likely to use risky weight-loss strategies than their white-American counterparts (Beiner & Heaton, 1995). Pumariega et al., (1994) found that 53.6% of African-American women scored positively on the EAT; 38% engaged in binge eating, 3.5% purged by vomiting; and 16% abused laxatives. Dysfunctional eating patterns, with a tendency for bulimia was also found to be more prevalent in the African-Caribbean population in the United Kingdom than their white counterparts (Reiss, 1996) and more commonly reported in black females than anorexia nervosa (Nasser, 1997).

Miller, Verhegge, Miller et al., (1999) found that 24.8% of a sample of rural native–American adolescents, scored positively on the EAT26 and a sample of rural native-Americans and Hispanics demonstrated that 87% were worried about being too fat; 11% met criteria for bulimia and 53% fasted for prolonged periods (Snow and Harris, 1989; cited from Miller & Pumariega, 2001). Rosen, Shafer, Dummer et al., demonstrated that 75% of native-American female dieters, were using risky weight-loss techniques. Smith & Krejci (1991) found that native-American adolescents demonstrated more symptoms of disturbed eating attitudes and behaviors than their white counterparts. Binge-eating was also found to be higher in native-Americans (14.2%) than white-Americans (10.1%), (Smith & Krejci, 1991). Rosen et al., (1988) found that 74% of native Americans were trying to lose weight and concluded that native-Americans should be considered at risk for eating disorder.

Meta-analysis of cross-cultural studies (Wildes, Emery & Simons, 2001) revealed that heavier-weight, black, high school populations may be particularly at risk for eating-related disturbances; suggesting that self-evaluation that is based upon thinness may thus be particularly detrimental to overweight, minority women (Abrams et al., 1993; Crago et al., 1996; Striegel-Moore et al., 1995). Meta analysis also revealed that although white women tended to report greater levels of body dissatisfaction and eating disturbances than black women; whites did not score significantly higher than non-whites above the 90th percentile on measures of clinical pathology; and that the differences between groups, at the 99th percentile, was less than 1% in measures of restrictive eating. These findings suggest that while western cosmetic ideals may play a role in the development of sub-clinical eating disturbances, other factors may be needed to account for the onset of clinical eating disorder.

Silber (1986) studied seven African-American and Hispanic adolescent anorexics in private, predominantly white schools, one of whom was the only black pupil in the school. These girls were dissatisfied with their 'bigger bodies'; felt different, suffered from low self-esteem, and had a powerful need to be accepted and to 'fit in'; which they sought through dieting and adopting an

extreme social standard of slimness. Altering body weight may thus be a powerful way of accelerating acculturation and minority adolescents may 'overshoot' these western ideals in order to be accepted. Stressors associated with inter-ethnic experiences may, therefore, exaggerate prevailing acculturative pressures towards thinness and provide an important risk factor in the development of eating disorder in ethnic minority groups. Several other case reports of anorexia in black communities of the United States of America and the United Kingdom, reflect the psychological problems that girls struggle with as they try to achieve a racial-identity while fitting into a new society (Lacey & Dolan, 1988; Thomas & Szmukler, 1985) and it has been suggested that thinness has become a parameter of black achievement and social mobility within the wider (but thinner) American middle-class society (Schwartz, 1985). These considerations suggest that western cultural influences may not be sufficient to explain the development of clinical disorder in African-American women, and that individual (within-group) 'reactive' responses to inter-ethnic differences may be necessary to explain any differences in the prevalence of eating disorder in ethnic minority groups.

2.2.5.1 Cross-cultural Studies in South Africa

During the years of apartheid, black and white South Africans, were kept apart by institutionalized racist policies in almost every aspect of daily life. Since the dissolution of apartheid in 1994, South Africans of all ethnic groups are engaging in every aspect of human activity and sharing their diverse cultural backgrounds in neighborhoods, schools, work, leisure and sporting activities.

In 1996, Szabo and his colleagues (Szabo & Allwood, 2004 a & b) conducted a survey in a sample girls in recently integrated urban high schools, and found equal numbers of white (18.6%) and black (18.7%) students scored positively on the EAT26. Earlier, Szabo and Hollands (1997) found that black female adolescents in an exclusive private school, scored a markedly higher percentage of positive EAT scores (37.5%) than their white peers (20.67 %). These scores were also higher

than those of schoolgirls in Canada (22%; Leichner, Arnett & Rallo, 1986); North America (17.5%; Fischer, Pastore & Schneider, 1994) Britain (18.6%; Cooper & Goodyer, 1997) and Nigeria (18.6%; Oyewumi et al., 1992); and closer to prevalence rates recorded for high risk groups such as dancers (38%) and models (34%), (Garner & Garfinkel, 1980). During apartheid, this school had been an elite 'all-white' school which, at the time of the study, had become racially integrated. Szabo and Hollands (1997) speculated that the 'impact of acculturation on a young black girl entering a formerly whites-only school may be akin to that experienced by other minority groups' in other formerly white, western-dominated contexts who have also been found to demonstrate a greater risk of eating disorder than their white counterparts (Pumariega, 1986; Mumford, Whitehouse & Platts, 1991). Szabo and Hollands (1997) concluded that the increased risk of eating disturbances found among the black students in their study may be due to acculturative stress 'particularly in view of the major sociopolitical changes that South Africans are experiencing.' The authors commented on the need for further study on acculturative stress as a risk factor for eating disorders in South Africa. Interestingly, although desire to be thinner and attempts to lose weight predicted higher mean EAT scores in this study, these attitudes and behaviors were found to be almost universal within the sample. Following Patton, Johnson-Sabine & Wood (1990) these findings suggest that dieting may be a relatively benign practice in a large percentage of school girls, and that the progression from dieting to disorder may require other vulnerability factors. Following Silber (1986), acculturative stressors associated with interethnic contact may promote an over-identification with western cultural norms and conflict necessary to promote the progression from vulnerability to disorder.

Le Grange et al., (1998) also found that a sample of black college students scored significantly more positive scores on the EAT40 than their white peers. In an item which asked whether respondents had ever had a serious eating difficulty in the past, 14.3% of whites, 15% of blacks and 13% of mixed race and 3.5% of Asians responded affirmatively. The authors concluded that higher levels of disturbance in black subjects might be due to exposure to extreme pressures associated with westernization. Wassenaar, Le Grange and Winship et al., (2000) found that

while white women showed the highest body dissatisfaction on the Eating Disorders Inventory (EDI: Garner et al., 1983) black women showed the highest drive for thinness, perfectionism and maturity fears. White subjects demonstrated significantly lower body mass index (BMI) than black subjects and higher BMI correlated with body dissatisfaction and drive for thinness. Following Davis and Katzman (1997), these authors speculated that high BMI, along with high scores on perfectionism and drive for thinness among black subjects, suggest that these subjects may be attempting to alter their body weight (high BMI) in order to adapt to western cultural expectations. They continued to speculate that high scores on these indices, amongst black subjects, may reflect the psychology of cultural transition and that acculturative stress may explain their results, particularly in view of dramatic socio-political changes that have taken place in South Africa since the lifting of apartheid in 1994.

Silber (1986) also notes that altering their body weight may be a powerful way for black females to reduce inter-ethnic differences and be accepted; suggesting that higher-weight black South African girls may be at particular risk for eating disorder in the multiethnic context of the new South Africa. Higher BMI in young black females has been associated with serious dieting and vulnerability for dysfunctional eating attitudes and behavior. Senekal et al., (2001) found that while black females were more satisfied with their body shape than white subjects in other South African studies, higher BMI was associated with poor self-concept, body dissatisfaction, dietary restraint and higher mean EAT scores. Caradas et al., (2001) also found that increasing BMI was associated with increasing body-shape concerns; although a comparable percentage of black and white adolescents had positive scores on the EAT. These authors concluded that their findings 'reinforce the notion that eating disorders are culture-reactive rather than culture-bound' and argued that 'considering the near epidemic proportions of obesity in black women', obesity may indeed be a risk factor for eating disorder in young black westernizing South African women'. Reactive responses to inter-ethnic and inter-cultural differences may thus be considered as a risk factor for the development of eating disorder in black South African women, particularly those who are obese and in a context of social comparison with white western peers.

2.2.6 Immigration Studies

Most initial case reports of eating disorders were of individuals from different ethnic and cultural backgrounds who had emigrated or escaped to western countries (Lacy & Dolan, 1988) and who developed a disorder within a short time of their arrival (Kope & Sack, 1987), fuelling speculation that their eating disorders were due to exposure to white western culture (Nasser, 1997). Some studies have also demonstrated that non-western women who have emigrated to a western culture may present a higher risk of eating disorder than their peers in their homeland (Nasser, 1986; Fichter et al, 1983) and have been used as evidence for the acculturation hypothesis.

Further study has revealed however, that 'western' concern with body weight and symptoms of eating disorder may have been existent in non-western societies presumed to have different values (Abdollahi & Mann 2001; Shuriquie, 1999) and have highlighted the effects of encountering a 'different' social milieu by demonstrating an increased risk of eating disorders in trans-location between different 'western' countries (Van Den Broucke & Vandereycken, 1986). Furukawa, (1994) found that Japanese exchange students reported weight gain and disturbed eating attitudes during their stay in a new country, regardless of whether their host country was weight conscious or not. After six months in the host country, symptoms of bulimia were significantly correlated with interpersonal distrust, ineffectiveness and with scores on the General Health Questionnaire-30 (Goldberg, 1972; cited from Furukawa, 1994); suggesting that stresses encountered in a 'different' social milieu may be associated with an increased risk of eating disorder; whether this milieu is western or non-western. Furukawa concluded that non-specific acculturative stresses may mediate disturbed eating in vulnerable individuals.

Other studies have demonstrated that immigrants may be even more at risk for eating disorder than their western counterparts in the host culture (Fichter et al., 1983; Mumford et al, 1991; Waller & Matoba, 1999; Furnham & Adam-Saib, 2001). Furnham and Alibhai (1983) found that Kenyan women in Britain favored thinner body shapes than Kenyan women in Kenya and

reacted more positively to thinner shapes than British women. The researchers argued that exposure to different, western ideals may result in an over-identification with western values of thinness and the adoption of more extreme ideals of thinness. Nasser (1986) found that 22% of Arab students in London scored positively on the EAT-40 which approached rates reported in high risk groups such as dance students (38%) and modeling students (34%), (Garner % Garfinkel, 1980). Moreover, 12% of the London group qualified for a diagnosis of bulimia nervosa, which was the highest rate of bulimia reported in Britain at the time. Nasser concluded that the London students may have become more competitive and achievement-orientated in reaction to their exposure to western culture and over-identified with western ideals of thinness; suggesting that factors encountered during the process of intercultural transition may be associated with an increased risk of eating disorder. Mumford and Whitehouse (1988) also found that Asian schoolgirls in Britain scored a higher percentage of positive EAT scores (15%) and a higher rate of bulimia (3.4%) than their British peers (12% positive EAT scores and 0.6% bulimia). Jackson et al (2006) found that female Korean immigrants to America scored significantly higher EAT26 scores than American-born, Korean-Americans but similar scores to native Koreans in Korea. The authors note that Korea has been undergoing rapid socio-economic changes since World War II, suggesting that high scores among immigrant and native Korean women may reflect common stressors encountered during rapid social transition.

These considerations suggest that exposure to western cultural ideals of thinness may not be sufficient to explain the development of eating disorders in migrant women, and that factors associated with inter-cultural contact and transition may be necessary to explain the risk of eating disorder in this group. Di Nicola (1990 b) introduced the concept of anorexia as 'culture-reactive' to explain the incidence of eating disorder in non-western women exposed to western influences. Under these circumstances, non-western immigrants may demonstrate an extreme reaction against their own culture, such that acculturation stress may be a key factor in triggering eating disorder in immigrants and other communities undergoing rapid socio-cultural transition (Di Nicola, 1990 b).

2.2.7 Acculturation Studies

Traditionally, research has attempted to demonstrate a relationship between individual levels of acculturation to western culture and the prevalence of eating disorder, using criteria and instruments designed to measure level of acculturation to western culture. Studies that demonstrate an association between assimilation of western culture and an increased incidence of eating disorders have also been used as evidence for the acculturation hypothesis.

A number of studies have found a correlation between level of acculturation to western culture and morbid concerns over weight and dysfunctional eating amongst immigrant and black populations in the United States of America (Abrams, Allen & Gray, 1993; Davis & Katzman, 1997; Chamorro & Florez-Oritz, 2000; Ball & Kenardy, 2002). Other studies have found no association between level of acculturation to western culture and dysfunctional eating attitudes or behaviors (Abrams, Allen & Gray, 1993; Furnham & Patel, 1994; Akan & Grilo, 1995; Joiner & Kashubeck, 1996; Abdollahi & Mann, 2001).

Synonomous with the belief that eating disorders are related to the acculturation of western norms is the belief that strong identification with culture of origin provides some protection from the effects of westernization. Some studies have supported this belief (Pumariega, 1986; Jane, Hunter & Lozzi, 1999; Humphrey and Ricciardelli, 2003). Other researchers have found that a strong identification with culture of origin may even be associated with an increase in eating disturbances, in particular settings (Lake et al., 2000; Tsai, Curbow & Heinberg, 2003). Meta-analysis of acculturation studies (Wildes, et al., 2001) demonstrated inconclusive findings with some studies indicating that acculturating individuals who identify with western culture demonstrate a higher prevalence of eating disorders; while other studies indicated that those who remain strongly identified with their culture of origin demonstrate a higher prevalence of eating disorders than those who identify with western culture.

Wildes et al., (2001) concluded that limited and discrepant research findings provide no support for a positive relationship between acculturation and eating pathology. Jackson, Keel & Lee (2006) also found that female Korean immigrants to America scored significantly higher on the EAT26 than second-generation Korean-American women and that EAT scores were unrelated to measures of western acculturation. These authors concluded that their results contradict the acculturation hypothesis and that any understanding of eating disorders needs to look beyond the influence of western acculturation to the stresses encountered during rapid socio-cultural transition. These authors also speculated that the increased levels of disordered eating found in Korean immigrants may reflect conflict between traditional Korean and Western values, thereby supporting the acculturative stress hypothesis. Lake et al (2000) found that Chinese-Australian immigrants who were highly identified with traditional Chinese culture were significantly more dissatisfied with their bodies than those who identified with western culture. The authors speculated that elevated body dissatisfaction found in traditional Chinese-born subjects may be due to a clash between western cultural expectations and a strong traditional orientation (culture clash). Tsai et al., (2003) speculated that traditional women may compare their physical appearance to western girls around them (the 'girl-next-door hypothesis') and feel invalidated and dissatisfied with their appearance if they are not similar.

These findings suggest that the acculturation of western ideals may be not be sufficient to account for the development of eating disorders in subjects exposed to western culture and that the stressors involved in the process of acculturation, particularly factors involved in the differences or the 'clash' between cultures in inter-culture contact, may be an important risk factor and may account for the apparent increased prevalence of eating disorders in westernizing populations. Di Nicola (1990 b) emphasized the importance of the process of acculturating to a new environment where different and conflicting socio-cultural influences may be a trigger for acculturative stress.

Traditionally, research on acculturation has, however, attempted to define and measure acculturation as a uni-dimensional continuum (Suarez-Orozco, 2001) which assumes that change is a unidirectional progression towards complete assimilation by the dominant culture and that the adoption of values and practices of the dominant culture will be accompanied by a corresponding loss of their original culture (Trimble 2003). In recent years, this model has been called 'uni-linear' because it describes only one type of acculturation, namely assimilation, (Flannery, Reise & Yu, 2001) and 'an individual is placed somewhere between a traditionalist pole to a fully acculturated position' (Trimble, 1989). Following this tradition, many studies assume that low ethnic identity is synonomous with high acculturation and visa versa; and no allowance is made for a bicultural option or that the process of acculturation may interact with other socio-cultural or psychological variables. These models also imply that what is occurring is an unquestioning 'absorption' of western values and images; although literature suggests that women are more complex and strategic, and may select portions of the dominant culture that fit their original worldview, whilst at the same time striving to maintain parts of their traditional culture (Trimble, 2003).

More contemporary views also argue that it cannot be assumed that complete assimilation will be the outcome, and challenge the unidirectional view of acculturation for forcing and an inverse relationship between two dimensions that they see as orthogonal (Flannery, Reise & Yu, 2001). Measures used to determine acculturation on a single, linear dimension are thus seen as inappropriate (Sue, 2003) and orthogonal models have eclipsed more linear understandings of the process of acculturation.

2.3 Dieting To Disorder

In order to account for the pathogenesis of eating disorders, the culture-specific approach needs to demonstrate that exposure to western culture is necessary and sufficient as a causal explanation for eating disorders. To do this, this approach needs to provide significant causative associations between specific western ideals of thinness; dieting behaviors as normative for western culture; and eating disorders as the extreme form of this culturally normative behavior.

Evidence for this approach has been drawn from sub-populations and occupations who place a greater focus on their body shape and weight such as jockeys, dancers and models and athletes and who have been found to demonstrate higher levels of body image disturbances, dieting, over-exercise, vomiting to control their weight, positive EAT scores (N=30% in models) and anorexia nervosa (N=7%), (Garner & Garfinkel, 1980). Imm and Pruitt (1991) found that high-frequency exercisers had greater body dissatisfaction than moderate exercisers and tended to pursue exercise even when feeling ill. Hsu (2005) questions whether the increased incidence amongst these subgroups is a result of characteristics of the profession or of the people attracted to these professions and argues that 'research needs to understand the genetic or epigenetic mechanisms that drive the individual to find fulfillment in starvation within that particular environment or subculture.'

A meta-analytic review (Groesz et al., 2002) found main effects that body satisfaction is significantly lower after viewing media images depicting 'thin images' and that the thinner the model, the greater the degree of body dissatisfaction, particularly in females under the age of 19 years. This may be mediated by stimulating social comparisons and using the body as a 'quick and concrete barometer by which to measure oneself and one's worth' (Rhodin et al., 1985). These findings are used to support the view that women use media images as a reference for evaluating their own body image and that these images are internalized and contribute towards body dissatisfaction, dieting and ultimately eating disorders (Stice et al., 1994).

Meta-analysis (Groesz et al., 2002) of research on the effects of media have, however, demonstrated little to no immediate effect of thin media images on body satisfaction and other studies have produced inconsistencies within a single study This meta-analysis suggested that the experimental effect may be seen most clearly in the activation rather than cultivation of a thinness schema. Hamilton & Waller, (1993) found that eating disordered women were affected by idealized body images but control women were not affected by the nature of the pictures; suggesting that while there may be an association between media images of thinness and eating disorders, it may be that women who already have disordered eating, are more vulnerable to these images of thinness than non-eating disordered women. Studies that have attempted to identify the media in creating the 'prevailing pressure to be thin' in western communities, have thus been inconclusive (Okasha, 2005) and the specific mechanisms that mediate between media images, dieting and eating disorder remain poorly understood. Becker's (2004) study also suggested the role of the media in eating disorders must be studied in tandem with the socioeconomic changes that configure the everyday lives and concerns of young people (Lee, 2004).

The association between prevalent dieting and eating pathology is also far from clear and is the subject of continuing debate (Nasser, 1997). The culture-specific approach argues that eating pathology lies on a continuum of severity with dieting at one end of the spectrum and the extreme forms of disorder at the other end (Nylander, 1971; Drewnowski, 2005). At the dieting end of the continuum, girls may simply score high on a screening test, while at the other they may qualify for a full-blown, life-threatening clinical anorexia or bulimia nervosa. In this spectrum, EDNOS would be the first stage of disease; suggesting an area of great importance from a public health and preventive perspective. Longitudinal studies (Drewnowski, 1988) suggest that incident cases of bulimia nervosa do arise largely from the EDNOS population. Conversely, that cases which no longer meet diagnostic criteria for full-blown disorder, may return to a diagnosis of EDNOS for a prolonged period. Dieting and disorder are thus seen to only differ in degree rather than kind; and disorder is seen as an extreme form of this normative

behavior (Nylander, 1971). Research has indeed found that dieting is prevalent in 50-80% of young women who see themselves as overweight and report exaggerated concern with their weight (Nylander, 1971) and that, within the course of one year, dieters among adolescent schoolgirls, have an eight-fold increased risk of developing an eating disorder than non-dieters (Patton 1990). Others have argued that clinical eating disorders are categorically distinct from sub-clinical syndromes (Wonderlich, 2005) such that anorexia and bulimia represent qualitatively distinct entities or taxons rather than the opposite poles of a single continuum (Wildes et al., 2001); which contrasts with the dimensional approach and requires an explanation for the appearance of pathological eating disorders in a population of apparently 'normal' dieters.

Schleimer (1983) found no direct causal link between dieting and anorexia which questions the basic premise of the continuum hypothesis. Schleimer conducted a 10 year prospective study and found that those girls who dieted and went on to develop anorexic behavior, had shown such behavior at an earlier age or signs of mental insufficiency. Patton et al., (1990) also questioned whether there is a cause and effect sequence between dieting and the development of eating disorders. These authors concluded that in the great majority of girls, dieting is essentially a benign practice without natural progression to eating disorder and yet the influences on dieting behavior (including weight and shape concerns) are the same in those with and without eating disorders; suggesting that factors other than media influence and dieting may be required to explain the progression from dieting to disorder.

Patton, Coffey and Sawyer (2003) argue that partial syndromes are also more common in adolescent females, but are usually brief and self-limiting. Subjects who progressed to eating disorder tended to report anxiety and depression. Graber, Tyrka and Brooks-Gunn, (2003) concluded that co-existing depression may link sub-clinical forms of eating disturbance along a continuum to disorder; suggesting that factors other than dieting may be required to account for the progression from dieting to disorder.

Botta (2000) demonstrated that black and white American girls watch similar amounts of television and similarly idealized female characters, compared their own bodies with these ideals and desired to be thin. Carney and Louw (2006) found that, while media exposure was associated with dysfunctional eating in South African college students, media exposure was only one of numerous factors that may predispose young women to pathological eating. They concluded that the interaction of many factors may be necessary to cause disorder. Cooper and Goodyear (1997) also found that while significant weight and shape concerns were present in 11-14 year-old, these concerns were only associated with significant, concurrent behavioral and ideational disturbance, similar to older bulimics, in 15-16 year olds. The authors suggest that longitudinal studies are needed to identify the etiology of these disturbances in this age group.

Halmi (2005) concluded that dieting seems to be a common risk factor across the centuries and that while dieting behavior may play a role in the pathogenesis of clinical disorder, only a small proportion of all dieters proceed to develop a disorder (Hsu, 2005). Dieting, may, therefore be seen as a mediating factor in the development of the full-syndrome eating disorders; but the question remains unresolved as to what determines the progression from dieting to extreme dieting or partial disorder, to a definite clinical case (Nasser, 1997). The culture-specific hypothesis may thus be insufficient to account for extreme individual variations in 'normative' dieting, and transition from dieting to disorder may require a multi-factorial explanation, as it is likely that only those who are vulnerable to these disorders will respond to normative demands with symptoms of clinical eating disorder (Halmi, 2005). Conversely, while the Generalist approach may account for eating disorder symptoms as the 'social coloring' of underlying, universal pathology, it does not provide sufficient account for the underlying causes of eating disorder in particular, or the occurrence of drive for thinness and eating disorder, outside of a westernized context. Eating disorders are now thus generally considered to have a multi-factorial origin, with genetic, biological, developmental, personality, family, environmental and socio-cultural factors predominating as risk factors and the interaction of several risk factors is believed necessary for the development of an eating disorder (Gowers & Shore, 2001)

2.3.1 Predisposing factors

Genetic heritability has been estimated as approximately 50% for both anorexia nervosa (Kaye, 1999) and bulimia nervosa (Kendlar, MacLean, Neale, et al., 1991). Other eating disorders, depression, substance abuse, anxiety disorders, particularly obsessive-compulsive disorder (Lilenfeld, Kaye, Greeno et al., 1998), personality disorders, particularly obsessive-compulsive personality traits such as perfectionism (Strober, 1995) are also frequently found in the family history of eating disordered individuals.

Pre-and-co-morbid presentation of these factors is also frequently associated with the diagnosis of eating disorder (Fichter & Pirke, 1995; Treasure, 2007). Suggested pre-morbid biological characteristics have included obesity (Striegel-Moore et al, 1995) disturbances of the leptin-melanocortinergic system (Hinney, Remschmidt & Hebebrand, 2000) and dysregulation of the serotonergic system, which is involved in the regulation of mood and appetite (Kaye, 1999). Personality traits such as perfectionism and obsessive-compulsiveness have also been suggested (Anderluh, Tchanturia, Rabe-Hesketh et al., 2003) where perfectionism may be associated with chronic dissatisfaction with body weight and shape (Slade, 1982), negative self-evaluation and low self-esteem; which have also been implicated in the development of eating disorders (Fairburn, Cooper, Doll, et al., 1999). Obsessive-compulsive traits may also be associated with rigidity, and inflexible thinking that is characteristic of anorexia nervosa (Goldner, Srkameswaran, Schroeder et al., 1999). Competitiveness and achievement-orientation have also been reported as pre-morbid risk factors (Garner & Garfinkel, 1980). Neuro-cognitive deficits such as cognitive inflexibility and over-attention to detail (Tchanturia, Anderluh, Morris, et al., 2004) have also been suggested as possible pre-morbid dysfunctions, and season of birth (Eagles et al., 2001), prenatal and obstetric complications have been implicated (Favero, Tenconi & Santonastaso, 2006). Alexithymia has also been suggested as a stable pre-morbid characteristic, and may be associated with difficulties differentiating the somatic and emotional aspects of emotion, concrete thinking, and a paucity of fantasy (Schmidt, Jiwany &Treasure, 1993b).

Earlier theories of etiology focused on the family as the microcosmic environment that may contribute towards the development and maintenance of an eating disorder. Family attitudes and beliefs around weight and dieting have been found to contribute towards risk of eating disorder, where over-concern with weight was more evident in the mothers of eating-disordered girls (Hill & Franklin, 1998). Vandereycken (1995) sees the characteristic family as having difficulty gaining the right balance between parental control and age-appropriate autonomy'. Over-protectiveness, rigidity, enmeshment, lack of conflict resolution (Minuchin, Baker & Rosman et al., 1978) and high-concern parenting (Shoebridge & Gowers, 2000) have also been associated with the development of eating disorders. Selvini-Pallazoli (1974) focused on marital disharmony and trans-generational coalitions and Szmukler, Eisler, Russell, et al., (1985) noted the lack of expressed emotion in families of anorexics. Other theorists have noted the association between eating disorders and insecure parental attachment, separation or loss of a parent through illness, death or divorce and sexual abuse (Eisler, 1995). Bruch (1973) argues that in many cultures food occupies a very special place in family and social interactions and has become associated with degree of parental nurturance, thereby promoting universal conflicts around food and food-refusal as a symbol of distress or medium of control within family relationships.

Adverse life events may also contribute towards the development of eating disorders. These events may contribute towards vulnerability for weight and shape consciousness or, less commonly, act as a trigger for the onset of disorder in vulnerable individuals (Gowers & Shore, 2001). Some studies have found higher than expected rates of past physical and sexual abuse in eating disordered individuals (Welch & Fairburn, 1996), while others have found that these rates are probably no higher than those in other psychiatric disorders (Palmer & Oppenheimer, 1992). Freud saw difficulties with sexuality as a core conflict in the development of anorexia, where dietary restriction and emaciation was seen as a symbolic attempt to rid the individual of sexual drives, while others have focused on the negative effects of early sexual abuse on the development of self-esteem (Tice, Hall, Beresford et al., 1989).

2.3.2 Precipitating Factors

Adolescence has been seen as a particularly vulnerable stage for the development of eating disorders (Gowers & Shore, 2001) as it is a time when a number of physical and psychosocial challenges converge. Hormonal changes herald a sudden pre-pubertal increase in orexins (Treasure & Holland, 1995) with consequent deposition of body and an average increase from 8% body-fat in childhood to 22% after puberty (Tanner, 1989); the onset of puberty and escalating sexuality. Adolescence is also associated with the development of independence, autonomy and self-identity (Erik Erikson, 1959); as well as increasing social demands for mature responsibilities. At the same time, the development of formal operations and abstract thought, allows the adolescent to reflect consciously on himself, often leading to morbid introspection, self-consciousness and self-criticism. Gowers and Shore (2001) suggest that these challenges may have a significant impact on confidence, self-esteem and sense of personal control and may lead to difficulties with individuation and the development of an independent ego-identity. Precocious puberty has been associated with elevated prevalence of eating disorders, where pubertal increases in body weight was associated with negative body image, body dissatisfaction and increased weight and eating-related concerns (Koff & Rierdan, 1993).

Negative life-events and trauma may also trigger a disorder in vulnerable individuals (Gowesr and Shore, 2001). Negative comments about weight (Hill & Pallin, 1998), racial teasing (Iyer & Haslam, 2003) and social comparison (Silber, 1986) have also been cited as precipitants for dieting. Some researchers argue that anorexics pursue dieting as an indirect way of coping with or expressing a wide range of problems or conflicts that they are unable to resolve directly (Katzman & Lee, 1997). Following Di Nicola (1990b), these findings suggest that conflicts and stresses involved in the process of intercultural contact and social transition may provide a relevant risk factor in the development of eating disorders in the rapidly transforming landscape of black South African women and that adolescents may be particularly vulnerable.

2.4 Contemporary Models of Acculturation

Contemporary constructs of acculturation have moved beyond a focus on the cultural domination of one nation by another and inter-cultural contact is seen to potentially generate change in either or both groups or may be reactive such that cultural change is rejected (Berry, 2003). Contemporary models have thus defined and measured acculturation as a multidimensional and bi-directional process that needs to be described in terms of two cultural orientations; namely an individual's relationship towards a new culture, whilst also allowing for a relationship towards their traditional or original culture (Berry, 2003; Ward, Bochner & Furnham, 2003)

2.4.1 Dimensionality and Directionality

Berry (1997, 2003) defined acculturation as a complex, multidimensional process that includes many levels of acculturative influence and potential change, including ecological, group and individual dimensions. This model also identifies acculturation as a continuous, interactive and bi-directional process between an established or traditional society and a 'new' socio-cultural environment or group, whereby aspects of both may be differentially selected and integrated by either group or the individual, at different stages of inter-group experience or phases of life. Acculturation refers to the process of adjusting to these changes, which is seen to lead to increased stress, known as acculturative stress and the greater the disparity between the 'new' and original society, the greater the potential for acculturative stress (Berry and Annis, 1974).

2.4.1.1 Ecological Dimension

Berry (1976, 2003) described the ecological dimension as those aspects of the physical and social environment that provide the setting for socio-cultural change and are seen to influence change at the level of the group, such as weather patterns, demographic distribution of the population and national political, social and economic institutions and policies. Ecological change such as

urbanization may, for example, be accompanied by the organization and stratification of society on the basis of role specialization and authority systems which are defined by a set of social expectations and govern individual interaction. Rural, extended families may thus be differentiated into nuclear family structures where the 'head' of the family is expected to be economically and socially independent of his relatives; and women may be required to play a more active role within the economic and authority systems of the family. This dimension may thus be especially important when considering the sweeping ecological changes that have occurred with modernization during the 20th century.

2.4.1.2 Group Dimension

The group dimension is described as those socio-cultural components which may be influenced by ecological components or contact with a different cultural group and which include different cultural, social, linguistic, technical and religious systems (Berry, 2003). Ecological changes such as industrialization and urbanization may, for example, be accompanied by different 'cultural syndromes' such as collectivism versus individualism, which may reflect differences in values such as loyalty towards the community or family versus individual goals; cooperation versus competition; authority and obedience versus autonomy and self-reliance; compliance versus assertion, responsibility versus achievement orientation; and nurturance and interdependency versus independence (Ward et al., 2003). These dimensions are also reflected in the norms of social interaction and the socialization of children.

Bochner (1994) equated the socio-cultural dimensions of collectivism and individualism with non-western versus western cultural patterns, suggesting that the group dimension may be important when considering intercultural contact between western and non-western cultural groups and the globalization of western values, ideals and practices; particularly the exposure by non-western cultural groups to western ideals of beauty and attractiveness, and its possible associations with eating disorder.

2.4.1.3 Individual Dimension

Berry (1997, 2003) distinguished between change that may occur at the level of the group and the level of the individual, who needs to cope with new sets of social expectations, attitudes, values and behaviors. The individual is seen to demonstrate variable degrees of participation in the general acculturation of the group. 'Not every individual enters into, participates in, or changes in the same way and there are vast differences in psychological acculturation even between individuals within the same acculturating arena '(Berry, 2003).

Graves (1967; cited by Berry, 2003) also distinguished between acculturation as a 'group phenomenon' and 'psychological acculturation' which refers to a change in the functioning of the individual who is in culture-contact. Berry (1997) noted that psychological acculturation refers to individual changes in identity, values and behaviors that may occur during contact with another culture. Other researchers have distinguished between behavioral acculturation as participation in the customs and habits of the culture, and value acculturation where the values of the culture are adopted (Mendoza, 1984; cited from Ward et al., 2003). An acculturating individual may also differentially integrate specific beliefs and practices. They may, for example, reject religious practices, assimilate dress customs and integrate food preferences or they may select traditional dress when at home but more contemporary dress when at work. Padilla (1986) proposed that acculturation may be seen as two dimensions: cultural awareness, where the individual demonstrates knowledge of particular cultural variations and ethnic loyalty, which refers to the individual's preference of cultural orientation.

Ward et al., (2003) have categorized individual responses into behavioral, affective and cognitive components, which have been associated with three contemporary approaches:

Drawing from Argyle's (1969; cited from Ward et al., 2003) work on social skills, the behavioral dimension highlights the importance of culture-learning in the development of socio-cultural adaptation and focuses on social skills such as language competency in predicting effective intercultural adaptation. Adaptation is, therefore, achieved by learning the culture-specific skills needed to manage everyday social encounters.

Drawing on research on stress and life-events (Lazarus & Folkman, 1984; Holmes & Rahe, 1967; cited by Ward et al., 2003), the affective dimension focuses on the emotional components of intercultural contact. This approach highlights the significance of cross-cultural transition as a series of life-changes that are intrinsically stressful and require appraisal, selection and coping strategies to deal with them. Successful adaptation is seen to be mediated by both individual and situational variables and the model identifies affective, psychological (or psychopathological) consequences of failing to adjust to the new culture (Ward et al., 2003).

Drawing from literature on self identity and theories of social cognition (Tajfel & Turner, 1986; cited by Ward et al., 2003), the cognitive dimension focuses on social cognition and changes in cultural identity during the process of acculturation. Phinney, Chavira and Williamson et al., (1992) noted that individuals in bi-cultural contact need to address two important questions. 'Who am I?' and 'How do members of my group relate to other groups? Following Phinney et al., (1992), these questions focus on two, interrelated levels; the first entails the recognition, categorization or definition of oneself as a member of an ethno-cultural group and the second focuses on inter-group relations, perceptions and attitudes.

In a review of research, Phinney (1990) outlined that ethnic identity may be seen as the ethnic component of social identity, which, following Tajfel and Turner (1986), refers to that aspect of an individual's self-concept that is derived from membership in a social group and the emotional significance attached to that membership. Phinney (1990) argues that ethnic identity refers to that aspect of acculturation which focuses on how the individual relates to their own group and

includes self-identification with a social group (or groups), along with a sense of acceptance and 'belongingness', pride and positive evaluation of one's group, and involvement in ethno-cultural values and traditions. Phinney (2003) also perceives ethnic identity as a core concept which directly links group membership to self-definition and self-esteem such that the effects of culture contact may be classified in terms of changes in the individual's identity when exposed to heterogeneous cultural influences. Phinney (1989) also reported a positive relationship between level of ethnic identity and psychological adjustment. Acculturation theory has thus focused on identity changes that occur in response to intercultural or interethnic contact and constructs of cultural identity and acculturation have been used interchangeably as if they are synonymous; such that one may be measured from the other (Ward et al., 2003).

2.4.1.4 Directionality

Contemporary models (Berry, 1997, 2003) describe acculturation as a bi-directional process which may result in changes in either or both groups and whereby the individual needs to negotiate between the 'old' and 'new' socio-cultural realities in terms of a relative balance between the two. Acculturating individuals must therefore negotiate between these two disparate realities and the tension between them is potentially stressful and may result in acculturative stress (Berry, 1997). Differentiation and integration are seen as the basic mechanisms involved in the process of acculturation (Berry, 1976) which requires the generation of novel behaviors. 'Acculturation thus basically entails learning to cope with a new cultural situation' (Sam & Oppedal, 2002) which may require the integration of discrepant or even mutually-opposing fields or scripts into a novel, yet compatible formulation. Directionality may thus be particularly important when considering the possible associations between socio-cultural transition and eating disorders, where women may be more at risk as they attempt to 'juggle conflicting demands and expectations of two different cultural worlds' (Katzman & Lee, 1997).

Escobar and Vega (2000) argued that conflict predictably occurs when two or more cultural groups come into direct contact with one another and experience change, and that it is how groups and individuals deal with this conflict that continues to be an important research question. These authors concluded that acculturation refers to both process and outcome as acculturation cannot be understood as a simple reaction to changes in the cultural context, but as an active dealing with these challenges. Acculturation has thus been defined as a major life-change event that is characterized by stress, demands cognitive appraisal of the situation and requires adaptive coping strategies. Acculturation is thus seen as a more complex process than the 'simple' transmission of western ideals and may be accompanied by stress that is deeply rooted within the process of acculturation itself (Berry, 1997).

Berry's (1997, 2003) bi-directional conceptualization of acculturation asserts that acculturation needs to be described in terms of two cultural orientations; namely an individual's relationship towards a new culture whilst, at the same time, allowing for a relationship towards their original culture. Berry (1997, 2003) described four different modes or strategies of acculturation available to individuals facing these acculturative challenges, namely: assimilation, when individuals reject their original cultural identity and identify with the new culture; separation, when individuals maintain their traditional cultural heritage and reject the new culture; marginalization, when individuals reject both groups or vacillate between the two cultures, feeling not entirely 'at home' in either; referred to as the 'marginal syndrome' (Park, 1928, cited in Ward et al., 2003); and integration, when the individual has positive attitudes towards both groups and seeks an integration of their own cultural heritage within the larger, super-ordinate, social framework.

Traditionally, integration has been associated with reduced levels of acculturative stress (Krishnan & Berry, 1992; Schmitz, 1992), and has been seen as the most psychologically adaptive outcome of bi-cultural acculturation. In contrast, marginalization has been associated with the most stressful outcome (Berry & Sam, 1996) and the most likely to result in chronically dysfunctional and deviant behaviors (Schmitz, 1992*).* Strategies of assimilation and separation

are seen to lie between these extremes and may be differentially stressful depending upon the context. Separation has also been positively associated with drug and alcohol addiction (Schmitz, 1992) and chronic stress (Berry & Kim, 1988).

At face value, the strategy of integration sounds like a very compatible solution. As Sam and Oppedal (2002) pointed out, however, there are no guidelines that discuss specifically what happens during this bi-cultural process, and how an adaptive outcome is achieved; particularly in children and adolescents who are growing up in bi-cultural environments with two very different or mutually exclusive cultural scripts. If the individual identifies with the new society, this may lead to a weakening or abandonment of ties with their culture of origin; however, if they resist adopting the practices of the new or dominant society, they risk marginalization. Adaptation requires the internalization of different cultural scripts that guide behavior under different cultural circumstances; and an important part of this includes learning when it is appropriate to switch between different scripts.

Rodriguez et al., (2002) also identify acculturation as a bi-directional process where the individual feels both a push towards acculturating to the 'new' culture and a 'pull' towards identification with their original ethnic group. These opposing pressures are conceptualized as pressures to assimilate to the new culture (Pressure to Acculturate) and to retain traditional orientation (Pressure against Acculturation) which are identified as potentially stressful (acculturative stress). Following Berry (1997), failure to integrate these opposing cultural expectations into an integrated or adaptive multicultural identity may result in chronic acculturative stress. Identification with two different cultures is, however, likely to be problematic for identity formation in ethnic group members where there is conflict between the attitudes, values and behaviors of the two groups (cited from Phinney, 1990). 'The issue is whether individuals must choose between two conflicting identities or can establish a bicultural ethnic identity, and if so, whether this is adaptive' (Phinney, 1990).

Sodowsky and Lai (1997) propose that of living with two sets of opposing cultural expectations leads to a sense of inefficacy, identity crisis, a personal sense of inferiority as a member of one's own cultural group, lack of ethnic ego differentiation due to feeling marginalized from both cultural groups and feelings of anger and guilt toward one or both cultural groups. Extreme bicultural conflict has also been associated with chronic acculturative stress which may be manifested by feelings of emotional turmoil and alienation (Sue & Sue, 1990) cultural marginality (Sodowsky, Kwan & Pannu, 1995), poor self-concept (Padilla et al., 1985), depression (Draguns, 1996; cited from Ward et al., 2003) and anxiety (Sue, 1996).

Keifer (1974; cited from Roysircar-Sodowsky & Maestas, 2000) identified three types of bi-cultural conflict experienced by Asian Americans. Cultural alienation: where disruption of familial cultural patterns is associated with a sense of personal discontinuity and poor self-image. Cultural confusion: where an individual is unable to identify with a definite norm within a context of multiple norms. Cultural conflict: where an individual's values are perceived to be incompatible with a given social situation. Kim (2000) also identified identity crisis that occurs in later-generations as 'a situation where an individual perceives certain aspects of themselves that are simultaneously rejected'. Sue and Sue (1990) call on the concept of the 'marginal person' to describe the predicament where the individual is 'living between the margin of two different cultural traditions' and suffers identity crisis.

Research has demonstrated inconsistent findings and even inconsistent data within the same study. Some studies suggest that identification with both referent cultures (integration) is associated with positive psychological outcomes such as self-esteem (Phinney, Chavira & Williamson, 1992) and less acculturative stress (Gil, Vega & Dimas, 1994). Ying (1995), however, found that while a bicultural orientation predicted better mental health than separation, separation predicted lower negative affect and higher life satisfaction than assimilation in the same study. Furnham and Li (1993) found that greater use of English and involvement in British society was associated with greater symptoms of frustration, inadequacy and depression amongst

second-generation Chinese immigrants in Britain; while first-generation subjects who were more separated from British society, experienced greater psychological symptoms. Mena, Padilla and Maldonado (1987) demonstrated a strong inverse relationship between stress levels and ethnic loyalty, endorsing the view that links to one's ethnic community may be crucial for mental health. Ward and Kennedy (1994) also found that immigrant identification with host culture was associated with enhanced psychological adjustment, when identification with culture of origin was strong, but with decrements in psychological wellbeing when identification with co-nationals was weak; supporting suggestions that continued identification with culture of origin may act as a protective buffer against negative effects of identifying with a new culture. Phinney (1989) also found a positive relationship between level of ethnic identity and psychological adjustment, specifically measures of ego identity, sense of mastery, social and peer relations in minority groups in the United States of America. Phinney (1990) argued that the relationship between ethnic identity and self-esteem may be moderated by the emotional salience of group membership for the individual and where the individual consciously perceives ethnicity or culture as a salient feature of his identity. Research has suggested that both cognitive and affective components of identity are more strongly aroused in minority groups when under perceived threat and they may experience a stronger need for in-group identification than members of a privileged majority. Rotheram-Borus (1993; cited from Ward et al., 2003) found, for example that almost half of the minority students attending an integrated school in New York identified themselves as bi-cultural; while over 70% of minority students in a less ethnically balanced school, exhibited racial tension and identified themselves with their heritage group.

A meta-analytic study (Rogler, Cortez & Malgady, 1991) found an equal number of studies that support a positive and negative relationship between identification with the 'new' culture and mental health. Sayegh and Lasry (1993) concluded that acculturation styles had no effect on indices of acculturative stress, although individuals who adopted the strategy of assimilation reported less discrimination than those in the ethnocentric and integration groups.

Oh, Koeske and Sales (2002) found that while level of acculturation (language use and social association) was related to lower levels of acculturative stress amongst Korean immigrants to the United States of America, those reporting abandonment of original ethnic identity, traditions and values (cultural identity) scored higher on depression. The authors concluded that attempts to operate in two different cultures, carries the risk of increased stress and depression.

Ward and Rana-Deuba (1999) also found that level of acculturation is differentially related to the psychological and socio-cultural aspects of adaptation such that strong identification with culture of origin was associated with significantly lower psychological distress while strong association with the host culture was linked to fewer social difficulties. Sojourners who adopted a strategy of integration, experienced significantly less psychological distress than others, while those who preferred assimilation reported less social difficulty. Assimilation was predictive of psychological stress, separation was predictive of psychosomatic stress; and integration was predictive of overall stress.

Rudmin (2003) criticizes the validity of the constructs of integration and marginalization and concludes that there is no robust evidence that biculturalism is most adaptive. Indeed, it appears that theoretical understanding of bicultural acculturation is still evolving and demonstrates confusion regarding exactly what the most adaptive outcome may be or exactly how the individual may achieve this.

Flannery, Reise and Yu (2001) introduce tri-directional model that argues that bidirectional change in both groups may result of in the development of a new culture with its own distinctive identity. This process of ethno-genesis introduces a third cultural dimension which is seen to be particularly pertinent in third-generation immigrants; while unidirectional and bidirectional models may be more appropriate for first generation and second generations.

2.4.2 Stages of Acculturation

Berry and Kim (1988) also argue that individuals that are exposed to another, usually dominant culture pass through predictable stages of acculturation. Early stages require relatively little adjustment while later stages may be accompanied by uncertainty and anxiety. In the phase of conflict, the individual is confronted with discrepancies between the demands of their own traditional system and those of the new culture and feels unable to find an effective resolution. During the stage of crisis the individual tests different acculturative strategies in order to find an adequate coping strategy. These latter stages have a high degree of uncertainty and are highly stressful. Once an adaptive strategy is found, this stress is reduced. If an adaptive strategy is not found; acculturative stress may become chronic (Berry & Kim, 1988).

Helms (1990), argues that black-Americans are influenced by competing Afro-American and 'white' American ethno-cultural groups and that during the process of racial identification, they pass through a series of stages: Pre-encounter, where 'white'-American is idealized and they reject their own race. Encounter, where the individual encounters lack of acceptance in the 'white' world and struggles to find a new identity. Immersion/Emersion, where the individual rejects the 'white' world and immerses himself into the Black world view and Internalization, where the individual acknowledges himself as primarily Black but uses both groups to shape a perspective that best fits his life circumstances. Thompson, Anders0n and Bakeman (2000) found that racial identity may play a mediational role between racial socialization and acculturative stress and that both immersion and internalization predicted acculturative stress.

Phinney (1990) noted that 'it is how conflicts between two distinct cultures are accommodated by the individual that is part of the process of ethnic identity formation' and it is the psychological consequences of this process that determines the individual's ultimate psychological adjustment within a multicultural society.

2.4.3 Acculturative Stress and Psychopathology

Recognition that acculturation may be stressful can be traced back to reports of transient psychotic reactions that were identified in the period of industrialization and mass-urbanization that took place in 19th century Europe (Jilek, 2001); and were described as 'folie hysterique' in Paris (Morel, 1860; cited from Jilek, 2001) and 'amentia transitonia' in Vienna (Meynert 1889; cited from Jilek, 2001). The term 'emotional psychosis' was also used to describe transient psychotic reactions experienced by rural Italian migrants under acculturation pressure in Swiss cities (Jilek, 2001).

An association between migration and mental health was identified early in the 20th century (Chun, Organista & Marin, 2003) and by the mid 1970's, research held an implicit assumption that migration was inextricably linked with an increased risk of developing a wide range of physical and mental pathologies (Chun et al., 2003). In early years, this increased psychiatric morbidity in migrants was attributed to the belief that people who were dysfunctional were more likely to emigrate. The idea that it might be migration that is stressful was first introduced in the literature by Park (1928; cited from Berry, 1997) and Stonequist (1937; cited from Ward et al., 2003) whose illustration of the 'Marginal Man' was an attempt to comprehend the social and psychological conditions of persons caught between two cultural systems; being 'poised in psychological uncertainty between two worlds' (Berry, 1976). The term 'culture shock' was also coined by Oberg (1960; cited from Ward et al., 2003) to describe emotional reactions associated with intercultural contact. Eisler (2001) notes that, for many, society in transition may be compared to the 'culture shock' experienced during migration, only, instead of moving from one culture to another, they have the experience of the culture migrating around them. Social marginalization incurred during imposed westernization has indeed been associated with alcohol abuse and juvenile suicide in many of the aboriginal First Nations of North America (Jilek, 1974 cited from Jilek, 2001) and in some regions of South Pacific (Jilek, 1987; cited from Jilek, 2001). Cases of transient psychoses in Africans have also been attributed to stress associated with the

process of acculturation and marginalization due to rapid socio-cultural change in Africa (Jilek & Jilek-Aall, 1970: cited from Jilek, 2001). Jilek (2001) also identifies 'anomie depression' among indigenous peoples of North America encountering westernization. Nigerian students have also been found to suffer psychosomatic symptoms of stress or 'brain fag' when exposed to western educational systems which are different from traditional African ways of acquiring knowledge (Prince, 1985).

By 1987, Berry and his colleagues had defined acculturative stress as 'a reduction in the health status of individuals that may include physical, psychological and social symptoms that occurs when an individual's adaptive resources are insufficient to support an adjustment to a new cultural environment (Berry & Annis, 1974, Berry, 1997). To qualify as acculturative stress, these symptoms needed to be related in a systematic way to known features or changes involved in the acculturation process (Berry, Kim, Minde & Mok, 1987). These authors noted that this stress tends to manifest as a particular set of stress responses such as anxiety, confusion, depression, feelings of marginality and alienation, psychosomatic symptoms and identity confusion; which may be identified as acculturative stress. Schmitz (1992) proposed that acculturative stress may also manifest as feelings of distress, homesickness, depressive reactions, psychosomatic complaints and vulnerability to disease, psychological maladjustment and psychopathic behavior, including aggressiveness, norm violence, drug, and alcohol abuse. Acculturative stress has also been empirically associated with general distress (Neff & Hoppe, 1993), depression and suicidal ideation (Hovey & King, 1996), substance and alcohol abuse (Zimmerman & Sodowsky, 1993), wife assault (Jasinski, 1998) delinquent and criminal activity (Vega, Gil, Warheit, et al., 1993, cited from Ward et al., 2003) and symptoms of eating disorder (Perez et al., 2002).

Berry and Annis (1974) argued that mental health problems are not inevitable and depend upon a variety of group and individual moderating factors or variables which enter into the acculturation process. By the late 1980's, theoretical focus thus shifted away from the prevailing clinical model, with its view of 'culture shock' as a medical problem (Ward et al., 2003) and

contemporary theory focuses on acculturative stress as a potentially adaptive ongoing, dynamic process rather than a static association between migration and pathology; which has allowed for the investigation of acculturation in a wider range of circumstances, including sedentary and indigenous communities (Ward et al., 2003). Contemporary approaches have continued to regard intercultural contact as a stressful life-event and to describe the adverse psychological consequences of failing to adjust (Ward et al., 2003); but discuss intercultural contact in terms of coping with stress, which is seen to be mediated and moderated by characteristics of the individual and the situation. Contemporary approaches thus propose a bidirectional model of acculturation (Ward et al., 2003; Berry, 2003) where pressures emanate from both culture of origin and culture of settlement and successful adaptation is seen as dependent upon a number of situational and individual variables (Figure 1).

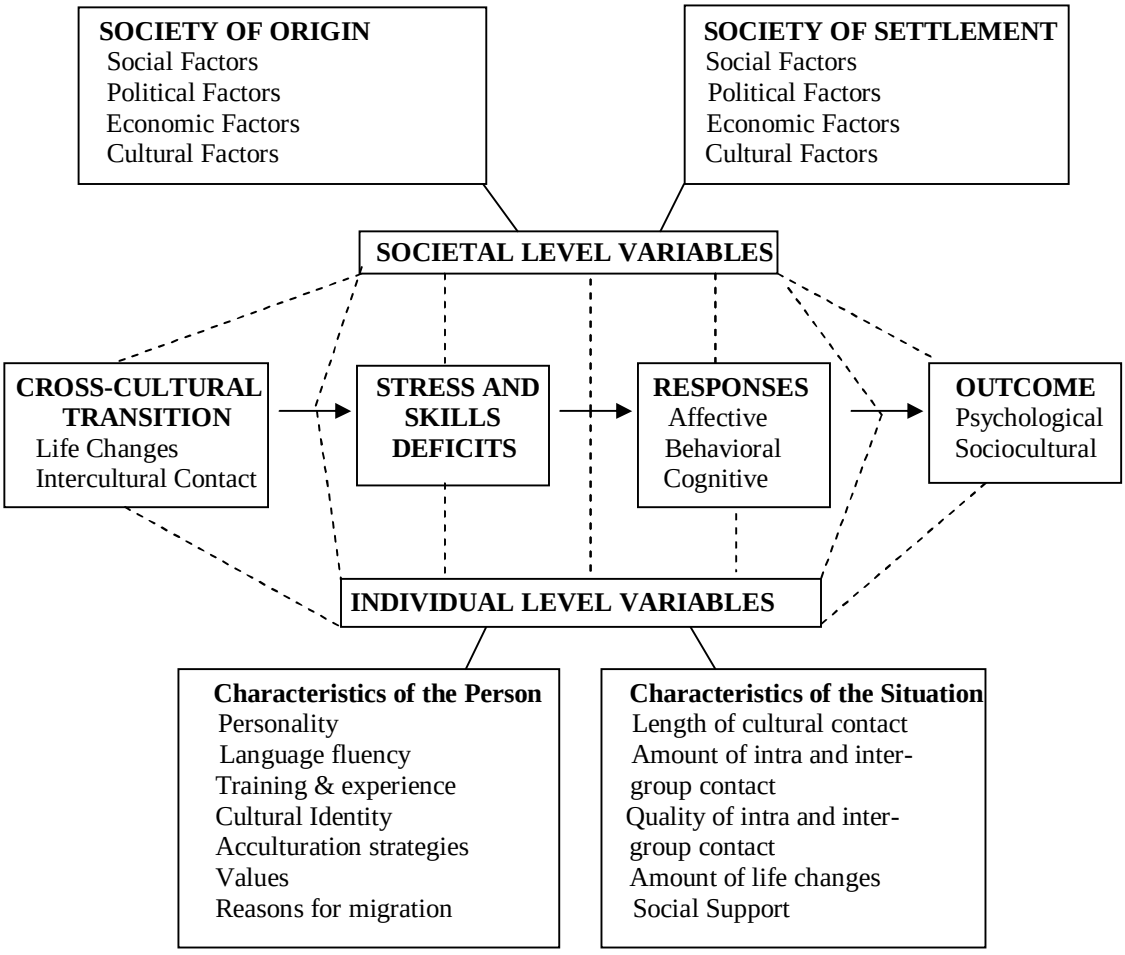

Figure 1: Model of Acculturation and Stress (Ward et al., 2003),

2.4.3.1 The Type of Acculturating Group

Berry (1997) argued that acculturating groups vary in terms of their degree of voluntariness, mobility and permanence such that while some have voluntarily migrated, others such as indigenous people have had the new culture involuntarily imposed upon them. In a comparative study of acculturative stress, Berry et al., (1987) found that 'native' (indigenous) peoples scored the highest levels of acculturative stress, followed by refugees, sojourners and then voluntary immigrants; supporting the prediction that individuals who are involuntarily exposed to cultural change suffer more acculturative stress than those doing so voluntarily and that indigenous or 'native' populations encountering enforced westernization may experience the highest levels of acculturative stress. These findings also suggest that acculturative stress, as experienced by indigenous non-western populations encountering westernization, may not necessarily follow the patterns identified in most research which has been conducted in minority immigrant populations. Theoretical expectations based upon immigrant samples thus needs to be extrapolated with caution to the majority black population in South Africa; where westernization has been imposed on a predominantly non-western, indigenous, majority population.

The few research samples of indigenous people have demonstrated a negative association between stress and level of education, wage employment, ownership of western goods, English literacy and media use (Berry, Wintrob & Sindell et al., 1982). Prior intercultural experiences, participation in the larger society and having lived in an urban (usually multicultural) as opposed to a rural setting (usually uni-cultural), have also been found to be predictive of lower levels of stress (Berry, 1976). Berry and Kim (1988) contend that pre-acculturation contact and experience may provide information about the 'other' which may lead to a sense of 'know thy enemy' and control. These findings suggest that high levels of acculturative stress may be experienced by black South Africans, who, until the dissolution of apartheid, were largely kept apart from contact with white, western South Africans by segregationist national policies and were relatively excluded from western economic and educational opportunities.

2.4.3.2 The Nature of Inter-group Contact

Berry (2003) argues that the process and outcome of acculturation may be influenced by national policies which may influence the quality of inter-group contact, including: Melting Pot (voluntary assimilation; Pressure Cooker (forced assimilation), Segregation or Ethnocide. Segregation refers to the deliberate exclusion of certain groups from mainstream positions, institutions and territories by discriminatory policies or social norms; or where a group seeks to separate themselves into distinct states, reserves, cultural enclaves or special institutions. Multiculturalism refers to the policy where cultural diversity is accepted and respected by the larger society (Berry, 2003) and may be associated with less stress than Assimilationist societies, where there are pressures to conform to a single cultural standard (Murphy, 1977). The most notorious example of Segregation in modern times has been the policy of apartheid which existed in South Africa in the fifty years prior to democracy in 1994. During this time, a white, western colonial power dominated the black African indigenous majority with a Segregationist policy which ensured that different races and cultures were kept apart in almost every aspect of human interaction. Following Berry (2003), this policy may influence the process and outcome of acculturation in post-apartheid South Africa where, although the black majority power has adopted a policy of Multiculturalism, many relics of apartheid appear to remain.

Triandis et al., (1986) found that the more power the immigrant group has in its new setting, the less the new group will assimilate to the norms of the larger or new group. Relative status and power or numerical balance (majority-minority) of the acculturating groups may therefore also moderate the experience of acculturation and acculturative stress (Ward et al., 2003; Padilla & Perez, 2003). Sheer numbers of people in the group of origin (Berry, 2003), vitality (Phinney, 2003) and demographic density (Berry & Annis, 1974) of the ethnic community may also increase the preference for cultural maintenance. Following these authors, majority black South Africans may not choose to assimilate 'white' minority western culture in post-apartheid South Africa and may prefer to maintain their traditional cultural heritage.

Studies have consistently demonstrated that the greater cultural difference/dissimilarity between groups, the more difficult the adaptation (Berry, 1997). Ward et al., (2003) note that distinguishing physical characteristics of the participant cultures may also moderate acculturative stress, whereby the greater the physical differences between participants, the more difficulties they will experience (Furnham & Bochner, 1982; Berry, 1980). Nguyen, Messe & Stollak (1999) found that high levels of psychological distress amongst traditional Vietnamese youth living in a predominantly white American environment. Chataway and Berry (1989; cited from Ward et al., 2003) also found that Chinese students in an English-speaking Canadian university reported more anxiety than French-speaking Canadian-born groups. These findings support suggestions that the greater the differences between groups, the greater the degree of acculturative stress and suggest that higher levels of acculturative stress may be experienced by a black minority group in a 'white' majority South African setting.

2.4.3.3 Duration of Acculturation

Berry and Kim (1988) argue that early phases of acculturation (pre-contact and initial contact) may require relatively little adjustment while later phases may be accompanied by uncertainty and anxiety before a suitable adjustment is established. Schmitz (1994) demonstrated that acculturative stress was positively correlated with the stages of conflict and crisis. Persistent acculturative stress has also been found to be the strongest predictor of poor long-term mental health (Nicholson, 1997; Organista et al., 2003).

Rodriguez et al., (2002) argue that acculturation is an ongoing process and that while recent immigrants may experience greater pressures to assimilate to the new culture (Pressures to Acculturate), later generations may experience more pressures to maintain their culture of origin (Pressures against Acculturation) as they become more distanced from their traditional cultural heritage. These authors found that Pressure to Acculturate was significantly associated with

psychological distress but, contrary to expectation, was not correlated with any age, duration of stay, generation, or level of acculturation; suggesting that regardless of level of acculturation, these immigrant subjects continued to perceive that their cultural values conflicted with those of mainstream American culture and continued to experience Pressures to Acculturate and acculturative stress. Pressure against Acculturation was perceived to be most stressful by later generations and by individuals who were less competent in the traditional language and identified more strongly with Anglo-American culture. Pressure to Acculturate was also significantly associated with Pressure against Acculturation, and, according to these authors, was 'most likely due to the continued push-pull effect' between these two opposing pressures, emanating from two disparate cultures. This may persist even into second generation immigrants where children may be exposed to the new culture at school, but may live in a traditional family setting at home, where customs, values, roles, food, child-rearing and disciplinary practices completely conflict with traditions and practices of the host culture. This may lead conflicts between the first and second generation immigrants. Padilla, Alvarez, and Lindholm (1986) found that second generation subjects experienced significantly more stress than later generations; with third and later generations experienced the least stress.

Padilla and Perez (2003) note that while social awareness of the culture of origin may decline with generation, ethnic loyalty, which depends on self-ascribed ethnicity, may remain consistently high from the first to the fourth generation. Atkinson, Morten and Sue (1983: cited from Ward et al., 2003) describe a pattern that typically develops over successive generations. The first generation is often separatist, retaining a strong sense of identity with heritage culture, the second generation more often assimilate with the host culture, and the third generation often emerges with a renewed interest in and identification with, ethnic customs, values and practices. South Africa is in its first generation of racial integration, suggesting that most black South Africans may maintain identification with their ethnic group and adopt a separatist position.

Ward et al., (2003) distinguish between socio-cultural (social competency such as language skill), and psychological levels of adaptation. The former is seen to follow a learning curve that improves rapidly in the earliest stages of acculturation, reaches a plateau, then stabilizes; (Ward & Kennedy, 1996b). In contrast, psychological distress tends to fluctuate over time with a tendency to peak in the earliest stages of transition (Ward & Kennedy, 1992). Padilla and Perez (2003) also argue that social competence may precede changes in social identification. These findings suggest that Pressures to Acculturate may be not be associated with duration of intercultural experience in black South Africans while Pressures against Acculturation may be associated with increasing duration of intercultural contact and westernization. Socio-cultural adaptation such as language competency may also precede psychological adaptation.

2.4.3.4 Characteristics of the Acculturating Individual

Younger migrants have been found to be more malleable than older ones and tend to suffer less acculturative stress (Rogler et al., 1991; Marin, Sabogal & Vanoss et al., 1987; Rodriguez et al., 2002) than those who emigrated after 14 years (Padilla et al., 1986); and adolescent migrants are known to be particularly at risk (Sam & Berry, 1995). Adolescents tend to experiment with their identities and may be simultaneously influenced by peer pressure (Pressure to Acculturate) and familial conflict (Pressure against Acculturation) over changing attitudes and behaviors. Conflicts between the demands of parents and peers may be maximal at this period and transition from childhood to adulthood may be compounded by cultural transitions (Berry, 1997).

Developmental issues of identity also come to the fore at adolescence and may be complicated by issues of ethnic identity (Phinney, 1989). Phinney (1990) outlined a number of stages in the development of ethnic identity, namely the initial stage of ‘diffusion’ where ethnicity is not seen as a salient issue and has not been adequately explored; the stage of ‘awareness’, which occurs as a result of experiences which force the individual to examine issues of ethnicity and identity; and the stage of ‘acceptance and internalization’ with the achievement of a clear sense of ethnic

identity. There is evidence to suggest that these stages may proceed in an age-related pattern where a greater proportion of pupils in grade 10 (adolescents 15 -17 years) are actively engaged in an identity search than adolescents in grade 8 (13 -15 year-olds) and that a coherent sense of ethnic identity is more frequently internalized by older adolescents than by high school students (Phinney, 1989 & 1990). Cross cultural transitions made in later life present different challenges. A strong sense of identity with heritage culture may be well established and resistant to change. Separatist strategies adopted by parents may also significantly influence attitudes towards change in their offspring and thereby influence adolescent ethnic identity and acculturation patterns (Sam, 1995). Women also tend to report greater acculturative stress than men (Ghaffarian, 1987) and retain a stronger sense of identity with culture of origin (Liebkind, 1996). These findings suggest that black South African female adolescents may be most at risk for intergenerational conflict and the development of identity confusion and acculturative stress.

Family dysfunction, ineffective social support and low self-esteem also been associated with acculturative stress (Hovey, 2000) while family closeness and support may provide a buffer against acculturative stressors (Rogler et al., 1991); suggesting that black South African adolescents may be most at risk when traditionally supportive and protective family structures have been eroded. Lazarus and Folkman (1984) contend that a life change is only a stressor if it is interpreted as such by the individual experiencing it. Individual differences in appraisal of these experiences may thus be influenced by differences in personality and cognitive processing. Following Berry (1997, 2003), acculturation requires the ability to successfully integrate disparate cultural orientations, suggesting that various cognitive and personality dimensions may moderate the level of acculturative stress (Schmitz, 1992). Field-dependent cognitive styles and an external locus of control (Berry et al., 1987) have been shown to mediate more stressful reactions to situations. Neuro-cognitive rigidity may also promote dichotomous thinking and difficulty with the cognitive integration of conflicting ideas ((Tchanturia et al., 2004; Katzman et al., 2004), suggesting that South African adolescents who are unable to integrate opposing cultural scripts may be most at risk.

2.4.4 Measurement of Acculturative Stress

The construct of acculturative stress is still in a process of evolution. Many conceptualizations of acculturative stress have thus been proposed and acculturative stress has been operationalized in terms of a wide range of measures including, specific stressors and difficulties associated with the process of acculturation; the potentially stressful reactions to these stressors; and mode of acculturation. Research on acculturative stress has thus been confounded by lack of methodological uniformity in directly assessing acculturative stress (Rodriguez et al., 2002).

2.4.4.1 Stressors associated with the Acculturation Process

'Difficulties and stressors arising as part of the process of adaptation and acculturation to a new culture constitute the construct of acculturative stress' (Joiner & Walker, 2002). Following this conceptual focus, most of these measures have focused on the process of migration and have thus included a wide variety of different stressors pertinent to migrants, ranging from separation from family, unemployment and lack of housing to minority status as likely sources of acculturative stress (Rodriguez et al., 2002).

The Social, Attitudinal, Familial and Environmental Acculturative Stress Scale (SAFE: Padilla, Wagatsuma & Lindholm, 1985) is an example of this type of measure. Joiner and Walker (2002) found that acculturative stress (as measured by the SAFE-24) was significantly related to depressive and anxiety symptoms and after controlling for general life stress. The authors concluded that there is something distinctive about acculturative stress that may be distinguished from general life stressors'; thereby supporting the validity of the construct of acculturative stress and the SAFE-24 as a measure of this construct. Rodriguez et al., (2002) argue that scales such as the SAFE have confounded the measurement of acculturative stress by incorporating stressors such as minority status; which, they believe, represents another form of life stress particular to migrants that is not necessarily part of the acculturation process. These

considerations suggest that there is an urgent need for measures of acculturative stress that identify stressors and patterns of acculturation in other types of acculturating groups. The Multidimensional Acculturative stress Inventory (MASI: Rodriguez et al., 2002) focuses directly on acculturative pressures rather than general life stressors or stressors specific to migrants suggesting, that the MASI may be more appropriately used in other types of acculturating groups. Rodriguez et al., (2002) also argue that measures such as the SAFE-24 ask whether the subject has experienced these social stressors, but do not assess subjective distress regarding these circumstances. The MASI provides a scoring system that distinguishes between the experience of a stressor and whether this was indeed perceived as stressful by the respondent.

2.4.4.2 Stressful Reactions to the Process of Acculturation

The notion of stress adopted by Berry et al., (1987) may be traced to the original work of Hans Selye (1936; cited in Berry, 1976) who argued that the General Adaptation Syndrome is a common reaction to stressors in the environment and may be clearly exhibited in psychological and psychosomatic symptoms (Berry, 1976). Following this conceptual focus, acculturative stress has been operationalized and measured using scales that assess general stress such as the General Health Questionnaire (Goldberg, 1992), psychological and psychosomatic symptoms, anxiety, depression, general clinical psychopathology, psychopathic behavior or other personality deviations; and many different, dysfunctional or deviant behaviors have been seen as indicators of acculturative stress. To date there is thus no uniform conceptualization of exactly what these stressful reactions to acculturation include.

Joiner and Walker (2002) argue that studies which measure acculturative stress in terms of general psychological and somatic stress, fail to distinguish between stress that may be due to the acculturative process and general life stressors such as job-related problems and marital conflict. The Multidimensional Acculturative Stress Inventory (MASI; Rodriguez et al., 2002), focuses on

stressors that may be seen as particular to acculturating individuals, such as Pressure to Acculturate from the new culture and Pressures against Acculturation from the culture of origin. The respondent is also asked whether the particular stressor has been experienced and is then asked to rate this experience in terms of levels of subjective stress; thereby providing a measure of subjective stress that is more particular to acculturation than indices of general psychological and psychosomatic stress.

2.4.4.3 Measures of Acculturation

Landrine and Klonoff (1996) demonstrated that only acculturation accounted for a statistically significant amount of the variance in psychiatric symptoms among African-Americans and Dona and Berry (1995) found that mode of acculturation was the best predictor of psychological and somatic stress in Central American refugees. Following research findings such as these, different levels or strategies of acculturation are believed to be predictive of acculturative stress such that measures of acculturation are seen as relevant correlates of psychological adjustment (Sands & Berry, 1993).

Rodriguez et al., (2002) note that using acculturation as a measure, infers the presence of acculturative stress from a 'theoretical pathway' that is presumed to connect level of acculturation and psychological adjustment variables (Rodriguez et al., 2002). Measures which use traditional models of acculturation also assume that 'level of acculturative stress decreases as level of acculturation increases' (Rodriguez et al., 2002) which assumes that movement towards the dominant culture represents adaptation and mental health; while movement towards culture of origin is related to pathology. Organista et al., (2003) suggest that reliance on a 'simple' model of acculturative stress that equates increasing acculturation with increasing mental health is an example of the conceptual difficulties which have slowed progress towards an understanding of acculturation and mental health.

Rodriguez et al., (2002) suggest that, as measures of acculturation have evolved, from uni-dimensional and unidirectional indices to complex multidimensional and bidirectional measures, measures of acculturative stress need to follow this progression by incorporating bidirectional axes that represent both 'original' and 'new' cultures. The Multidimensional Acculturative Stress Inventory (MASI: Rodriguez et al., 2002) identifies two different dimensions which represent pressures emanating from both home (original) and host (new) cultures as simultaneous and continuous acculturative pressures towards and against acculturation; suggesting that this instrument may provide a more comprehensive construct of acculturative stress than earlier acculturation models.

The MASI (Rodriguez et al., 2002) also provides a bi-directional structure of acculturative pressures which may accommodate different levels of acculturation and different types of acculturating groups; where the 'new' reality may conflict with the 'old'. This structure could thus be infused with items particular to the context whether it is opposing 'home' and 'host' cultures, traditional versus modern expectations; rural versus urban expectations, or western versus non-western cultures.

2.4.5 Acculturative Stress and Eating Disorders

Stress encountered during the process of socio-cultural transition has been suggested as a risk factor in the development of eating disorders in non-western population groups, particularly those encountering rapid socio-cultural transition (Nasser & Di Nicola, 2001) that occurs in trans-cultural migration (Perez et al., 2002; Davis and Katzman, 1997) and in rapidly westernizing or modernizing populations (Rathner et al., 1995; Ruggiero et al., 2000).

Unfortunately, most studies have focused on developing an association between level of assimilation to western ideals of thinness and the development of eating disorders (acculturation hypothesis) and there are few studies which have attempted to systematically clarify any association between acculturative stress and eating disorder. Those studies which do indicate the presence of acculturative stress, have generally been retrospective and speculative, particularly to explain unexpected findings where eating disorders were not associated with the assimilation of western ideals of thinness.

Those studies that have indicated an association between acculturative stress and eating disorder have also used a variety of indices of acculturative stress, including level and mode of acculturation (Lake et al., 2000), general psychological distress (Furukawa, 1994); subscales measuring more general pathology on a screening test for eating disorder (Davis & Katzman, 1999) and the presence of intergenerational conflict (Mumford et al., 1991); and to date, the author is aware of only one study which has systematically set out to explore the relationship between eating disorders and acculturative stress, using a specific measure of acculturative stress (Perez et al., 2002).

Perez et al., (2002) explored the relationship between acculturative stress, as measured by the Societal, Attitudinal, Familial, and Environmental Acculturative Stress Scale (SAFE; Padilla et al., 1985), body image (using the Body Image Scale; Stunkard & Messick, 1983), and body dissatisfaction and bulimic symptoms (using scales on the Eating Disorders Inventory: EDI, Garner et al., 1983) in black, white and Hispanic-American female university students.

Results of this study demonstrated a significant interaction between acculturative stress and body dissatisfaction in predicting bulimic symptoms in black minority subjects. A similar interaction was demonstrated between body image perception and acculturative stress in predicting bulimic symptoms. Those who were high in acculturative stress demonstrated significant correlations between body dissatisfaction and bulimic symptoms, where increasing body dissatisfaction was associated with increasing bulimic symptoms; while those who were low in acculturative stress, did not demonstrate a significant correlation between these variables. Perez et al., (2002) concluded that body dissatisfaction and bulimic symptoms may be moderated by acculturative stress. These authors argue that the finding that body dissatisfaction and bulimic symptoms are uncorrelated in a group of women is in itself, important as it suggests that the lack of acculturative stress may buffer them against bulimic symptoms even in the presence of body dissatisfaction. Minority women also reported higher levels of acculturative stress than white women, and the authors concluded that acculturative stress may mediate the development of eating disorders in minority women in westernizing populations.

Unfortunately, the SAFE focuses on the acculturative pressures faced by migrants as they attempt to integrate into a new, dominant culture and the research was conducted in a minority, immigrant sample. Findings may thus not reflect the experiences of other types of acculturating groups, such as majority, indigenous populations undergoing periods of modernization or encountering contact with western cultural influences.

2.4.5.1 The Two-world Hypothesis

Feminist writers have increasingly attempted to understand the increased prevalence of eating disorder that appears to occur at times of personal and social transition, including adolescence, industrialization, gender role transition, culture clash and generational disparity. The two-world hypothesis proposes that eating disorder may represent an attempt by women to cope with 'juggling' two sets of conflicting socio-cultural realities and role expectations that occurs in any period of socio-cultural transition (Katzman & Lee, 1997).

Katzman and Lee (1997) argue that when women change social class, context, class, countries or gender boundaries, they encounter feelings of dislocation and disconnection from familiar reference groups, and may use symptoms of eating disorder to cope with these feelings. These authors continue to argue that when women are confronted with pressures to conform to conflicting ideals, they may also feel oppression and powerlessness and may employ self-starvation as an instrument to achieve autonomy, self-determination and control. Eating disorder symptoms are thus seen to provide a form of protest through conformity; and popular ideals of thinness are seen to sanction self-starvation and become the social 'coloring' of distress, rather than the cause (Russell & Treasure, 1989).

Unfortunately, to date, there are no research studies which have attempted to systematically measure an association between socio-cultural transition and eating disorders using an established construct and measure of socio-cultural change; and researchers have 'only loosely described stressful factors that may mediate the relationship between socio-cultural transition and eating disorder' (Humphrey & Ricciardelli, 2003). These have included factors such as culture-clash (Katzman & Lee, 1997) inter-generational conflict (Mumford et al., 1991) and identity confusion (Nasser & Di Nicola, 2001).

2.4.5.1.2 Culture Clash

Katzman et al., (2004) found that, women who presented with anorexia on the island of Curacoa, were those who were 'straddling' several worlds simultaneously. They were all of mixed race, aspiring to fit into the white elite subgroup, whilst distancing themselves from the black majority; yet unable to find a sense of belonging or acceptance in the white elite group. These anorexic women also reported more anxiety than controls, suggesting that cultural and role transition may be accompanied by acculturation stress in vulnerable individuals.

Davis and Katzman (1997) found that Chinese-American immigrants, who were highly assimilated to American culture, scored significantly higher levels of ineffectiveness maturity fears and perfectionism on the EDI, than those who were less acculturated. The authors concluded that immigrants may overcorrect perceived deficits which, in women may be their body shape, in an attempt to assimilate to the dominant culture and overcome feelings of ineffectiveness that may accompany the experience of 'living between cultures'. Katzman and Lee (1997) concluded that women may thus employ self-starvation as a means of coping with the conflicting demands of 'straddling two worlds' that occurs in any period of personal and social transition and propose that the symptom of weight phobia should be changed to 'no control phobia' as a clue to better understanding the syndrome.

Soh, Surgenor, Touyz et al., (2007) compared indices of control between European Australians and Chinese Singaporean females, with and without eating disorders; and found that control profiles differed across cultures for those without eating disorder, while the profiles of those with disorder were similar across cultures. The authors concluded that eating disorders are associated with distorted control indices irrespective of culture, but that the form, directionality, and degree of control, is culture dependent. This supports feminist hypotheses which speculate that eating disorders are universally an issue of control for women and that the particular symptom of distress or powerlessness may be 'colored' by culturally particular symbols or metaphors.

2.4.5.1.3 Intergenerational Conflict

Several studies have found that British-Asian adolescents from more traditional families have a greater risk of eating disorders than those in more western-orientated families; and concluded that children growing up within two different cultures may experience cultural confusion which may increase the risk of eating disorder (Bryant-Waugh and Lask, 1991; Mumford & Whitehouse, 1988; Mumford et al., 1991; Hill & Bhatti, 1995). These girls were found to face real conflicts in their attempt to adjust to a culture that is different from their parents and a 'no-win' situation with their parents over cultural orientation. " If I do as my parents ask, I will lose out on my own life and if I do as I please, I will probably lose my family" (Mumford et al., 1991; pg 227). These researchers concluded that the most 'traditional girls may be facing the greatest internal conflict around issues of identity as they grow up with two sets of cultural values and that the greater the difference between these two cultures, the greater the internal conflicts and anxieties which arise'. Hill and Bhatti (1995) found that traditional Asian girls in Britain also experienced lack of acceptance by British society and conflict with their parents when they attempted to identify with the 'new' culture.

El-Islam et al., (1986) found that the greater the cultural differences between parents and children, the higher the general psychological distress on the GHQ-28, endorsed by both parents and children. The authors concluded that intergenerational conflict of attitudes and values may be associated with psychiatric symptoms. McCourt and Waller (1995) also found that risk for developing eating disorder could be partially explained by high levels of perceived maternal control and intra-familial conflict in British-Asian adolescents. The authors concluded that parental traditional values may conflict with the child's attempt to identify with western culture; which may be less centered on obedience to parents. Katzman and Leung (1996; cited from Katzman, et al., 2004) reported that Chinese girls in Hong Kong whose values challenged the more traditional roles of their mother were more likely to report increased eating disturbance. Furnham and Hussain (1999) also demonstrated an association between eating pathology and

levels of conflict between parents and Asian females over going out and choice of friends. Other studies have found an association between risk of eating disorder and parental overprotection (Humphrey & Ricciardelli, 2003) over-controlling and over-protective mothers (Katzman et al., 2004) and perceived maternal control (Ahmed, Waller & Verduyn, 1994; McCourt and Waller (1995) concluded that conflict between desire to identify with western culture and traditional values enforced by overprotective or controlling parents may result in perceived loss of autonomy and control such that disordered eating may be employed by girls as a means of gaining a greater sense of control over their lives.

2.4.5.1.4 Identity Confusion

Nasser and Di Nicola, (2001) argue that a significant proportion of eating disorders reported among non-western immigrant populations seem to highlight the presence of social change and confusion over identity. Nasser (1997) argues that eating disorders may be seen as symptomatic of underlying human distress, particularly the impact of cultural transition on the definition of self and identity. Rapid social changes threaten the identity and obliterate the boundaries, leaving the individual open, vulnerable and lacking a distinctive sense of self; which forces the individual to search for concrete and explicit references and may lead to a reformulation of the self through the framework of the body (Skarderud & Nasser, 2007).

Postmodern American ideology also supports the notion that identity is something that is created and achieved rather than inherent or ascribed. The means of projecting personal identity have also gradually shifted from mind and character (internal attributes) to an increasingly visual and consumeristic (external) focus, and young women are socialized to believe in the illusion that the 'self' can be shaped or reshaped by drawing on cultural symbols to construct, understand and represent who they are (Becker, 2004). Markets and their media are thus promoting the recreation of a new identity through the manipulation of the body and 'plastic bodies are creating plastic selves' (Rogers, 1999). Nasser and Di Nicola (2001) also speculate about a process that

they name, respectively, as 'body regulation' and 'body modification' where the body is transformed into an identity as a method of coping with these cultural changes. Di Nicola (1990a & 1990b) suggests that bodily control may be seen as an expression of autonomy and definition within an unstable cultural milieu. The individual may thus use the concrete medium of the body to construct a self that is coherent and stable yet also distinct from others. Katzman et al., (2004) also found that anorexic women were those who struggled to develop a coherent sense of self, and that they "wore their dilemma with their weight" (Katzman et al., 2004, pg 480). The increasing use of body building, tattooing and body-piercing (Skarderud & Nasser, 2007) and the revival of veiling in Muslim women (Nasser & Di Nicola, 2001) have also been seen as examples of body symbolism and the social construction of personal identity.

Becker (2004) demonstrated that during a period of rapid social change, young women in Fiji lacked traditional role models for how to successfully maneuver themselves and drew heavily on role models from imported media to define themselves. Self identity was thus constructed by the manipulation of cultural symbols, including the reconfiguration of their bodies. Becker argued that Fijian youth needed to craft an identity which adopted western values about productivity and efficiency in the workplace while simultaneously 'selling their Fijian-ness'. Self-presentation thus needed to be carefully constructed to integrate these dual identities into a 'hybrid' identity.

In contrast, Anderson-Fye (2004) found that Belizean girls were almost completely resistant to eating disorders. The author found that these girls were more concerned with body shape than body weight and that their culturally ideal, 'Coca-Cola' body shape, offered a protective effect from eating disorder. Belizean culture also placed greater emphasis on personality (internal) rather than bodily characteristics in the construction of self-definition and promoted a psychology of self-care and protection ('never leave yourself') which also seemed to buffer these girls from body anxiety; suggesting that cultures which focus on internal correlates of identity may demonstrate less risk for eating disorder.

Studies of eating disorders around the globe have also converged in defining adolescence and young women as the segment of the population most at risk for the development of an eating disorder (Pike & Borovoy, 2004). Hilde Bruch (1978) first suggested that conflicting demands on contemporary young women creates severe identity confusion and that these kind of conflicts may be implicated in the increased incidence of eating disorders at adolescence. Adolescence has also been seen as the developmental period during which the construction of a coherent sense of ethnic (Phinney, 1990) and personal identity (Gowers and Shore, 2001) occurs. Tajfel and Turner (1986) and Ward et al., (2003) see ethnic or cultural identity as a core concept that links group membership to self-definition and self-esteem; suggesting that the construction of personal identity and self-esteem may be particularly difficult for adolescents exposed to heterogeneous or conflicting cultural influences (Becker, 2004). Endler and Parker (1990) proposed that acculturative stress may also be moderated if flexible cognitive strategies are applied, suggesting that those individuals who are unable able to successfully integrate conflicting cultural demands into a strong 'hybrid' or integrated cultural identity may experience greater risk of acculturative stress and eating disorder.

These considerations suggest that the above conceptualizations of intercultural contact and socio-cultural transition may be appropriately defined and measured within the constructs and framework of contemporary multidimensional and bidirectional models of acculturative stress (Berry, 1997; 2003) which define and measure acculturative stress in terms of tensions between opposing cultural pressures towards acculturation from the 'new' culture and against this acculturation from culture of origin (Rodriguez et al., 2002).

2.5 Acculturative Stress in South Africa

Following Berry's (1997; 2003) multidimensional and bidirectional model of acculturation and stress, post-apartheid South Africa may be seen to have encountered many acculturative challenges, in every dimension of acculturation; and particularly for the previously oppressed and disadvantaged black South Africans.

Following the abolition of apartheid, many black South Africans have migrated from small tradition-directed, pastoral rural societies into modern mass urban societies; such that, by 1996, 55.4% of the population was urbanized (Central Statistical Service, 1997; cited from Szabo & Le Grange, 2001). Urbanization has been associated with increased socioeconomic opportunities and upward social mobility for many previously disadvantaged South Africans. For others, the expectation of economic opportunity has only served to widen the gap between expectations of affluence and an all-too-often bleak socio-economic reality. Jilek (2001) noted the consequences of this transformation on the mental health of individuals, including cultural identity confusion, anomie and deprivation; suggesting that previously rural black South Africans may be particularly at risk of conflict between modern ideas and traditional, rural values which, following Berry (1997, 2003) may promote tension and conflict between two disparate socio-cultural realties and acculturative stress. Ivan Eisler (2007) argued that freedom from oppression also brings an increase in responsibilities and anxieties and reported that the break up of communism in Eastern Europe, was accompanied by an increase in unemployment, poverty, crime, corruption, substance abuse, mental disorders, suicide and eating disorders. In post-apartheid South African society, many black South Africans also have to cope with their new social realities and responsibilities within the context of widespread destruction of black family relations. South Africans may thus be vulnerable to symptoms of acculturative stress as also reflected in the dramatic increase of suicidal behavior (Wasseneaar, Van der Veen & Pillay, 1998), gangsterism, substance abuse, antisocial behavior (Thiel, 1997) and an emerging ethnic separatism (Stevens & Lockhat, 1997).

Berry (1997) noted that changes to the ecological dimension may have profound effects on many other dimensions of human acculturation. Urbanization may, for example, may also promote changes in the structure and functioning of families and the roles and expectations of women; and the breakdown of traditionally protective family structures (Szabo and Le Grange, 2001). Black South African women have experienced a marked emancipation in recent years; not only have black women entered the male-dominated political and economic arena, but they are embracing western feminist ideologies and expectations, which are often in conflict with those of a more traditional father, spouse or work place; resulting in feelings of oppression and frustration with continued inequalities and psychological conflict. Black South African women may thus be particularly at risk for acculturative stress within the changing socio-political landscape of post-apartheid South Africa.

Since the abolition of apartheid, black and white South Africans are also now engaging in inter-cultural contact in every aspect or level of human activity and sharing their diverse cultural backgrounds. The dimension of western versus non-western has been loosely equated with the dimension of individualism-collectivism (Bochner, 1994) which provide highly disparate and often mutually exclusive expectations regarding central issues such as loyalty and commitment to the community versus competition and achievement, which may promote a clash of cultural expectations during intercultural contact between white and black South Africans.

Naidoo and Mahabeer (2006) found that black female South African university students in KwaZulu-Natal, valued contemporary western feminist ideas about personal growth, marriage, achievement and success for women and desired western, individualistic educational and career opportunities; while they also wanted to retain core, ancestral, collectivist family and social values (Triandis, 1990). Naidoo and Mahabeer (2006) concluded that this 'dual (integrationist) pattern heralds a shift that promises to bridge the ethno-gender gap'.

Following Rodriguez et al., (2002), however, level of adaptation or mental health cannot be automatically assumed from mode of acculturation and attitudes of integration do not automatically assume a compatible and successful resolution between conflicting socio-cultural expectations (Sam & Oppedal, 2002). Following feminist hypotheses relating to eating disorders (Katzman & Lee, 1997), individualistic western values about women, also, typically, conflict with collectivist values about family, marriage, career and children which, prioritize the needs of the family or group above those of the individual; suggesting that many of these young female South Africans may be attempting to 'juggle' conflicting desires and values which may place them at particular risk for the development of eating disorders. Indeed, Naidoo and Mahabeer (2006) also found that black South African males favored separation and collectivism, which supports suggestions that many young black South African women may be faced with conflict between individualistic feminist aspirations and collectivist family and marital expectations.

The greater degree of daily contact between cultures has, therefore, called the need for successful acculturative strategies at the level of the group; which require the balance of these conflicting cultural scripts into an integrated cultural definition (Phinney 1990; Ward et al., 2003). The new South Africa has adopted an official Multicultural policy which should assist the development of an adaptive integrated or super-ordinate South African 'culture' and identity by providing opportunities for contact and a milieu which accepts and respects all cultural groups. Szabo and Le Grange (2001) noted, however, that South Africans are "faced with the burden of creating a new national identity" (Szabo & Le Grange, 2001; pg 28), suggesting that this fledging nation has yet to find an adequate, integrated, South African identity, with which 'new' South Africans could identify. There have been attempts to define an integrated South Africa as the 'Rainbow Nation' but this label does not appear to provide an adequate national identity. Many South Africans may thus be caught in a struggle between the 'desire to become more western versus a new-found pride in being African' (Szabo & Le Grange, 2001); and unable to effectively integrate these different cultural scripts into a coherent cultural identity.

Rodriguez et al., (2002) identified acculturative stress as the 'push and pull' between pressure to assimilate to the dominant culture and pressures by the culture of origin against this process. Considering that the central conflict involved in eating disorder may be an identity struggle, then the struggle in South Africa could be defined in terms of the 'push and pull' of conflicting 'western' and 'black African' cultures (Szabo & Le Grange, 2001). It appears evident that, in the absence of an adequate national identity, adolescents have created negative labels such as 'coconut' or 'oreo' (which means black on the outside but white on the inside) for those blacks who have become westernized; suggesting that black adolescents may be experiencing tension between opposing cultural pressures and difficulty constructing a coherent, integrated identity.

Following Berry (1997), the apartheid policies of segregation and racial discrimination, may also affect the degree of acculturative stress encountered during transition, as continued discrimination and prejudice may result in greater stress (Pernice & Brook, 1966). Apartheid policies of segregation not only kept cultures apart but institutionalized minimal intercultural contact, suggesting that lack of prior intercultural contact may foster suspicion, discrimination, prejudice and acculturative stress in the 'new' South Africa. Pettigrew and Tropp (2006) argue that greater intercultural contact, under optimal conditions, is associated with less inter-group prejudice, but that these effects are significantly weaker in minority status groups than in majority groups; suggesting that black females who are in a minority position in 'white' schools may well experience increased levels of acculturative stress, as South Africa struggles to break free from prior discriminatory policies. Although acculturative stressors are likely to be experienced by all South Africans, it is thus likely that black South Africans, particularly in minority situations, are exposed to greater cultural disparity and acculturative stress than white South Africans. The apparent increased risk of eating disorder amongst black schoolgirls may thus reflect the effects of acculturative stress which may accompany the transitional process in this country.

Basic tenets of individualism and collectivism also offer profoundly different expectations regarding the socialization of children. Collectivism promotes authority, dependency, obedience and compliance, while individualism promotes autonomy, self-reliance and assertiveness. Tension between these opposing forces may promote conflict between cultures that may be expressed in different expectations between adolescents and authority-figures such as teachers and in intergenerational conflict which have also been associated with acculturative stress and eating disorders (McCourt & Waller, 1995).

Following Erikson, (1963), Stevens and Lockhat (1997) noted that adolescence is a time of identity development versus role confusion and that factors that were instrumental in the shaping of black adolescent identity during the era of apartheid are fundamentally different in contemporary South Africa. Black adolescents now have to attempt to negotiate the apparently contradictory expectations of pre and post-apartheid South Africa which may contribute towards role confusion rather than identity integration; suggesting that they may be particularly at risk for the development of eating disorders. These authors continue to note that with an increasing presence of western ideology and economic structures, a 'Coca-Cola' culture has emerged among black South African adolescents, which represents a radical ideological shift from African collectivism to a more western individualism and competitiveness. This identity allows them to cope in their new social milieu but at the same time marginalizes and alienates them from traditional realities and community support. Following Bulhan (1980), previously oppressed adolescents may thus also experience 'psychological tension' as they straddle the two different worlds of pre and post apartheid, that are alien to one another. Following Berry (2003) and Ward et al., (2003), these observations suggest that black South Africans adolescents may be particularly at risk for the experience of acculturative stress at every level of acculturation. The author, did not, however, find any evidence of studies that attempt to formally measure acculturative stress in relation to eating disorders in the South African context and the following studies only speculated on the possibility of acculturative stress as a factor to explain discrepant findings.

Marais, Wassenaar & Kramers, (2003) demonstrated significant positive correlations between the acculturation strategy of assimilation and all the subscale scores on the Eating Disorders Inventory (EDI; Garner et al, 1983) in black South African college women. These authors concluded that increasing contact with western expectations is associated with greater eating pathology 'particularly in those individuals who are highly assimilated into and seek affirmation from Western culture'. The same study, however, also demonstrated 100% positive correlations between EDI subscales and the acculturation strategy of rejection (separation) in black females; which challenges this link between culture and eating disorders. The authors speculated that this kind of association may be mediated by acculturative stress, particularly as all of the general psychological subscales of the EDI (ineffectiveness, maturity fears, interpersonal distrust, perfectionism and interoceptive awareness) were more evident in these studies than subscales measuring the cardinal 'western' indices of an eating disorder; and were higher than those of Canadian female adolescents (Leichner, 1986), suggesting the presence of conflict and distress.

Berry (1997) noted that separation is more likely to be accompanied by acculturative stress than strategies of integration and assimilation, but that assimilation and separation may be differentially stressful, depending on the context. Following Berry, the findings of the above research study could suggest that assimilation and separation were equally associated with distress in this black South African context. Following Davis and Katzman (1997) and Katzman and Lee (1997), these findings could also suggest that black South African females may be suffering a sense of ineffectiveness and distress as they attempt to 'straddle' two disparate cultural worlds. Following Rodriguez et al., (2002), these black South African women may well feel caught between pressures to assimilate to white western cultural ideals and pressures against this assimilation (for separation). Marais et al., (2003) and Kramers (2000) also demonstrated 100% negative correlations between EDI subscales and the strategy of integration in black women in KwaZulu-Natal, South Africa; suggesting that eating disorders may be reduced when these conflicting pressures were integrated into a compatible formulation.

The same study also demonstrated an increased risk of eating disturbances (bulimia) in black South African men, although these men scored normally on EDI subscale scores for body dissatisfaction, and drive for thinness. Kramers (2000) also found that assimilation did not correlate with drive for thinness or body dissatisfaction in black South African women; suggesting that factors other than the acculturation of western ideals of thinness are needed to explain the increased risk of bulimia found in these groups. The authors also speculated that the increased prevalence of bulimia, in the absence of drive for thinness, may reflect a cultural practice of purging and the social sanction of large appetites in men.

These findings also call into question the validity of the EDI as an instrument measuring eating disorders in South Africa (Edwards & Moldan, 2004). They also caution that rating scales do not equal disorder and that community samples are only a proxy for clinical data in terms of potential risk. At most, data using the EDI on community samples in the South African context, suggests that some black South African samples may suffer more general psychological conflicts possibly associated with acculturation; which may render them more vulnerable to a wide range of psychological problems, including eating disorders, than their white South African counterparts. This stress may well reflect the stress of acculturation known as acculturative stress. The current research study therefore aimed to systematically explore any associations between eating disorders and acculturative stress as the 'push and pull' of opposing pressures for and against acculturation, as articulated by Rodriguez et al (2002).

During data collection for the current research study, the author came across a school which had written a paper entitled "The experiences of black adolescent females in multi-cultural schools and their impact on identity development" (Danville Park Girls; High, 2005) which reinforces the possibility that black South African schoolgirls may be experiencing opposing acculturative stressors, intergenerational conflict and identity confusion. The material for this paper was collected by the school counselor from two Focus Groups of black learners in an urban multicultural school and was delivered to a conference of school head teachers.

The paper noted that, at primary school level, girls of different race groups are well integrated in multicultural schools. Once they graduate to high school, however, there appears to be a trend amongst black learners to start associating more strongly with their own cultural group. This trend is believed to be due to an increasing awareness of cultural difference within the traditionally 'white' school milieu and an increased sense of identification with black peers. The paper highlighted that, in addition to the normal difficulties of adolescent individuation, these girls experience culturally-related difficulties which make it more difficult for them to forge a coherent identity. Specifically, these girls complained of conflicting values and expectations from their 'white' school environment on one hand and their 'black' friends, family and community, on the other. At school they are addressed by their English name and are expected to speak English. If any Zulu language 'slips out' in this environment, they are accused of being insolent or aggressive. At home they are addressed by their Zulu name and expected to speak Zulu. If English words 'slip out', they are accused of abandoning their culture or being a 'sell out' who doesn't even know her own language; or being cheeky or thinking they are 'better' than their black community. Some girls had even experienced violent reactions from the black community for speaking English.

At school they are also encouraged to think independently, to express their opinions assertively and to value their own opinions. While in the black community they are expected to value the opinions of their elders and avoid conflict. In the black community, they are accused of being disrespectful and cheeky, if they voice their opinion or make eye contact with their elders, while at school they are accused of being disrespectful if they don't make eye contact with an authority figure. Many girls found these mixed expectations confusing and some were even further confused by conflicting parental messages. On one hand, their parents want their daughters to go to multi-cultural schools because they want them to experience all the things that they never had the opportunity of doing during the years of apartheid. 'Yet, on the other hand they want their daughters to hold onto the traditions and values of their culture at home, which may be in direct contrast to the traditions and values of their schools. '

These different sets of expectations also make it difficult for these girls to feel a sense of belonging and acceptance by any group. They felt a sense of 'being different from' their white peers at school, who do not always know about, understand or even respect their difficulties. Yet, on the other hand, they do not always feel a sense of belonging to the black community as there are aspects of their own cultural practices and beliefs that they do not fully understand or believe in. They are also frequently discriminated against and accused of being a 'coconut' by the black community. 'Coconut' is a negative term which refers to the fact that the black girl is seen to be 'white' on the inside but black on the outside, indicating that she has abandoned her black culture and trying to become 'white' (those who try to assimilate into white culture). There is extreme pressure to avoid being called a 'coconut' and the girls have to go to great lengths to choose the 'right' clothing and styles which may be seen as 'white enough' to be acceptable by white culture but not 'too white' to be accepted by their black peers. On civvies day, they have to make sure that they wear clothes with a Levi or Nike label which tend to be favored by black learners. They would also be labeled as a coconut if they socialize with white peers outside school or reside in white suburbs as opposed to black townships. These conflicting expectations made many of these girls feel like they are continually playing a role where they have to switch roles from one setting to another, and where incomplete switching, results negative consequences. This also results in the lack of a sense of 'who they really are' and lack of a sense of 'belonging' in any group. "It can become very difficult to answer the question of who am I'? 'It can feel as if we are living three or four different lives and at times not living any of them particularly successfully'. 'We do not fit in completely at home or school'.

These observations and related research data suggest that stressors associated with the process of westernization may be a significant factor associated with risk for eating disorder, particularly for adolescents, in the rapidly changing socio-political landscape of black South African women. It may be speculated that post-apartheid black South African women may encounter stress associated with westernization and a clash between cultures as non-western collectivist cultural traditions come into daily contact with western, individualistic cultural influences.

2.6 Study Objectives

The current research study thus aimed to systematically measure individual levels of acculturative stress, using the bi-cultural index designed by Rodriguez et al., (2002) in the high school context in South Africa; and to identify any relationships between this acculturative stress and eating disorder in this group. In order to achieve this research outcome, this study needed to fulfill the following objectives:

- To modify and validate the Multidimensional Acculturative Stress Inventory (MASI: Rodriguez et al., 2002) as the Multidimensional Acculturative Stress Inventory-Revised (MASI-R) for use in the South African context of this research study.

- To identify and measure the presence of acculturative stress in a sample of Black, female adolescents in KwaZulu-Natal, South Africa, as measured by the MASI-R.

- To identify relationships between acculturative stress as measured by the MASI-R, dysfunctional eating attitudes and behaviors and eating disorders in this sample.

It is hoped that this research may clarify the link between acculturative stress and eating disorder and contribute towards a better understanding of eating disorders. This may inform strategies aimed at identifying populations at risk and implementing treatment and prevention programs.

Research that identifies acculturative stress in South Africa may also contribute towards a better understanding of multicultural integration and inform strategies aimed at identifying populations at risk and implementing preventive programs. Research that identifies acculturative stress in South Africa may also have implications for the prevention and treatment of other aspects of mental health such as depression, anxiety, suicidal behavior, substance abuse, deviance, and violence. Research that validates an instrument for measurement of acculturative stress within a South African sample may also be useful towards future research in this area.

2.6.1 Research Hypotheses

Ho: Acculturative stress as measured by the Multidimensional Acculturative Stress Inventory-Revised (MASI-R) will be unrelated to eating dysfunctional eating attitudes and behaviors (as measured by the Eating Attitudes Test: EAT26: Garner, Olmsted, Bohr & Garfinkel, 1982) or eating disorders (as measured by the Eating Disorders Diagnostic Scale; EDDS: Stice, Telch & Rizvi, 2000) in a sample of black schoolgirls in KwaZulu-Natal, South Africa.

H1: Acculturative stress, as measured by the Multidimensional Acculturative Stress Inventory–Revised (MASI-R) will be significantly related to dysfunctional eating attitudes and behaviors (as measured by the EAT26: Garner et al., 1982) and eating disorders (as measured by the EDDS: Stice et al., 2000) in a sample of black schoolgirls in KwaZulu- Natal, South Africa.