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## Inner experience in bulimia

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INNER EXPERIENCE IN BULIMIA

by

Sharon Jones-Forrester

Bachelor of Arts  
York University, Toronto  
1990

A thesis submitted in partial fulfillment  
of the requirements for the

**Master of Arts Degree in Psychology**  
**Department of Psychology**  
**College of Liberal Arts**

**Graduate College**  
**University of Nevada, Las Vegas**  
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Inner Experience in Bulimia

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ABSTRACT

**Inner Experience in Bulimia**

by

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Inner experience is of crucial importance in bulimia—clearly something experiential leads individuals to binge or purge. We used Descriptive Experience Sampling (DES) to examine the inner experience of bulimia in 5 participants, replicating Doucette (1992). Our participants' inner experiences were largely consistent with Doucette's but were substantially different from what is assumed by the non-DES literature: our bulimic participants had a consistent fragmentation of attention, hypersensitivity to the sensory aspects of experience, affect that is poorly differentiated and often confused with cognition, and a striking lack of cognition overall. These results suggest that DES can be a powerful tool to challenge the assumptions of the extant literature and to expand our understanding of bulimia.

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## CHAPTER 1

### INTRODUCTION TO BULIMIA

#### Inner Experience in Bulimia

Bulimia is a profoundly disruptive, potentially fatal disorder affecting millions of young women, and increasing numbers of young men. Despite 25 years of research, our understanding of the etiology, maintenance, and course of bulimia remains surprisingly limited. Why? We propose that this is because we know almost nothing about the inner experience of individuals with bulimia. Individuals who engage in bulimic behavior are clearly experiencing something that leads them to binge or purge. It is alarming that we still know almost nothing about what that something is. This study aids in filling that void by using Descriptive Experience Sampling, the most accurate method of accessing experience, to explore the inner experience of five individuals with bulimia.

The following review of the literature was therefore divided into two parts: a “content” part about eating disorders in general and bulimia in particular and a “method” part regarding the exploration of inner experience. The content part of this review, below in Chapter 1, has three elements. First, we will provide a brief introduction to the history of eating disorders, illustrating that although these are fairly recent diagnostic constructs, descriptions of disordered eating date back millennia. Second, the three current diagnostic categories of eating disorders (anorexia, bulimia and eating disorders not otherwise specified) will be introduced. Each disorder will be reviewed in terms of

diagnostic criteria, symptomatology, medical sequelae, prevalence, course and comorbidity patterns. Third, the review will consider the parallel complex biological, cognitive, environmental, interpersonal and intrapersonal aspects of bulimia.

The method part of this review, in Chapter 2, will also have three elements. First, we will consider those current assessment methods that rely primarily on self-report and clinical interview data, demonstrating that while the information yielded by these methods is necessary and valuable, it is also particularly vulnerable to bias. Individuals with eating disorders may intentionally or unintentionally give inaccurate responses to traditional assessment measures (Crowther & Sherwood, 1997).

Second, we will discuss current assessment methodologies, such as diaries, thought listing, and the Experience Sampling Method, all of which are designed to explore inner experience while controlling for bias and potential retrospective errors. Third, we will discuss Descriptive Experience Sampling, a method pioneered by Hurlburt (1990). We will attempt to demonstrate show that this innovative method remedies the significant methodological difficulties inherent in alternate attempts to understand inner experience in psychopathology.

Before we begin, we note that although the current study will focus primarily on bulimia, the three eating disorders (anorexia, bulimia and eating disorders not otherwise specified) share more common than differing characteristics. Within the body of eating disorder literature, a number of theorists view these disorders as a single syndrome, with variance only in severity and symptom presentation (Polivy & Herman, 2002; Striegel-Moore & Cachelin, 2001). In keeping with the current DSM-IV-TR (APA, 2000) classification system, the present paper will focus primarily on bulimia as a distinct diagnostic eating disorder. However, shared etiology across eating disorders and

crossover between bulimia and anorexia are the norm, with 50% of individuals initially diagnosed with anorexia eventually developing bulimia and a smaller group moving from bulimia into the anorexia diagnostic category (APA, 2002). Psychiatric comorbidity is also frequent across eating disorders, with 70% of individuals in clinical settings having at least one Axis I or Axis II comorbid disorder (Haas, & Clopton, 2003). Despite our current reliance on distinct categorical definitions, full syndromal, non-comorbid eating disorders are far less common than complex, comorbidity-influenced presentations.

### *The History of Eating Disorders*

While medical descriptions of eating disorders date back to the 1870's, the phenomenon of disordered eating has likely existed throughout human history. Behavior mirroring anorexia nervosa and bulimia was described in ancient Rome and among Christian saints in the middle ages. Modern case study descriptions of anorexia nervosa and bulimia date back to 1903 and 1932 respectively; however, this behavior was considered extremely rare before the 1960's. In the 1960's and 1970's, clinical interest in body image and eating disorders began to grow, with bulimia being identified as a distinct disorder in 1979 and accepted into the DSM-III in 1980 (Russell, 1997; Vandereycken, 2002). Since 1980, our understanding of eating disorders has grown significantly, yet much remains to be understood regarding the complexities of eating disorder development, maintenance and treatment. The historical progression of current eating disorder diagnostic criteria began with anorexia nervosa in 1970, followed by bulimia in 1979 and eating disorders not otherwise specified in the 1980's (Garfinkel, 2002).

Since Russell (2004) introduced bulimia as a distinct psychiatric disorder in 1979, our knowledge of bulimia, specifically, and eating disorders, generally, has progressively

grown. Individuals with bulimia and other eating disorders experience profound and frequently lifelong impairment in psychological, social, and physical functioning. However, these disorders are not receiving sufficient recognition as a critical public health issue according to the National Institute of Mental Health (Pearson, Goldklang, & Striegel-Moore, 2002). Polivy and Herman (2002) asserted an urgent need to reduce the current high “signal-to-noise ratio” (Polivy & Herman, 2002, p. 205) in our understanding of eating disorders. As the literature continues to grow, they hope that our understanding will crystallize into more definitive knowledge of these life threatening conditions and lead to a better quality of life for individuals with eating disorders. Although both scientific and social awareness continues to evolve, eating disorders remain complex and multiply determined conditions that defy simple theoretical explanations (Polivy & Herman, 2002).

### Overview of Eating Disorders

The DSM-IV-TR (APA, 2000) recognizes three distinct eating disorders, anorexia nervosa, bulimia and eating disorders not otherwise specified. The diagnostic criteria, symptomatology, medical characteristics, prevalence rates, course and comorbidity patterns of each disorder will be briefly reviewed. After this initial review of each eating disorder, a more intensive discussion of the biological, genetic, familial, social, interpersonal and intrapersonal aspects of bulimia will be presented.

#### *Anorexia Nervosa*

*Diagnostic Criteria.* The DSM-IV-TR (APA, 2000) diagnostic criteria for anorexia nervosa include a persistent refusal to maintain normal weight, accompanied by extreme fear of weight gain, intense valuation of weight and shape as primary conditions

of self-worth, and unwillingness to perceive the degree of risk one's current weight (minimally at 15% below normal) represents. This excessive weight loss must be accompanied by an interval of amenorrhea lasting at least three months. There are two distinct types of anorexia nervosa, restricting type and binge-eating/purging type. In restricting type, individuals engage in severe dietary restriction without the use of binge eating or purging. In binge-eating/purging type anorexia, individuals do engage in binge eating and purging behaviors including vomiting, abuse of purging substances, or excessive exercise.

*Symptomatology.* The most distinct symptom of anorexia nervosa is a combination of severe weight loss with an accompanying intense fear of weight gain. Preoccupation and, often, obsession with weight is the central defining psychological feature of anorexia. This preoccupation may manifest itself through strange food-related behaviors such as hoarding and organizing of food items. Negative affect, irritability, difficulty concentrating, obsessiveness, loss of sexual interest, low self-esteem, rigidity, perfectionism and social withdrawal are common (APA, 2000; Beumont, 2002). At it's most severe, anorexia transforms from disorder to identity. Beumont (2002) eloquently explained the all-pervasive nature of anorexia as follows. "Being emaciated is a goal in itself...[sic] It is not that they are closed to reason about their physical condition, but rather that it is irrelevant because the sole purpose of their lives is their illness." (p. 169).

*Medical Sequelae.* Because anorexia is associated with the maintenance of a prolonged state of near starvation, anorexic individuals often suffer from anemia, metabolic abnormalities, cerebral atrophy, temperature dysregulation, hypotension, hypothermia, osteoporosis, renal dysfunction and cardiovascular problems (APA, 2000).

Prolonged extreme dietary restriction, with or without compensatory behaviors, leads to malnutrition, dehydration and severe electrolyte imbalances (Beumont, 2002).

*Prevalence and Course.* Full syndrome anorexia nervosa occurs in 0.5% of the population and generally develops between ages 14 to 18, with 90% of anorexic individuals being female (APA, 2000). The course of anorexia may be brief, intermittent, or chronic (APA, 2000). Course is commonly determined by degree of weight loss, with greater degrees of weight loss, use of compensatory behaviors and longer duration being the key indicators of poor prognosis (Fairburn & Harrison, 2003). Unfortunately, treatment is definitively successful for only 40% of anorexic individuals, with 30% showing partial improvement and 20% remaining chronic (Williamson, Zucker, Martin, & Smeets, 2001). The profound physical and psychological impact of anorexia nervosa is associated with higher mortality rates than any other disorder. It is estimated that more than 10% of individuals with anorexia die from the disorder (Agras et al., 2004).

*Comorbidity.* Psychiatric comorbidity is the norm in anorexia, with 21-91% of individuals experiencing comorbid major depressive disorder and 20-65% experiencing comorbid anxiety disorders, primarily obsessive compulsive disorder and social phobia (Williamson et al., 2001). Anxiety and depression can either precede or follow anorexia onset (Bulik, 2002). Personality disorders, especially avoidant and obsessive compulsive personality disorder, may be experienced by up to 61% of individuals with anorexia (O'Brien & Vincent, 2003). Substance abuse disorders have a comorbid prevalence rate of 12 to 18% in anorexia, with the substances chosen largely facilitating desired weight loss (APA, 2002; O'Brien & Vincent, 2003; Powers, 2002).

### *Bulimia Nervosa*

As part of the overview of eating disorders, we now consider the diagnostic



criteria, basic symptomatology, medical sequelae, prevalence, course and comorbidity patterns of bulimia. Because the present study focuses primarily on bulimia, we will return later to a more extensive review of bulimia following this overview.

*Diagnostic Criteria.* The DSM-IV-TR (APA, 2000) diagnostic criteria for bulimia include uncontrolled binge eating with accompanying unhealthy compensatory behaviors and excessive emphasis on weight and shape as conditions of self worth. To meet full bulimia criteria, episodes of binge eating or compensatory behavior must occur frequently, at least twice per week and must have had a minimal 3-month duration.

Bulimia, like anorexia nervosa, is divided into two distinct types. In the purging type, the individual engages in vomiting or the use of laxatives, diuretics, or enemas as a primary compensatory behavior for binge eating. In the nonpurging type, the individual compensates through severe caloric restriction, exercise, or other methods (APA, 2000). The purging type is far more common, with 80-90% of individuals engaging primarily in these methods versus 10-20% engaging in nonpurging behaviors such as fasting, exercise, or diet pills in response to binge eating (APA, 2000; Cohen, 2003). Purging and nonpurging type bulimia are united by the characteristics of negative affect, dietary restraint, bulimic behaviors and negative body image (Anderson & Williamson, 2002). Generally, purging type bulimia is associated with higher levels of psychopathology and poorer prognosis (APA, 2002).

*Symptomatology.* Although individuals with bulimia are excessively preoccupied with weight and shape as conditions of self-worth, their symptoms are more behaviorally defined than are those of anorexia nervosa. Binge eating with or without compensatory behavior, is the most distinct symptom of bulimia. Because binge eating remains somewhat subjective and difficult to define within the current body of literature, the

affective and biological aspects of this key bulimia symptom will be examined at some length as follows. The DSM-IV-TR (APA, 2000) recognizes a binge as a 2-hour period of excessive food intake with an accompanying sense of powerlessness over the binge eating behavior. However, eating disorder scholars vary in their relative emphasis on quantity or affect in binge eating, with some emphasizing primarily caloric intake, some emphasizing types of food consumed, some emphasizing “out of control” affect and some emphasizing an interacting combination of these factors as the primary defining aspect of a binge episode. Currently, very little is understood about how negative affect, high caloric intake and the consumption of particular foods may interact during a binge episode.

Klein and Walsh (2003) emphasized volume and type of food consumed during binge eating as important factors in the maintenance of bulimia. They stated that typically high fat or sweet foods are consumed during a binge, with other types of food being reserved for normal consumption during periods of dietary restraint. Additionally, they discovered that individuals may consume up to 10, 000 calories per binge episode.

Affectively, binge eating episodes are reported to be triggered most frequently by stressful life events, anxious or depressed feelings, negative affect, negative social situations, sense of powerlessness, low self-efficacy, anger, boredom, loneliness, shame and poor self-esteem (Cogley & Keel, 2003; Stice, 2001; Waller, 2002). Kalodner (2003) found that 66% of bulimic women were more likely to attribute binge eating to negative affect than to hunger. In spite of the use of binge eating as a maladaptive means to cope with this negative affect, the act of bingeing was profoundly disturbing, with 70% reporting suicidal ideation post binge. The affective aspects of binge eating appear to operate in a cyclic manner. Binge eating acts to reduce an individual’s self-efficacy about

her ability to control bulimic behavior, thus leading to purging and more severe caloric restriction, increasing risk of further binge eating episodes (Fairburn, Stice, Cooper, Doll, Norman, & O'Connor, 2003). Negative affect appears to play a central role in the binge-purge cycle. During binge eating, individuals experience dissociation, lack of control and a reduction of anxiety, which may reinforce additional binges. However, anxiety profoundly increases immediately after binge eating, leading to purging in a maladaptive attempt to regain control (Klein & Walsh, 2003). Binge eating and purging are mutually reinforcing by interacting to reduce negative affect, yet both behaviors ultimately increase levels of negative affect, sustaining the binge-purge cycle (Wilson & Fairburn, 2002).

Overall, for individuals with bulimia, binge eating is more defined by loss of control than by the type or amount of food consumed. Many people are unable to estimate the amount of food consumed and the frequency of their binge eating episodes accurately. These difficulties may be due to extreme negative affect, denial, and dissociation commonly occurring during episodes (Anderson & Williamson, 2002). Negative affect appears to be an especially high risk factor in triggering a binge-eating episode. Individuals with bulimia report increasing difficulty coping with negative emotions leading up to an episode and use binge eating as a maladaptive coping strategy (Schaffer, 2003).

The negative self-perpetuating cycle of binge eating and purging may also be sustained by biological factors. Biologically, individuals with eating disorders have consistently been found to have decreased levels of serotonin. Decreased levels of serotonin may trigger binge eating by reducing satiety cues and creating sensations of profound hunger. In this context, bingeing behavior may be reinforcing by temporarily

increasing serotonin levels. Elevated levels of endogenous opioids and post-binge-eating rebound hypoglycemia may also contribute to the binge purge cycle (Williamson et al., 2001; Cohen, 2003). Future research examining the role of neurotransmitter activity in eating disorders may clarify whether these dysregulations in serotonin and endogenous opioids exist prior to bulimia onset or are a consequence of the binge-purge cycle (Williamson et al., 2001).

Individuals with bulimia also experience decreased interoceptive awareness, leading them to have difficulty adequately distinguishing hunger, satiety and affective cues. The relative biological and psychological variables involved in this phenomenon, however, are not yet understood (Polivy & Herman, 2002). Therefore, binge eating, as the key symptom of bulimia, includes complex biological and psychological factors that are still not clearly understood despite an extensive body of research.

*Medical Sequelae.* The medical sequelae of bulimia are related to both binge-eating and purging behaviors. Electrolyte imbalances, parotid gland swelling, severe dental damage, scarring on hands, and risk of gastric rupture due to frequent self-induced vomiting are common (APA, 2000). Individuals with bulimia also experience significant risk of aspiration of gastric contents, chemical or bacterial pneumonitites, colon dysfunction due to laxative abuse, gastrointestinal bleeding, and urinary, kidney and pancreatic dysfunction (Gleaves, Miller, Williams, & Summer, 2000). Aside from the direct consequences of excessive vomiting, bulimia is also associated with extreme metabolic, endocrinal, and neurotransmitter dysregulation (Cohen, 2003). Individuals who use syrup of ipecac to induce vomiting are at greatly increased risk for serious medical complications due to cardiotoxicity (Powers, 2002; Ogden, 2003; Gleaves et al., 2000).

*Prevalence and Course.* Prevalence estimates of full syndrome bulimia vary from a fairly conservative 1 to 3% in women, .01-.03% in men (APA, 2000), to 4.5% in female college aged students (Ogden, 2003), to 3-10% in women aged 15 to 29 (Polivy & Herman, 2002). Although there is an increasing level of public awareness about the need to treat eating disorders, it is likely that prevalence rates are significantly higher than currently reported due to continuing stigma, shame, and individual desire to avoid detection and intervention efforts (Polivy & Herman, 2002).

There are also larger and more disturbing barriers to the accurate estimation of bulimia prevalence. Research, prevention, and treatment initiatives are all dependent upon accurate epidemiological data. However, according to Striegel-Moore and Cachelin (2001), prevalence studies are generally conducted with clinical samples, so little is known about community prevalence rates. The prevalence “gold standard,” the Epidemiological Catchment Area Study, did not include bulimia and thus there is currently “...no data base in the United States that would permit an estimate of the prevalence of bulimia in a nationally representative sample.” (Striegel-Moore & Cachelin, 2001, p. 639).

The course of bulimia is variable, with many individuals experiencing periods of relapse and remission, while others remain chronic, or experience significant symptom reduction after long symptomatic periods. Chronicity and relapse appear to be the norm in both the natural and clinical course of bulimia (APA, 2000). Generally, bulimia onset begins from late adolescence to the early twenties (Kaye, Klump, Frank, & Strober, 2000) and is most commonly associated with severe life stress and dieting. Bulimia typically begins as a maladaptive attempt to achieve the thin ideal, but the binge-purge

cycle can increasingly become self-sustaining and an overwhelming part of individual identity (Cohen, 2003).

In an extensive study of the natural course of bulimia, Fairburn, Cooper, and colleagues (2000) found generally poor outcomes, with 15% still meeting full criteria and 50-75% meeting clinically significant partial-syndrome criteria after a five-year period. In the community, remission and relapse rates appear to remain relatively steady at 30%. In clinical samples, relapse rates are approximately 30-50% (APA, 2000). Although 30% relapse rates appear fairly consistent across studies, recovery and maintenance rates show far greater variability. Klein and Walsh (2003) suggested that 50% of clinical cases of show full recovery, with 20% continuing to meet full bulimia criteria after a five-year period. However, Gleaves, Miller, Williams, and Summer (2000) suggested that relapse rates may actually be closer to 63% post treatment.

Because individuals are typically normal weight, bulimic behavior often remains hidden for years until severe medical complications arise (Polivy & Herman, 2002; Gilbert, 2000). In an extensive metanalysis of bulimia prevalence and incidence across North America and Western Europe, Hoek and van Hoeken (2003) found that only 6% of individuals with full syndrome bulimia are receiving treatment for their disorder.

Currently, an average of only 11% of community bulimia cases are detected by family physicians. Of these, only 50% are then referred to eating disorder specialists (Hoek, 2002). This low rate of detection is particularly troubling in light of a recent community study showing that family physicians were consistently identified as the preferred source of eating disorder treatment over psychologists or psychiatrists, despite having received significantly less training on these issues (Mond, Hay, Rodgers, Owen, & Beumont, 2004). There is growing evidence of the need for more extensive eating

disorder training and a more comprehensive, collaborative approach to detection across disciplines.

Mortality rates for bulimia range from 1-5%, with cause of death most commonly attributed to cardiac abnormalities, severe electrolyte imbalances, and suicide (Ogden, 2003; Powers, 2002). Kalodner (2003) associated elevated mortality rates with longer duration of purging-type bulimia symptoms, suicidal ideation, and higher levels of weight related substance abuse such as diet pills, laxatives, and syrup of ipecac.

*Comorbidity.* Although there is consistent evidence of frequent comorbid psychopathology in bulimia, there is still not a clear, unifying theory to explain these findings. Comorbid depressive disorders, including major depressive disorder and dysthymic disorder, are experienced by 50-75% of individuals with bulimia (APA, 2002). Major depressive disorder appears to have the longest lasting comorbidity with bulimia, with 41% meeting criteria for major depressive disorder five years after their initial eating disorder diagnosis, despite an overall 30% decrease in other comorbid psychiatric symptoms (Fairburn, Cooper, et al. 2000).

According to the American Psychiatric Association (2002), anxiety disorders, particularly generalized anxiety disorder and social phobia, are also very common in bulimia. However, there is currently little U.S. based research on specific comorbid prevalence rates. Two extensive Western European DSM-IV based comorbidity prevalence studies have been conducted, finding lifetime prevalence of at least one comorbid anxiety disorder in 71% of individuals with bulimia, with anxiety frequently but not exclusively preceding eating disorder onset (Godart, Flament, Lecrubier, & Jeammet, 2000; Godart et al., 2003).

Substance abuse disorders are also common in bulimia, with prevalence rates ranging from 22.9% to 47% for alcohol use disorders, to 28 to 37% for other substance abuse disorders in bulimia (APA, 2002; O'Brien & Vincent, 2003; Powers, 2002).

Although the abuse of amphetamines, tranquilizers, and marijuana are frequently reported in bulimia, weight-related substances are far more commonly abused. Mitchell, Specker, and Edmonson (1997) report daily laxative abuse in 19.7%, daily diet pill abuse in 25.1%, and daily diuretic abuse in 10.2% of individuals studied, with frequent and occasional use reports being much higher. Diet pills can be amphetamines, herbals, or combination formulas that impact metabolism. Abuse of weight-related substances is particularly dangerous due to risk of severe electrolyte imbalances, hypertension, dehydration, colon and renal damage, and cardiotoxicity for the 1.1% reporting frequent syrup of ipecac abuse. Further, these substances are relatively inexpensive, legal, and readily available, making detection of abuse particularly difficult.

More research is required to determine the nature of the comorbid relationship between bulimia and substance use disorders. It is generally agreed that individuals with these comorbid disorders experience higher levels of overall psychopathology, but there is currently no support for an underlying shared model of addiction and limited evidence of shared etiological factors (O'Brien & Vincent, 2003; Wilson, 2002b).

Personality disorders, especially borderline personality, are frequently reported comorbid conditions with bulimia. It is possible that these elevated rates of personality disorder may be related to a common experience of sexual abuse or to increased levels of impulsiveness in bulimia, but more research is required (O'Brien & Vincent, 2003). To date, it is unclear if personality disorders precede bulimia, are sequelae, or if there are underlying moderating variables involved in this relationship (Wonderlich, 2002).



Much remains to be discovered about the complex and interacting relationships between bulimia and comorbid psychiatric disorders. In bulimia, depression can occur at any time, but anxiety typically precedes the onset of bulimic symptoms. These findings suggest that comorbid disorders may share some etiological elements with bulimia. However, there is currently little support for a purely common etiology, common risk factors, or common sequelae or antecedents to these disorders (Bulik, 2002).

#### *Eating Disorders Not Otherwise Specified*

Eating disorders not otherwise specified must be discussed in a somewhat different format from anorexia or bulimia. Eating disorders not otherwise specified are disorders that do not meet the full syndromal criteria for either anorexia or bulimia, but are nonetheless clinically significant (APA, 2000). Eating disorders not otherwise specified are not organized by the established diagnostic criteria, symptomatology, medical sequelae, prevalence, course and comorbidity found in anorexia and bulimia literature but by their similarity to anorexia or bulimia. The present section will be designed to provide a brief definition of the DSM-IV-TR (APA, 2000) categorical inclusion criteria for eating disorders not otherwise specified, followed by a review of what is currently known about prevalence and course in the existing eating disorder literature. Finally, there will be a brief discussion of alternative views to the current categorization of anorexia, bulimia and eating disorders as distinct diagnostic categories.

*Diagnostic Inclusion Criteria.* Eating disorders not otherwise specified are largely defined by their similarity to anorexia, or bulimia. According to the American Psychiatric Association (2000), these disorders may closely resemble anorexia nervosa, meeting all diagnostic criteria with the exceptions that menses is present or current weight that is above the 15%-below-normal range required for an anorexia diagnosis. Eating disorders

not otherwise specified may also closely resemble bulimia, meeting all diagnostic criteria with the exceptions that the frequency and duration of symptoms are somewhat lower than full syndrome criteria. Additionally, eating disorders not otherwise specified may include purging, without binge eating, in which individuals may purge after only small amounts of food intake, or may spit out binged food before it is swallowed. Individuals may also experience binge eating disorder, in which binge eating without compensatory behavior is the primary presenting symptom (APA, 2000). While it is currently considered an eating disorder not otherwise specified, a growing number of researchers believe that there is sufficient evidence to justify the introduction of binge eating disorder as a separate diagnostic category in future APA Diagnostic and Statistical manuals (Cooper & Fairburn, 2003).

*Prevalence and Course.* In research practice, eating disorders not otherwise specified are generally termed atypical, subclinical, or partial-syndrome eating disorders. To date, these terms appear to be used interchangeably. For the sake of clarity, the term partial-syndrome eating disorder will be used throughout this paper to signify eating disorders not otherwise specified. The current prevalence rate of partial-syndrome eating disorders is from 4-6% in the general population (Herzog & Delinsky, 2001) to 10% for women in late adolescence and early adulthood (Striegel-Moore & Smolak, 2001). This gives partial-syndrome eating disorders more than twice the prevalence rates of full syndrome anorexia or bulimia (Polivy & Herman, 2002).

In a five-year community based study, 15% of individuals with bulimia maintained full criteria status, 34% went on to develop partial-syndrome disorders, and 2% went on to develop anorexia (Fairburn, Cooper, Doll, Norman, & O'Connor, 2000). While it is quite common for full syndrome eating disorders to evolve into partial-

syndrome disorders, Williamson and colleagues (2001) found that up to 40% of individuals with partial-syndrome eating disorders proceed to a full syndrome diagnosis. To date, there is still very little known about the development, maintenance and treatment of partial-syndrome eating disorders. Current treatment recommendations are to treat anorexia-like partial-syndrome symptoms as anorexia and to treat bulimia-like symptoms as bulimia. However, research on the efficacy of this approach is limited (Fairburn & Harrison, 2003). Our current lack of knowledge about partial-syndrome eating disorders is particularly disturbing in that these individuals represent approximately 50% of the individuals currently seeking treatment (APA, 2002).

*Alternative Views of Eating Disorder Categorization.* In clinical practice, eating disorders often differ primarily in the degree of pathology, with a lesser degree of variance in presenting symptoms (Crow, Agras, Halmi, Mitchell, & Kramer, 2002). Due to the high degree of commonality among eating disorder diagnoses, future researchers may return to a single spectrum perspective rather than separating into anorexia, bulimia and eating disorders not otherwise specified. This approach is mirrored by the use of a transdiagnostic perspective, in which eating disorders are linked by an underlying common psychopathology (Fairburn & Harrison, 2003). This perspective may better account for the frequent crossover between anorexia nervosa, bulimia and eating disorders not otherwise specified. Currently, more than twice the number of patients seeking eating disorder treatment are diagnosed with partial-syndrome anorexia or bulimia, or eating disorders not otherwise specified (Polivy & Herman, 2002).

### Bulimia Nervosa Literature Review

The preceding section was intended to place bulimia within the larger diagnostic

context of eating disorders. Because the present study will examine inner experience in bulimia particularly, our discussion will now turn to a more thorough examination of this disorder. This discussion will begin with a review of our current understanding of bulimia etiology and will be followed by a review of heritability issues. The unique influences of gender and ethnicity on bulimia will then be examined. Familial factors and the history of sexual abuse relating to bulimia will then be examined. Next, the sociocultural factors will be discussed, followed by a review of the roles that social phenomena such as dieting and peer relationships may play in the development and maintenance of bulimia. This bulimia overview will conclude with an examination of the cognitive and intrapersonal correlates of the disorder.

### *Etiology*

Despite 25 years of research, there is not yet a clear and comprehensive understanding of bulimia etiology. Although there is growing evidence of significant risk factors, it is not currently possible to assert a definitive theory of etiology. Fairburn and Harrison (2003) warned against making definitive etiology statements without sufficient accumulated evidence. There is undoubtedly a genetic predisposition and a range of environmental risk factors, and there is some information with respect to the identity and relative importance of these contributions. However, virtually nothing is known about the individual causal processes involved or about how they interact and vary across the development and maintenance of these disorders (p. 409). To date, bulimia is understood to be multiply determined, with biological and environmental factors interacting to create vulnerability. Polivy and Herman (2002) proposed that the greater the number of interacting social, familial, cultural, biological, and individual psychological risk factors one experiences, the higher the risk of developing a clinically significant eating disorder.

Consistent with Fairburn and Harrison's (2003) approach, this paper will review current literature on bulimia risk factors, while acknowledging that a definitive theory of etiology has yet to be discovered. At present, our understanding of the etiology of bulimia is significantly behind our knowledge of other issues related to this disorder (Striegel-Moore & Cachelin, 2001).

### *Heritability*

There is evidence of increased rates of eating, affective, and substance related disorders in the first-degree relatives of individuals with bulimia (APA, 2000). However, exact concordance rates remain somewhat unclear (APA, 2002). In twin studies, there is a 35% monozygotic concordance rate for bulimia and a 30% dizygotic concordance rate. More wide scale research is required, as several twin studies fail to account adequately for the effects of shared environment (Fairburn & Harrison, 2003). There is also evidence of the heritability of bulimic behaviors, especially binge eating and vomiting, perhaps contributing to biological risk factors in bulimia development (Strober & Bulik, 2002).

In a wide scale study of bulimic probands and their eating disorder affected family members, Kaye and his colleagues (2004) found that 34.8% of affected first-degree relatives met bulimia criteria, 27.5% of affected first-degree relatives had been diagnosed as bulimic with a history of anorexia, and 19.7% of affected first-degree relatives had been diagnosed with anorexia. This suggests that genetic heritability is most likely for eating disorders as a whole, regardless of presenting type (Kaye et al., 2004). Overall, there is agreement that bulimia has a strong genetic component, but far more research is needed to determine the relative contributions and complex interaction of genetic and environmental factors (Striegel-Moore & Cachelin, 2001). There is also a need for further examination of the potential genetic factors that may contribute to the

biological and psychological correlates of bulimia (Polivy & Herman, 2002). As our genetic knowledge and technology evolve, it is likely that our understanding of the heritability and potential genetic markers involved in bulimia will grow exponentially.

### *Gender*

Bulimia is almost exclusively a women's health issue. Individuals with bulimia are 80-90% female (Powers, 2002; APA, 2000). There is significantly greater pressure for females to attain physical ideals of beauty and thinness and a greater risk of sexual abuse and harassment, all of which may contribute to a perception of powerlessness over one's body and a desire to restore control (Striegel-Moore & Smolak, 2002).

In spite of significant social advancements, gender inequality still exists. Young women are given the implicit and at times explicit message that their success is linked to their ability to achieve cultural ideals of attractiveness (Smolak & Murnen, 2001). In addition to these unique female social pressures, women also experience a somewhat elevated degree of risk for developing psychiatric disorders (Powers, 2002). Physiologically, women experience a higher degree of hormonal fluctuation, which may influence hunger and satiety signals (Cohen, 2003); women also have a physiological tendency toward a higher body mass index (Powers, 2002). College women are the highest risk group for bulimia (Cashel, Cunningham, Landeros, Cokley, & Muhammad, 2003), with women ages 20-24 having particularly elevated risk (Hoek & van Hoeken, 2003).

Harvey and Robinson (2003) predict that prevalence rates for men will likely rise due to an increasing social and media pressure for men to achieve a lean and muscular ideal. These pressures are already reflected by marked increases in protein, steroid, and dietary supplement consumption. However, they found that men are still less likely to

seek treatment and there is still a stigma associated with eating disorders and male sexuality.

Despite the profound gender split in bulimia, there has actually been a decrease in research directed specifically to gender issues. Unfortunately, the disinclination to examine gender appears to be more of a political than a scientific decision in the field and may lead us to miss important contributing factors in the development, maintenance and treatment of bulimia specifically and eating disorders as a whole (Smolak & Murnen, 2001).

### *Ethnicity*

Bulimia has traditionally been viewed as occurring mainly in Caucasian women, but there is not currently sufficient research in diverse populations (APA, 2000).

Caucasian women living in Western society do appear to constitute the highest risk group (Fairburn & Harrison, 2003). Cashel and her colleagues (2003) linked the somewhat elevated risk for Caucasian women to their greater internalization of the cultural thin ideal relative to African American women. However, other studies have shown bulimia prevalence to be equal across cultural groups. This discrepancy may be due to a lack of assessment measure standardization among diverse groups (Cashel et al., 2003).

In a study of the 1996 National Eating Disorders Screening Program, Becker, Franko, Speck, and Herzog (2003) found that ethnic-minority individuals were less likely to seek treatment. More disturbingly, Becker and her colleagues found that during the screening process, ethnic-minority individuals were 31% less likely to be referred for treatment despite meeting identical diagnostic criteria.

Increased efforts to design culturally sensitive assessment tools to measure risk factors may be a potential remedy to this situation. This would include strategies that

consider the contributions of acculturation, immigration, and discrimination, in the development and maintenance of bulimia. While culturally informed assessment and treatment strategies are critically important, there is also an immediate need for the inclusion of diverse representation in research samples (Striegel-Moore & Cachelin, 2001).

There have been efforts to consider bulimia a culture-bound syndrome, in that it is rarely found in cultures with limited Western media exposure. Keel and Klump (2003) found that exposure to Western media and access to large quantities and varieties of foods, with an accompanying cultural emphasis on thinness appear to create specific culture bound risk factors for binge eating. Within the United States, the growing pervasiveness of mainstream media in diverse communities may unfortunately lead to greater cultural equality in bulimia prevalence (Polivy & Herman, 2002). As a general rule, the greater the internalization of the mainstream ideal of thinness, the higher the risk of developing bulimia and other eating disorders, regardless of individual cultural membership (Gleaves et al., 2000).

### *Family Factors*

Individuals with bulimia frequently report high levels of family conflict. Family conflict may contribute to an elevated risk of developing bulimia and may also play an active role in symptom maintenance. While conflict may be expressed in diverse ways, high degrees of conflict, hostility, criticism regarding weight and appearance, unreasonable expectations, and lack of familial cohesion all appear to be powerfully correlated with bulimia (Polivy & Herman, 2002; Cohen, 2003, Stice, 2002). Further, high levels of familial perfectionism and stress reactivity may create additional pressure to achieve the thin ideal (Klein & Walsh, 2003). Familial dieting, negative feedback on



weight, emotional insensitivity, and inadequate parenting also appear to be risk factors for disordered eating (Fairburn & Harrison, 2003). Direct family pressure on young women to lose weight is a significant predictor of disordered eating (Stice, 2002). Family conditions characterized by indifference and neglect are frequently reported in bulimia studies (Jacobi, Hayward, deZwaan, Kraemer, & Agras, 2004). In contrast, high degrees of overprotectiveness and enmeshment also appear to be contributing factors to bulimia onset and maintenance (Robert-McComb, 2001).

In a 22-year longitudinal study, Moorhead, Stashwick, Reinherz, Giaconia, Striegel-Moore, and Paradis (2003) found that parents of children with bulimia or anorexia perceived their child to be more anxious and depressed at age nine and to experience more behavioral problems at age fifteen than their non-eating-disordered siblings. The parents also reported twice the levels of pregnancy complications prior to delivery of, and more early childhood health problems in, their eating disordered children. More research is needed to determine the relative biological and environmental contributors to bulimia and their complex interactions. Klein and Walsh (2003) also found a powerful correlation between parental and childhood obesity and the later development of bulimia. This factor may suggest both environmental and biological susceptibility. Although family conflict is most frequently examined as a risk factor in bulimia, it is likely that ongoing dysfunction plays an active role in maintenance and treatment issues. Okon, Greene, and Smith (2003) found that high degrees of family conflict and emotional expressiveness were powerful predictors of the frequency and severity of bulimic symptoms on the same day of the conflict.

To date, the majority of studies examining family conflict in bulimia are correlational, making definitive, causal statements about their role in development,

maintenance, and treatment elusive (Polivy & Herman, 2002). Although the majority of studies in the field consider family conflict to be a risk factor, it is more accurate to consider these factors correlates until further research on the complex interplay of family conflict and pathology is available (Jacobi et al., 2004).

### *Sexual Abuse*

Sexual abuse appears to be an area of both great interest and great conflict in current bulimia literature. Some studies find a strong association between sexual abuse and the subsequent development of bulimia, while others found sexual abuse to be only marginally related. According to the American Psychiatric Association (2002), 20-50% of individuals seeking treatment for eating disorders report having experienced sexual abuse. Further, this traumatic experience is correlated with higher levels of psychiatric comorbidity in individuals with bulimia.

Leonard, Steiger, and Kao (2003) found a strong correlation between the experience of sexual abuse and symptom severity. Intensive interviews with women reporting childhood sexual abuse have uncovered the fact that food may have been used as either a reward or punishment in the context of the abuse, leading to an early dissociation from normal cues of hunger and satiety (Woolsey, 2002).

Childhood sexual abuse instills an overwhelming sense of powerlessness. For many women, disordered eating begins as an attempt to reassert power over their body or avoid physical signs of adult sexuality (Murray, 2003). The experience of childhood sexual abuse significantly increases negative affect and need for control and decreases self-esteem and self-identity (Polivy & Herman, 2002). Although Fallon and Wonderlich (1997) found evidence that childhood sexual abuse is correlated with more severe bulimic

pathology and higher levels of psychiatric comorbidity, they determined sexual abuse to be a nonspecific risk factor in the development of bulimia.

In an extensive metanalysis, sexual abuse was found to be a nonspecific risk factor of medium potency in the subsequent development of bulimia (Jacobi et al., 2004). However, studies examining childhood sexual abuse in bulimia to date have been primarily correlational and small, thus limiting definitive conclusions.

### *Sociocultural Factors*

In the past two decades, Western culture has continued to praise thinness as an essential condition of beauty for women. Increasingly, the strong sociocultural pressure to attain thinness has been linked to social, personal, and professional achievement (Cohen, 2003). While the media perpetuates this ideal for all women, individuals with bulimia appear to be at increased risk from these messages, perceive a higher degree of pressure from media images, are more vulnerable to negative weight related messages, and internalize these messages more efficiently. Furthermore, exposure to media emphasis on thinness and the stigmatization of overweight bodies increases body dissatisfaction and acts as a motivator for bulimic behavior (Stice, 2002; Stice, 2001).

The idolization of thinness is the norm in Western culture. The image of thinness as a necessary condition of female beauty is powerfully entrenched, creating: "...a perceived cultural message, perhaps even a cultural imperative, that girls dislike their bodies and should attempt to change them." (Smolak & Murnen, 2001, p. 97). Although the majority of women exposed to these images do not develop bulimia, individuals with other precipitating risk factors may be particularly sensitive to these images, may frequently seek out these images, and may employ maladaptive strategies to attempt to attain the thin ideal (Polivy & Herman, 2002).

## *Dieting*

Despite its omnipresence in current popular culture, dieting is considered to be the most powerful risk factor in the development of bulimia (Jacobi et al., 2004). According to the American Psychiatric Association (2000), bulimia onset most often occurs during or after a period of dieting. The intense normalization of dieting behavior during college is particularly alarming in that extreme dieters are 18 times more likely to develop an eating disorder than nondieters (Wilson, 2002a). Once bulimic patterns have been established, the individual usually remains within normal weight range but continues to diet when not binge eating. Gilbert (2000) discovered that 30-40% of individuals with bulimia were overweight prior to onset, thus creating conditions supporting initial dieting attempts. Dieting is associated with a marked decrease in serotonin levels, an adoption of unrealistically high standards regarding weight and shape, and a sense of deprivation that is a powerful catalyst for the loss of control in binge eating (Wilson, 2002a).

College women are at elevated risk of developing bulimia, in part because of a pervasive emphasis on dieting in college. Dieting is actually far more common than not dieting during the college years, with the thinness ideal becoming increasingly unattainable. The current healthy norm of body fat is 22-25%, yet the current ideal of beauty is associated with having no more than 10-15% body fat (Gleaves et al., 2000). Despite efforts to educate college women about the risks of extreme dieting and eating disorders, 70% of college-aged women report perceiving themselves as significantly overweight and 10% engage in regular bulimic behaviors (Cohen, 2003). An additional 20% of young women report using weight loss strategies such as fasting, vomiting, laxatives, or diet pills in the past year (Hill, 2002) and 19% report regular and clinically significant bulimic symptoms (Hoek, 2002).

The cultural ideal of thinness is pervasive despite the elusiveness of attaining it. Less than 5% of the population has the ideal body weight (Kalodner, 2003). Dieting is becoming a cultural norm, with 55% of women and 29% of men reporting dieting in the past year (Hill, 2002). Most individuals who diet will not develop bulimia or any other eating disorder. However, it appears that college- aged women are particularly vulnerable to internalizing not only the cultural ideal of thinness but also the stigmatization of being overweight (Polivy & Herman, 2002). The spike in dieting and bulimic symptomatology during the college years may be due in part to increased exposure to peer influence, with an accompanying lack of familial supervision of eating habits.

#### *Peer Factors*

During the college years, peer messages increasingly normalize making negative judgments about self and others based on weight, shape and appearance (Smolak & Murnen, 2001). Peer influence increases internalization of the thin ideal and may normalize and directly teach bulimic behavior (Polivy & Herman, 2002). There is a heightened need for approval and conflict avoidance in bulimia, with an accompanying marked difficulty with identifying and asserting personal needs, creating heightened reliance on peers for self-definition (Robert-McComb, 2001).

Individuals with bulimia report poorer social adjustment, a higher degree of sensitivity to rejection and social criticism and higher needs for love, affection, praise and approval than their noneating disordered peers. These conditions create increases in negative affect, weight preoccupation, and bulimic behavior (Fairburn, Stice, et al., 2003; Cohen, 2003; Oates-Johnson & DeCourville, 1999). Individuals with bulimia also report greater pressure from peers to lose weight and more teasing from peers about weight,

shape, and appearance. Additionally, individuals report first learning binge eating, vomiting and other compensatory techniques from peers (Stice, 2002).

Cashel, and her colleagues (2003) found that women in sororities report more dieting, greater internalization of the thin ideal, more emphasis on attractiveness, and stronger beliefs in the correlation between attractiveness and achievement than their nonsorority peers. Overall, college women face the highest degree of eating disorder risk and women in sororities may have elevated risk beyond this baseline. Unfortunately, strong group identification in sororities may make it difficult for women to attempt to change extreme dieting and bulimic behaviors.

#### *Cognitive Factors*

Bulimia appears to be maintained by negative schemas about weight, shape, and appearance. Individuals selectively attend to information that confirms their negative schemas while rejecting any information that contradicts the schema. Once the negative schemas are formed, women increasingly view their bodies as vehicles for change. In bulimia, there is a powerful belief that changing or controlling the body will decrease feelings of powerlessness and increase control over other domains (Kearney-Cooke & Striegel-Moore, 1997).

Individuals with bulimia often display marked cognitive distortions, particularly with regard to weight, shape, food, and bulimic behaviors. Despite content, these distortions can all be characterized as “all or nothing” thinking. These extremes act to decrease perception of risk regarding bulimic behavior and increase commitment to these behaviors. All or nothing thinking decreases self-efficacy by leading the individual to perceive any deviation from caloric restriction as a loss of control, thus triggering binge

eating and subsequently purging as an attempt to restore control (Waller, 2002; Gleaves et al., 2000; Polivy & Herman, 2002).

### *Intrapersonal Factors*

Bulimia is characterized by profound body dissatisfaction with excess emphasis on attaining ideal weight and shape as a condition of self worth. The well-established biological, sociocultural, familial and intrapersonal risk factors discussed in the preceding sections seem to contribute to negative self-evaluation and body dissatisfaction. Stressful life events significantly contribute to the onset of bulimia and may also play an active role in symptom maintenance. Further, ongoing life stress increases vulnerability to psychological risk factors such as low self-esteem and high levels of perfectionism, increasing symptom severity (Williamson, et al., 2001; Ruggiero, Levi, Ciuna, & Sassaroli, 2003). Overall, body dissatisfaction significantly increases one's risk of developing bulimia (Polivy & Herman, 2002).

In addition to the presence of stressful life events, individuals with bulimia are reported to have poorer identity formation, lower self-esteem, and higher needs for control, love, approval, praise, and affection than their non-eating disordered peers (Polivy & Herman, 2002; Oates-Johnson & DeCourville, 1999). Low self-efficacy and a global sense of ineffectiveness have been identified as significant individual risk factors for bulimia (Jacobi et al., 2004). Low levels of self-competence and weight-related shame and guilt have been reported to decrease coping skills in individuals with bulimia, maintaining the binge-purge cycle (Bardone, Perez, Abramson, & Joiner, 2003; Burney & Irwin, 2000).

Impulsivity has been frequently associated with bulimia; however, it is currently unclear if poor impulse control is a correlate, a consequence of comorbid conditions, or a

direct risk factor for eating disorders (Stice, 2001). Bulimic behavior leads to significant impairments in perceived quality of life. Individuals with bulimia perceive the world as stressful and report using the binge-purge cycle as a means to cope with overwhelming affective and situational stressors (Hay, 2003; Cohen, 2003).

Body dissatisfaction often leads to highly ritualistic body checking and body avoidance behaviors. These behaviors increase body dissatisfaction, facilitating increased symptom severity (Tylka, 2004; Shafran, Fairburn, Robinson, & Lask, 2004). Body checking includes behaviors such as frequent weighing, measuring and mirror scrutiny of the body, appearance reassurance seeking, and physical comparisons to others. Body avoidance behaviors include avoidance of mirrors, refusal of weighing, and wearing non-revealing clothing to hide body shape. In two related studies of body checking and avoidance, Shafran and her colleagues (2004) found that 92% of individuals with eating disorders reported frequent body checking behavior, with 33% checking in excess of sixteen times per day. Body avoidance behavior was less common, with 61% reporting consistent body avoidance and 20% reporting brief periods of avoidance before resuming frequent body checking behavior. In both studies, body checking and avoidance were associated with improved sense of control in only 5% of individuals. For the remaining 95%, checking and avoidance behaviors increased negative affect and decreased perceptions of control, facilitating an increase in binge eating and purging behavior.



## CHAPTER 2

### INTRODUCTION TO INNER EXPERIENCE METHODS

#### Understanding Inner Experience

We have completed the first part of the literature review, discussing eating disorders in general and bulimia in particular. We turn now to the second part of the review and consider methods used to explore inner experience. This chapter will begin with a review of current assessment methods that rely primarily on self-report and clinical interview data. The advantages and potential biases of each method will be discussed. Second, we will review current methodologies used to explore inner experience while controlling for potential bias and retrospective errors. Third, we will discuss Descriptive Experience Sampling. We will attempt to demonstrate that this is currently a highly effective and relatively error-free method that can allow us to very accurately understand inner experience in psychopathology. Finally, we will review the preliminary eating disorder research using this method as a foundation upon which the current study will be built.

Despite 25 years of extensive research, very little is understood about how bulimia is experienced at the individual level. A search of PSYCINFO, the most widely used psychology research database, using the terms “phenomenological\* eating disorders,” “phenomenolog\* eating disorders,” “experiential\* eating disorders” and

“experience\* eating disorders,” reveals that less than .05% of eating disorder studies focus on phenomenological or experiential issues.

Introspective and qualitative research methods remain somewhat controversial in psychology, but ethically, the potential benefits of exploring and understanding inner experience far outweigh its inherent methodological risks. Vermersch (1999) addressed the ethical implications of our reluctance as a science to collect and analyze potentially invaluable qualitative data with the following challenge.

How much longer can we afford to remain blind to this dimension? Are we not under some sort of obligation to add a truly scientific dimension to subjectivity? For my part, I would want to add that what is also at stake is the need to coordinate the innumerable practices which make us use first person data...with the present scientific vacuum which surrounds all those aspects of cognitive functioning which can only be apprehended at a phenomenological level (Vermersch, 1999, p. 31).

This challenge will serve as a guideline in analyzing current methodologies and in carefully applying the descriptive experience sampling method to the inner experience of individuals with eating disorders.

## Retrospective Assessment Methods

### *Self-Report*

Self-report measures are the most commonly used assessment strategy in eating disorder research. In this method, individuals are usually presented with a list of diagnostic criteria or symptom related items. Individuals then rate each item, usually using a Likert scale, in terms of the degree to which that specific item relates to their

current eating disorder experience. For example, on the Eating Attitudes Test (EAT-26; Garner, Olmstead, Bohr, & Garfinkel, 1982), individuals are asked to rate the frequency with which they “are preoccupied with a desire to be thinner” using a 6 point Likert scale ranging from always to never.

The primary advantages of self-report measures are that they allow for a limitless variety of questions relating to a construct of interest and that they are usually easily understood and straightforward to administer. There are several well-established methodological difficulties with an exclusive reliance on self-report measures, including memory, cognitive processing, individual and affective factors and self-presentation bias. Tourageau (2000) asserted that self-report surveys are vulnerable to multiple memory errors that may occur during encoding, storage, or retrieval processes. At encoding, information related to a survey item may not have been adequately encoded in long-term memory for later retrieval. Encoding difficulties may occur due to a lack of attention to the initial experience or due to the presence of cognitively competing information during the encoding process. Storage difficulties have been attributed to competing information occurring after the initial event that may distort memory, creating self-report inaccuracies. Individuals may also experience retrieval problems. The tendency to store similar events together in long-term memory may interfere with ability to accurately retrieve event-specific information from this category.

Finally, self-report measures are also vulnerable to retrospective biases in which one’s current beliefs about the construct being measured may influence beliefs about past events, thus distorting memory. These distortions are reflected in varying patterns of underestimation or overestimation of stability and change depending on the construct

being measured. Due to these multiple errors, the accuracy of recall over more than very brief time periods must be carefully questioned (Tourangeau, 2000).

Because negative affect is a common feature in eating disorders, self-reports may overestimate actual rates of negative affect as these experiences were likely particularly salient. This overestimation may occur through mood dependent memory effects, in which it is easier for individuals to retrieve affective information that is consistent with their current affective state (Kihlstrom, Eich, Sandbrand, & Tobias, 2000). Thus, if individuals are distressed while completing a self-report, they are more likely to remember mood congruent items, more likely to forget mood incongruent items, and more likely to rate items relating to negative affect as frequent and severe.

Ecological validity is a measure of the degree to which a task reflects one's natural daily activities. For example, self-report measures administered in laboratory settings may not generalize to the expression of the construct of interest in an individual's daily experience. Ecological validity is lacking in most commonly used self-report measures. Self-reports create unnatural conditions first by prompting recall of information over an extended period of time and secondly by assessing individuals outside of their normal surroundings. Passage of significant periods of time between events and recall introduce increased reconstructive bias and self-report of private phenomena outside of one's natural settings that may not generalize to daily eating disorder behavior. These difficulties make techniques that collect ecologically valid data far more advantageous when assessing the characteristically complex affect, cognition and behavior in eating disorders (Smyth, Wonderlich, Crosby, Millenberger, Mitchell, & Rorty, 2001).

According to Schaeffer (2000), self-report questions that are threatening to the individual are especially prone to self-presentation bias. Evaluation of threat is likely to vary between individuals, but is generally identified on items that evoke a sense of shame, negative affect, or risk of pressure to seek treatment. However, any item that is particularly disturbing to the individual may be evaluated as threatening. Increasing the degree of privacy given during self-report administration by using methods such as computerized self-report may decrease the risk of self-presentation bias.

Self-report measures are uniquely vulnerable to methodological difficulties at the individual level. Individuals may not fully understand survey items and these items may not be adequately defined. In eating disorder surveys, items that assess preoccupation, binge eating, and loss of control all require a certain degree of interpretation that may vary widely between individuals. Examples of these types of items include: “Give too much time and thought to food” and “Have gone on eating binges where I feel that I may not be able to stop” (Garner, et al., 1982). Further, individuals may not understand or attend to specific time-frame requirements on surveys, so that symptomology measured over a four-week period, for example, may not be accurately reported. Individuals may also be somewhat reluctant to disclose personal and potentially threatening information on self-reports, either refusing to do so, or using response sets that may bias the collected data. Structurally, self-reports may not adequately account for the degree to which current symptomatology, language and literacy abilities and level of distress may affect an individual’s ability to accurately complete self-report measures (Kessler, Wittchen, Abelson, & Zhao, 2000).

### *Clinical Interviews*

Clinical interviews overcome some of the methodological problems inherent in self-report surveys and allow for a more thorough assessment of eating disorder diagnostic criteria. The primary advantage of clinical interviewing is that it relies on strong rapport between interviewer and interviewee, providing opportunities to detect inconsistent or inaccurate information. Clinical interviews also create a sense of collaboration, in which any confusion about questions can be clarified and individuals with eating disorders can be encouraged to disclose potentially distressing information in a more formal, confidential format.

The Eating Disorder Examination 12th Edition (EDE; Fairburn & Cooper, 1993) is the most widely used structured clinical interview to assess eating disorders. The EDE consists of four subscales measuring dietary restraint and concerns about eating, shape and weight. EDE questions are based directly on eating disorder diagnostic criteria. For example, the first question relating to bulimia in the EDE is the first diagnostic criteria for bulimia in the DSM-IV-TR (APA, 2000) relating to recurrent episodes of binge eating. The EDE provides an overall rating of eating disorder severity, as well as individual subscale scores over the past four-week period. EDE questions are rated in a seven-point Likert scale, with higher scores indicating greater eating disorder severity. The EDE has excellent reliability and validity, yielding far greater diagnostic detail than traditional self-reports.

However, self-presentation bias may be higher in clinical interviews than in self-report measures due to the relationship established through therapeutic rapport and the use of multiple probes. Further, the high degree of shame associated with eating disorder pathology and the common reluctance to seek treatment, may significantly bias interview

responses. Ultimately, the use of multiple and multimodal assessments help to control for bias and is considered the gold standard in practice (Guest, 2000).

Passi, Bryson and Lock (2003) reported higher endorsement of eating disorder pathology on self-report than on the EDE, attributable in part to a lack of adequate understanding of self-report items. They found that providing training to participants on difficult to interpret items, such as defining loss of control, significantly improved the correlation between their self-report and clinical interview results.

In an extensive study with 500 adolescents, Field, Taylor, Celio and Colditz (2004) found that 12% of individuals who endorsed bulimic behaviors on self-report questionnaires failed to do so on a clinical interview. Although these differences may be attributable to item miscomprehension, it is more likely that they were due to a lack of temporal overlap between the administration of self-report measures and another clinical interview, the Eating Disorders Interview. When using multimodal assessments, it is necessary to ensure items are being used to measure the same time period, that both the clinical interview and the self-report questionnaires are clearly worded and that any vague items are clearly defined prior to administration (Field et al., 2004)

Clinical interviews overcome some of the methodological problems inherent in self-report surveys, but unfortunately introduce additional error possibilities into the eating disorder assessment process. The limitations in the studies discussed above indicate a clear risk of self-presentation bias, shame, reluctance to seek treatment and lack of clear understanding of diagnostic criteria inherent in clinical interviewing methods. It is our evaluation that clinical interviews allow the collection of valuable diagnostic information but are still sufficiently vulnerable to bias and memory errors to

warrant the use of additional supporting information, particularly information that increases insight into the inner experience of eating disorders.

Current retrospective eating disorder assessment methods rely primarily on self-report and clinical interview data. While the information yielded by these methods is necessary and valuable, it is also particularly vulnerable to bias. Individuals with eating disorders often misrepresent their responses to traditional assessment measures (Crowther & Sherwood, 1997). This misrepresentation primarily occurs through stigma, shame, and a desire to avoid detection and intervention efforts (Polivy & Herman, 2002), but may also occur through self-presentation bias, memory, or cognitive processing errors. Traditional assessment measures have thus proven to be insufficient for gaining a clear understanding of eating disorder phenomena.

### Concurrent Assessment Methods

As we have seen, self-report and clinical interviewing methods are subject to significant retrospective and memory biases. Despite that fact, self-report and clinical interview methods are used almost exclusively in eating disorder research. Eating disorders are profoundly disruptive and potentially fatal; they must be examined in the most methodologically sound way possible. Researchers disappointed by the significant methodological errors and lack of ecological validity in traditional self-report and clinical interviewing methods have designed strategies to gain insight into inner experience. This discussion will begin with a review of diary methods, followed by cognitive methods (think aloud, thought listing, and thought sampling), and electronically cued checklists (Experience Sampling Method and Ecological Momentary Assessment). A brief introduction to each of these methods, with a review of advantages, disadvantages and



application to eating disorder research where available will be provided. This chapter will conclude with a discussion of Descriptive Experience Sampling, a method that overcomes the significant methodological difficulties in previous attempts to explore inner experience.

### *Diary Methods*

Diary methods instruct participants to record requested information about a construct of interest at assigned time intervals throughout the day. However, information may not necessarily be recorded at the assigned times and may be recorded after the fact in paper-and-pencil diary formats. The primary advantages of diary methods are that they allow for the collection of diverse information relating a particular question of interest to the researcher and have greatly increased ecological validity. Facilitating collection of data in the participant's natural environment decreases retrospective bias by prompting for events to be recorded immediately after they occur. Diary methods yield much more complexity than is possible with traditional self-report measures.

Bolger and his colleagues (2003) reviewed three types of diary design. In time-based designs, entries are completed at assigned time periods. In signal-based designs, entries are completed when the participant is signaled, either randomly or non-randomly to do so. In event-based designs, individuals are asked to make an entry after each construct-related event occurs. Diary methods allow researchers to assess events across time and clarify existing individual patterns. These methods are quite non-invasive, cost effective and easily understood by participants. However, they remain highly vulnerable to self-presentation bias and reactivity. Studies using diary methods often report high attrition rates due to lack of clinical supervision and long time commitments for

participants in most of these studies. Additionally, diary methods require that participants be trained on expected entry content and completion (Breakwell & Wood, 2000).

Diaries are also vulnerable to retrospective bias, particularly if participants do not complete entries at the assigned times. Although frequent monitoring has been proven to increase compliance rates, many diaries are still in paper-and-pencil format and thus compliance and timely reporting is not verifiable (Breakwell & Wood, 2000). Thiele, Laireiter and Baumann (2002) suggest that compliance may be increased in diary studies by using simple diary formats, maintaining frequent researcher-participant contact, and providing adequate training at the start of the study.

Diary methods have been used in eating disorder studies, ranging from simple assessment of food intake to more complex, interacting variables. Waters, Hill, and Waller (2001) used a food intake diary for participants to record food consumed during regular and binge eating episodes. The diary included a craving checklist to record subjective experience of cravings, antecedents, time, location, and presence of others. This diary method was found useful for identifying binge-eating triggers. However, a potential limitation of this study is that it is quite difficult for individuals to accurately record food intake, especially during binge episodes when dissociation and high levels of distress are common.

Waugh and Bulik (1999) also used a food intake diary to assess food consumption and affect in the children of mothers with eating disorders. While the food diary did not reveal any significant differences between the children of eating disordered and control mothers, a videotaped meal did show significantly fewer positive interactions between parents and children in the eating disorder group. In this study, diary methods alone were

insufficient to determine the degree of eating disorder risk in children with an eating disordered mother.

However, there are clear disadvantages to these methods, including reactivity, habituation, and risk of retrospective bias when compliance is inconsistent. Because traditional paper-and-pencil diaries cannot be verified, diary studies are increasingly using electronic diaries that can be programmed to prompt entries, control for time non-compliance and allow greater verifiability (Bolger, Davis, & Rafaeli, 2003). Based on the limitations of diary methods discussed above, the ecological validity and insight into the inner experience of eating disorders provided by diary methods may be offset by their vulnerability to memory errors, self-presentation bias, and lack of adequate sensitivity. These limitations suggest that diary methods should not be used as sole methodologies in eating disorder research.

### Cognitive Methods

Cognitive methods collect information about thoughts in inner experience. They may collect fairly complex data about cognitive processes, as in the think aloud method, may collect data about individual thoughts about a specified topic as in the thought listing method, or may collect samples of cognitive data in the participant's natural environment as in thought sampling.

#### *Think Aloud*

The think aloud method has been widely used to assess cognitive processes in individual experience. In this method, individuals are asked to state their thoughts aloud, usually into a tape recorder during a problem-solving task. The researcher then organizes and codes verbalizations to obtain insight into the psychological and cognitive processes

involved in the assigned task (Yang, 2003). The primary advantage of the think aloud method is that it allows the research to collect immediate information about the cognitive aspects of inner experience at the time it is occurring, thus largely avoiding retrospective and memory biases.

Genest and Turk (1981) argued that the think aloud method is reactive, vulnerable to incomplete reporting, and lacking in ecological validity. Because thinking aloud requires verbalization, it may not accurately represent the thought itself. However, Yang (2003) proposed that increasing the level of collaboration between researcher and participant may reduce error and reactivity and increase understanding of complex reports, a method strongly advocated by the descriptive experience sampling method to be addressed later.

There are few eating disorder studies to date using the think aloud method, Barnhofer, de Jong-Meyer, Kleinpab, and Nikesch (2002) discovered significant differences in cognitive and memory styles using this method in a depression study. Specifically, they found that depressed individuals retrieved fewer memories overall and more categoric memories than nondepressed individuals. Therefore, think aloud strategies appear to have utility in assessing cognitive issues in psychopathology.

Davison, Vogel, and Coffman (1997) designed a modified think aloud method termed Articulated Thoughts in Simulated Situations (ATSS). In this method, individuals listen to hypothetical situations ranging from neutral to highly emotional and report their thoughts aloud after imagining themselves in the situation presented. The ATSS method allows for greater target-situation flexibility than traditional think aloud protocols and immediate reporting reduces the risk of retrospective recall errors, but may still be vulnerable to self-presentation bias. To date, no ATSS eating disorder research has been

conducted. However, research on anxiety, depression, social anxiety, family conflict and therapy outcome has shown the method to have utility for studying cognitive processes in situational contexts.

In vivo exposure was used in one think aloud study by Cooper and Fairburn (1992), in which individuals with eating disorders and controls were given three exposure exercises to evoke eating, weight, and shape related cognitions. Participants were asked to weigh themselves, eat a chocolate mint, and stand in front of a full-length mirror while completing a thought checklist. Overall, participants with eating disorders had more negative eating, weight and shape related cognitions than controls. Further, individuals with anorexia reported more negative eating related cognitions and individuals with bulimia reported more negative weight and appearance related cognitions. These reported differences appear to be consistent with their respective diagnostic criteria.

### *Thought Listing*

In the thought listing method, participants are asked to write down all of their thoughts after being presented with a particular topic or visual stimulus. This method is somewhat superior to think aloud in that it allows for greater detail than immediate verbalization, but is not as effective in ruling out the effect of retrospection, is still fairly reactive, and is lacking in ecological validity and vulnerable to self-presentation bias. To date, there are no thought listing studies on eating disorders that we know of (Cacioppo, & Petty, 1981).

### *Thought Sampling*

Thought sampling methods require participants to complete checklists or questionnaires related to thoughts immediately when they are cued to do so. Participants may also be required to report on measures of thinking and mood (Hurlburt, 1997). Cues

may be presented on a programmed schedule, or may occur randomly. Particularly when random cuing and immediacy of reports are combined, thought sampling markedly overcomes the problem of retrospective recall common in self-report measures and enhances the ecological validity of a study. Thought sampling methods introduce a greater degree of flexibility into the cognitive and affective aspects of inner experience (Cooper & Fairburn, 1992; Zotter & Crowther, 1991).

Thought sampling has been used in two studies of bulimia. Zotter and Crowther (1991) applied thought sampling to a study of the cognitive aspects of bulimia. The women were randomly cued and asked to record their thoughts and activities at each cue. They found that women with bulimia reported significantly more dichotomous thinking and cognitive distortions than did controls when tested using the thought sampling method.

The thought sampling method was used by Zotter-Bonifazi, Crowther, and Mizes (2000) to measure the correlation between thought sampling and self-report. Participants completed a brief self-statement questionnaire assessing the presence and intensity of eating, shape and weight related cognitions every 30 minutes. They found that a high correlation between self-report measures of bulimia and participant reports using the Bulimic Cognitions Inventory during in vivo thought sampling. This study revealed that thought sampling could be used to support participant's endorsement of cognitive items on traditional self-report measures.

Thought sampling studies have markedly enhanced our understanding of cognitive and affective processes in psychopathology and have introduced protocols such as random sampling and immediate reporting to control for retrospective recall bias.

However, this method is still lacking in ecological validity and is prone to self-presentation bias.

### Electronically Cued Checklists

#### *Experience Sampling Method*

Introduced by Csikszentmihalyi and colleagues (Larson & Csikszentmihalyi, 1983; Hektner & Csikszentmihalyi, 2002), the Experience Sampling Method (ESM) uses time-programmed or random signals to cue participants to complete self-report questionnaires, checklists and brief open-ended questions such as “What were you doing?.” The primary advantage of ESM is that because individuals are asked to immediately record their responses when cued, there is very little time lapse in which retrospective recall errors can occur.

Repeated experience sampling in the individual’s natural environment greatly increases ecological validity. The emphasis on contextual variables in ESM and the collection of repeated self-report measures allow for accurate assessment of behavioral patterns and changes over time. The collaborative relationship between participant and researcher increases compliance and allows for rapid clarification of any questions about the procedure. The use of both closed and open-ended questions to assess the details of experience yields much more complex data than previously considered methods. Several ESM studies use a brief measure called the ESM self-report form. The ESM self-report includes several open-ended questions about the individual’s thoughts, activities and locations, followed by Likert scale items and checklists rating affect and perception of activities (Larson & Csikszentmihalyi, 1983; Hektner & Csikszentmihalyi, 2002; Hurlburt, 1997).

In spite of significant methodological advances, ESM requires an extensive time and task commitment from participants, thus leading to potential self-selection bias and attrition issues. Additionally, ESM may be somewhat reactive and prone to self-presentation bias (Larson & Csikszentmihalyi, 1983; Hektner & Csikszentmihalyi, 2002).

Experience sampling measures must be carefully selected. The inclusion of open-ended questions increases flexibility but should avoid mood dependent effects by limiting participant ratings of the affective aspects of events. Further, open-ended questions may be misunderstood by participants and should be clearly stated and defined (Stone, Kessler, & Haythornthwaite, 1991). Klinger and Kroll-Mensing (1995) suggested that maximum flexibility can be attained through the addition of narrative reports of thought, cognition, and affect to the ESM self-report. Punzo and Miller (2002) argued that the use of excessive closed ended questions may be leading and decrease spontaneous reporting of experience.

Experience sampling research has greatly benefited from technological advances. Currently, palmtop computers with Experience Sampling Procedure (ESP) software are being used to collect idiographic information. This software uses a list of Likert scale items that can be presented to participants in random order to control for response bias. Electronic sampling methods markedly increase verifiability and control participant response time to reduce retrospective recall. While these advances significantly improve ESM methodology, they are somewhat expensive to purchase and maintain and require participant training on the technology before use (Barrett & Barrett, 2001).

Experience Sampling Method has been applied to eating disorder research on a limited basis. Okon, Greene, and Smith (2003) used this method to measure activity, affect, behavior and daily family hassles in bulimic individuals. They found that high



levels of family conflict increased bulimic symptoms but only in the individuals who rated their families as globally dysfunctional.

In a case study of an individual with anorexia, ESM was used to assess hyperactivity, obsessions, compulsions, affect, and eating disorder pathology. This study allowed for greater understanding of the interaction between hyperactivity and other symptom variables. Specifically, Vansteelandt and his colleagues (2004) found hyperactivity to increase with negative affect and weight preoccupation. The insights gained in this study facilitated more effective and individualized exposure and response prevention treatment planning (Vansteelandt, Pieters, Vandereycken, Claes, Probst, & Van Mechelen, 2004).

Using ESM, Steiger, Lehoux, and Gauvin (1999) found no correlation between dietary restraint and binge eating in impulsive bulimic women, but a high correlation in non-impulsive women. More research is needed to investigate impulsiveness as a potential moderating variable, as the relatively small sample sizes in ESM research make causal statements particularly difficult.

ESM was also used to show significant situational variability in bulimia symptoms. Specifically, time spent alone and at home greatly increases bulimic symptoms. These findings argue against the consideration of bulimia as a potential affective disorder, as affective disorders typically show far higher levels of stability across situations (Larson & Asmussen, 1992).

Overall, ESM marks a clear progress over cognitive methods to explore inner experience by introducing immediacy and randomness. This allows for greater understanding of the interactions between individual and situational variables. However, self-selection bias and attrition factors must be considered due to the extensive and time-

consuming nature of these tasks. There is also a current lack of agreement about how to best analyze data collected with this method and the use of self-report techniques still allow for self-presentation bias and reactivity (Scollon, Kim-Prieto, & Diener, 2003).

### *Ecological Momentary Assessment*

In Ecological Momentary Assessment (EMA; Stone & Shiffman, 1994; Stone, Shiffman & DeVries, 1999), individuals are asked to immediately report on the assigned construct at a particular moment over repeated intervals in their natural environment. For example, individuals may be asked to rate their level of stress at the moment they are cued and answer questions about their coping strategies at multiple random intervals over the course of a day (Stone, Shiffman & DeVries, 1999). Where ESM collects primarily self-report measures, checklists, and brief open ended questions, EMA collects more diverse information, using more flexible measures than are used in ESM.

EMA is advantageous due to higher ecological validity and greater flexibility than the previously discussed inner experience methods. EMA samples can be collected using time, or signal-contingent cues and ask participants to report immediately to control for retrospective bias. In event-contingent designs, participants immediately report measures of momentary experience after each construct related event. Although self-report measures are used in EMA, participants are asked to report on broader aspects of experience than is typical in experience sampling or cognitive methods. The collection of multiple samples provides a more accurate assessment of variables over time than is possible in traditional self-reports.

The increasing use of computerized EMA methods makes sampling somewhat easier for participants and increases verifiability. Palmtop computers are programmed to randomly signal participants to record measures of momentary experience. Flexible

software incorporates self-report measures and questions on a wide array of relevant contextual and individual variables (Shiffman, 2000). However, as in experience sampling method, extensive time and task commitments in EMA may contribute to attrition or self-selection bias, and repeated completion of the same assessment measures may lead to reactivity and response sets (Stone & Shiffman, 1994; Stone, Shiffman, & DeVries, 1999).

Ecological Momentary Assessment has been applied to eating disorder research in six studies to date. Stein and Corte (2003) examined the utility of using computerized EMA to assess eating disorder pathology. They found slightly higher endorsement of eating disorder pathology on clinical interviews than on EMA measures in individuals with anorexia and bulimia. More research is needed to determine the reason for this difference, but compliance with EMA is suspected to be the primary explanation. Participants in the study reported embarrassment, interference with scheduled activities and forgetting the palmtop device as the primary reasons that full EMA compliance was not achieved (Stein & Corte, 2003).

An EMA study of binge eating in bulimics collected mood ratings before and after binges, and measured the degree of hunger, type of foods consumed, and presence of other people during binge eating randomly for seven days. Wegner, Smyth, Crosby, Wittrock, Wonderlich, and Mitchell (2002) found no direct relationship between negative affect and pre-binge eating behavior. The lack of correlation found between negative affect and binge eating immediately preceding and immediately following a binge eating episode challenges theories that cite negative affect as a key binge eating trigger.

Computerized EMA has also been used in cognitive therapy based eating disorder research. Norton, Wonderlich, Myers, Mitchell and Crosby (2003) programmed cognitive

therapy modules into palmtop computers and prompted participants to complete self-directed modules. Although this study is currently in pilot stages, the opportunity to extend therapy and increase compliance is likely to show promising results.

Unfortunately, EMA was not found to improve outcome or reduce binge eating frequency, but it was able to discriminate degree of negative affect and dietary restraint in binge eating disorder (le Grange, Gorin, Dymek, & Stone, 2002; le Grange, Gorin, Catley, & Stone, 2001). It is possible that more extensive research with larger sample sizes using EMA could increase our understanding of inner experience in eating disorders, but the use of self-report measures still creates a higher degree of self-presentation bias and reactivity than is optimal.

Overall, EMA allows for the measurement of complex affective, cognitive, behavioral and situational variables in eating disorders in the natural environment. Combining random signal and event contingent reports may optimize flexibility and allow for greater insight into the state and trait variables influencing eating disorder pathology. Although there is a lack of agreement about appropriate analysis of data collected through EMA, new statistical designs are being considered that may account for the complexity inherent in the EMA method (Smyth et al., 2001).

### Descriptive Experience Sampling

The Descriptive Experience Sampling (DES) Method will be described, followed by a discussion of the methodological advantages and disadvantages of this method. Next, common characteristics found in the application of the method will be reviewed. The application of Descriptive Experience Sampling to the inner experience of

individuals with bulimia will then be discussed as a foundation upon which the present study will be built.

### *DES Method*

In DES, pioneered by Hurlburt (1990, 1993) participants are advised of confidentiality, and are told that they may skip any samples they would not be comfortable reporting. Participants are instructed to “freeze” their experience that was naturally ongoing at the last undisturbed moment before the beep occurs and record their experience in a notebook provided. Before collecting samples, they are advised that it is that particular moment, rather than what is occurring before or after that moment, that is defined as “the moment of the beep.” Isolation of this moment is occasionally difficult for individuals to define; the first several sampling days, with their interviews, assist in training the individual in defining the moment of the beep. Participants are asked to wear the beeper as they engage in their normal daily activities until they have collected approximately six samples of inner experience over the same number of beeps, which takes approximately 3 hours. Participants are then interviewed no longer than 24 hours after the samples are collected.

During the interview, participants are asked to describe their inner experience in each sample collected. Participants are asked questions by the researcher and project supervisor until all present are satisfied that the sample has been clearly and completely described. After each sample is described and all questions have been asked, the participants are given a brief summary and are asked to confirm that the understanding of their experience is complete and accurate, or if there is anything they feel needs to be added, corrected, or clarified. Each sample requires approximately 10-15 minutes of interviewing and interviews typically last for one hour. Participants are then asked if they

are willing to continue the DES process. If so, the next interview date is set and participants are asked to collect new samples within 24 hours of the next interview. The sample collection and interviewing process continues until a sufficient understanding of the characteristics of that individual's inner experience is obtained. This process normally takes four to eight days of interviewing, with variability in number of days dependent upon ease with which the participant is able to understand and complete the DES task, complexity of inner experience, time in which a thorough understanding of inner experience is reached and consensus of all present that the process has been adequately understood.

### *Critique*

Self-report, clinical interviews and cognitive approaches yield valuable data about eating disorder pathology but remain vulnerable to memory errors, cognitive processing and individual biases that ultimately limit their utility. As we saw earlier, Ecological Momentary Assessment, Experience Sampling Method, and thought sampling methods greatly improve ecological validity over traditional designs, but their incorporation of standardized, self-report data leaves them vulnerable to self-presentation bias, reactivity and retrospective recall.

DES controls for the common errors in retrospective methods by collecting purely ecologically valid information at the moment it occurs. DES avoids the common pitfalls associated with other methods by collecting only qualitative data consisting of repeated samples. Each sample is then subjected to an intensive interview process to assure accurate and comprehensive understanding of inner experience, while controlling for potential error due to assumption and miscomprehension of reports. In DES, participants

are asked to report their inner experience under precise conditions, without being led to focus on the previously selected aspects used in self-report measures. The careful interviewing techniques used in DES avoid the leading questions and retrospective biases typical in traditional assessments of psychopathology (Hurlburt, 1993). In this manner, DES exceeds the other ecologically valid methods in its ability to collect far more comprehensive, accurate and unbiased data about inner experience than has previously been possible.

Vermersch (1999) argued that inner experience can only be adequately understood by using techniques that maximize precision, while limiting the need for interpretation and assumptions on the part of the researcher. Optimally, an intensive and collaborative interviewing technique should be used. In this technique, the goal of the researcher should be to: "...help in the unfolding of the internal act making possible access to the lived experience..." (Vermersch, 1999, p. 35). The DES Method attains these ideal technical and relational guidelines.

Early attempts to understand inner experience through introspection have been widely discredited in psychology. Behaviorists argued that reports of inner experience are limited by the ability of the larger community to understand idiosyncratic individual meaning. By using careful, collaborative interviewing, DES is able to achieve collective understanding and agreement about the precise meaning of inner experience samples. In the DES method, the researcher sets aside assumptions and continues to interview a participant until a clear determination of exactly what the experience was and exactly how it was experienced is achieved (Hurlburt & Heavey, 2001).

In a review of criticisms of introspection, Hurlburt and Heavey (2001) described a split in psychology in which behaviorism and cognitive psychotherapy occupy opposite,

but incorrect views. While behaviorists believed accurate reports of inner experience were almost impossible, cognitive psychotherapy assumed that inner experience could be easily obtained. In cognitive psychotherapy, when individuals report inner experience, the lack of clear communal understanding and the vulnerability to inaccuracies and assumptions argued by behaviorists is the ultimate result. By creating clear communal understanding, avoiding assumptions and minimizing vulnerability to inaccuracy, DES overcomes the methodological barriers in early introspection attempts (Hurlburt & Heavey, 2001).

Although DES is an effective method of exploring inner experience, more research is needed to generate additional methodological criticisms of the technique. Hurlburt and Heavey (2004) created and reviewed six potential criticisms of the DES technique as follows. The first criticism is that the beep may disturb participants, creating an interruption that creates difficulty in accurately describing ongoing experience before the beep occurred. However, Hurlburt and Heavey found that once participants are accustomed to the sampling task, they do not perceive the beep as disturbing or surprising, and are able to accurately “freeze” and describe ongoing experience at the moment before the beep occurred. The second criticism is that because the beep is random, infrequently occurring experiences may not be captured. However, in practice, participants often describe experiences that have traditionally been considered to be infrequent or non-existent, such as a lack of perceptual figure/ground phenomenon (Hurlburt, 1993b). The third criticism is that the process of sampling breaks the flow of the “stream of consciousness” into artificially occurring instances. However, Hurlburt and Heavey posit that it is not yet known if awareness is actually experienced as a continuous flow or is, in fact, a collection of momentary awarenesses. The fourth



criticism is that it is not possible to determine the extent to which the beep may disturb inner experience. By “freezing” experience at the last undisturbed moment before the beep, DES attempts to reduce the potential of the beep to disturb memory processes and distort accurate reporting, but the extent to and / or the circumstances in which this criticism is valid remains to be investigated. The fifth criticism is that the DES process may lead participants to be reflective, disturbing their natural state of awareness. DES carefully avoids leading questions and is not interested in a defined subject but rather in momentary experience as it occurs. This lack of interest in a specific topic or type of experience may minimize reflection, but nonetheless this criticism needs further examination. The final criticism of DES in this review is that participant reports may not be reliable. This criticism has been countered on two grounds. First, Hurlburt and Heavey (2002) found interrater reliability of the characteristics of inner experience to be far in excess of most widely used assessment measures. These findings will be reviewed in detail later in this section. Secondly, the careful, collaborative process used to investigate each sample and the option given to participants to skip samples they do not wish to report increases the likelihood that reports are reliable (Hurlburt & Heavey, 2004). DES may also be prone to self-presentation bias and reactivity, as are all attempts to understand inner experience. The avoidance of leading questions, options to skip threatening information, and lack of targeted interest (all experience is of interest-we do not request reports of only one type of content or experience) built into the DES method significantly reduce these methodological risks.

#### *Commonly Found Features of Inner Experience*

Hurlburt and his colleagues (Hurlburt, 1990, 1993) have observed that some features of inner experience are found frequently across participants, and we will describe

those six features here. Although these characteristics provide a foundation from which to describe inner experience, Monson and Hurlburt (1993) cautioned that experiences are not always clear, separate categories, but may blend from one category into another. Hurlburt and Heavey (2000) created a codebook identifying sixteen characteristics of inner experience to improve the reliability of the coding of inner experiences reported through DES. Each characteristic is defined as follows.

In inner speech, individuals experience inner words as though they were spoken aloud. In partially worded speech, individuals experience themselves to be inwardly speaking but some words are missing from the speech. In unworded speech, individuals experience themselves to be speaking in their own voice and the meaning of the speech is understood, but no actual words are in awareness. In worded thinking, words are experienced without the direct experience of inner speech, hearing, or images. In image experiences, individuals experience seeing something that is not actually present. In imageless seeing, individuals are aware of inwardly seeing, but do not actually see something. In unsymbolized thinking, a thought is in awareness without any particular words, images, or any other symbols. In inner hearing, individuals experience auditory phenomenon without hearing the same thing externally. In feeling, individuals experience affect that may be experienced mentally, physically, or both. In sensory awareness, there is a focus of attention on the sensory qualities of inner or outer experience. Finally, there are five “just doing” categories, in which the individual is involved in any activity without any other awareness. Multiple awareness occurs when at least two of these categorical experiences are simultaneously in awareness (Hurlburt & Heavey, 2000).

Using the codebook of experience categories, Hurlburt and Heavey (2002) tested the interrater reliability of the DES method and found “participantwise” reliabilities of

.91 to .98 on the average frequency of the characteristic across all participants using the five most commonly occurring characteristics of inner experience: images, inner speech, unsymbolized thinking, feelings, and sensory awareness. Thus, DES interrater reliability exceeds that of most widely used assessment measures.

Although this brief review presents common characteristics of experience, it is critical to note that this is not a comprehensive list. Monson and Hurlburt (1993) describe sampling characteristics as “imprecise boundaries” (p. 25.) In exploring the landscape of inner experience, those characteristics provide a terminology for communicating about some of the frequent features of inner experience. However, much of the landscape of inner experience remains uncharted. As DES research continues, it is likely that new characteristics will be discovered and that existing ones will be refined.

Hurlburt, Koch and Heavey (2002) used DES to examine inner experience in individuals with high and normal speech rates. They found that participants with high speech rates had less inner speech, more complex inner experience, less feeling experiences and more just doing experiences than did individuals with normal speech rates. This study demonstrates that DES can be used to determine qualitative differences in inner experience for individuals with externally observable behavioral differences.

#### *Descriptive Experience Sampling of Bulimia*

Chapter 1 provided an introduction to the history and characteristics of eating disorders in general and bulimia in particular; we observed that it would be desirable to know more about the inner experience of women with bulimia. Chapter 2 began by discussing methods of exploring inner experience, concluding that the DES method was the most effective method of exploring inner experience to date. Now we turn to the

intersection of those reviews, the application of DES to individuals with bulimia. We will show that DES has discovered valuable information about previously unknown qualitative differences in the inner experience of bulimia.

To date, there have been only three studies that have used the DES method to understand inner experience in eating disorders. These studies include one study (Hurlburt, 1993a), one Master's Thesis (Hebert, 1991) that examined inner experience in anxiety but included one participant with bulimia, and the Master's Thesis in which Doucette (1992) used DES to examine inner experience in five bulimic women. A summary chapter of the Doucette (1992) thesis appears in Doucette and Hurlburt (1993b).

Hurlburt (1993a) described the inner experience of a bulimic operating-room nurse named Ashley. Ashley's experience was profoundly complex and chaotic, becoming even more so during periods leading up to purging behavior. Ashley frequently experienced what Hurlburt called sensed awarenesses, a phenomenon rarely found in individuals without bulimia. In more typical experienced awareness one directly experiences the ongoing awareness. By contrast, in sensed awareness, one knows that an awareness was ongoing and knows the details of that awareness, but the experience itself is outside of awareness. In sensed awareness, it is the knowledge that the experience is ongoing, rather than the experience itself, that is in awareness at the moment of the beep. This is a particularly unusual and somewhat difficult to define phenomenon that may be best understood using Ashley's own metaphor to describe this difference between experienced and sensed awarenesses.

Thoughts and feelings were "fish" in her awareness in the "aquarium." Many fish could be swimming around simultaneously in the aquarium (this is her metaphor

for Multiplicity in Experience); each of these directly observed fish were one of Ashley's simultaneous experienced [sic] awarenesses. However, some of the fish in the aquarium were "under the rocks with only their tails exposed (that is, with only their "tails" in...awareness at the moment of the beep). These were the sensed thoughts or feelings: the "tail" that was visible from under the rock was the knowledge present in awareness that the particular thought or feeling was ongoing (Hurlburt, 1993a, p. 125).

Ashley's inner world was characterized by a chaotic, complex multiplicity of experience. While it is common for most individuals to report between one to three characteristics of experience at each sample, Ashley reported simultaneous experiences of up to 20 distinct thoughts and 10 distinct feelings at each sample.

The cognitive aspects of Ashley's inner experience included both multiple experienced unsymbolized thoughts, in which thoughts were in direct awareness without being verbalized or otherwise symbolized and multiple sensed unsymbolized thoughts, in which there was an awareness of having ongoing unsymbolized thoughts outside of her direct awareness.

The affective aspects of Ashley's inner experience included both multiple experienced feelings and multiple sensed feelings. Ashley's affective experiences were predominantly negative, and an average of three to seven distinct feelings per sample were reported. She reported experiencing mostly separate simultaneous feelings, but occasionally perceived the feelings to be blended into one another. While some individuals without bulimia are able to clearly identify and describe emotions, Ashley had difficulty with this task. She was clearly able to recognize which emotions were being experienced, but found it difficult to describe exactly how she was experiencing

these feelings. Ashley also reported experiencing frequent visual images, often of a fleeting nature. Overall, Ashley's inner world was chaotically complex, with multiplicity of both experienced and sensed awareness being the central characteristic (Hurlburt, 1993a).

Hebert (1991) used DES to examine inner experience in anxiety. By chance, that study included one case study of an anxious woman who was also bulimic. Hebert found that "Beth" experienced inner speech only in samples during periods of heightened stress and had no inner speech during samples collected during non-stressful periods. She also described occasional experiences of worded thinking, in which words were present in her awareness without being innerly heard or spoken. Like Ashley, Beth also experienced frequent multiple unsymbolized thinking, with as many as ten simultaneous thoughts occurring at a time. She also reported frequent thoughts characterized as criticisms of herself or others. In these, Beth reported being aware of categorizing individuals, behavior, or situations as "good" or "bad." Beth reported a high frequency of feelings, but also had difficulty describing the nature of her exact emotional experiences, other than the experience of stress, which she was generally found easy to describe. Overall, Beth's inner world was characterized by multiple unsymbolized thinking, difficult to describe emotions, occasional visual images, and inner speech during stressful experiences (Hebert, 1991).

Doucette and Hurlburt (1993b) used DES with five women with bulimia. Multiple simultaneous inner experience, ongoing sensed awareness, combined thoughts and feelings and incongruent bodily awareness were identified as a commonly shared traits among these five women with bulimia (Doucette, 1992; Doucette & Hurlburt, 1993b) These multiple experiences included several simultaneous thoughts, feelings, combined

thoughts and feelings, bodily awarenesses, or images. Multiple experiences also appeared to be related to increased bulimic pathology, with multiplicity increasing as symptoms worsen. However, the nature of this relationship is yet to be determined (Doucette & Hurlburt, 1993b).

Sensed awareness was also very common across the bulimic individuals in the Doucette and Hurlburt (1993b) study and is rare among non-eating disordered individuals interviewed using the DES method. As we have seen, sensed awareness is an ongoing experience, in which one knows the details of the experience, but the experience itself is outside of awareness. Thus, it is the knowledge that the experience is ongoing, rather than the experience itself that defines sensed awareness. Sensed awareness can manifest as sensed unsymbolized thinking, visual images, or feelings that are in awareness but are peripheral to the reported experience. Sensed awareness was described as remaining in the consciousness of these bulimic women while another experience was occurring. Doucette and Hurlburt (1993b) describe sensed awareness as: "...in current awareness there is an active, ongoing knowledge of the existence of the outside-of-awareness thought." (p. 155) The women with more severe eating disorder pathology in this study reported sensed awareness experiences more frequently (Doucette & Hurlburt, 1993b).

The bulimic women in the Doucette and Hurlburt (1993b) study frequently experienced an inability to distinguish between their thoughts and feelings, and reported a far higher frequency of feelings (70%) than nonbulimic individuals (10-15%). Further, the women in these samples found it difficult to determine the differences between their affect and cognition and reported experiencing both simultaneously as one entity. This phenomenon was labeled thought/feeling and was described as a tendency for the bulimic individuals to: "think their feelings or feel their thoughts." (p. 156) This confusion of

thoughts and feelings, with affective thoughts or cognitive feelings, is uncommon in nonbulimic individuals (Doucette & Hurlburt, 1993b).

These women also described occasional incongruent bodily awareness, in which their inner physical experience did not reflect outward bodily reality. Incongruent bodily awareness is a rarely reported experience outside of bulimia and may be an inner representation of bodily dissatisfaction. The women in this study also experienced occasional thoughts related to bulimia, with thoughts about food, weight and purging. However, these thoughts were relatively rare considering that negative self-evaluation related to body shape and weight is a necessary aspect of the bulimia diagnostic criteria (APA, 2000). Inner experience patterns in the bulimic women sampled included higher degrees of unsymbolized thinking, little inner speech and more feeling experiences, with predominantly negative affect, than is common in non-bulimic individuals sampled with the DES method. Although few DES eating disorder studies have been completed to date, these findings suggest that the exploration of inner experience may yield invaluable, previously undiscovered information about these disorders (Doucette & Hurlburt, 1993b).

In order to provide insight into the richness of the idiographic data obtained using DES to explore bulimia, the inner experience of one of the five bulimic women “Christine” in the Doucette (1992) will be described in detail. Doucette (1992) rated Christine as the median case in terms of bulimic severity; she is thus the most “average” of the bulimic women in the study, being neither in crisis nor in remission. Christine, like all of the bulimic women sampled, had multiple experienced and sensed awarenesses. The cognitive aspects of Christine’s inner experience included a high frequency of multiple experienced unsymbolized thoughts, in which several distinct



thoughts were occurring simultaneously in awareness. She also experienced sensed unsymbolized thoughts, which she described as:

...a “string” of the thought. The thought itself existed as having “gone off,” as being “suspended” or “on hold” somewhere in her mind, but she was still aware of the slight pull of it, which she called the “string.” This string, which was somehow attached to the thought, was actually present in her awareness at the moment of the beep...(Doucette & Hurlburt, 1993a, p. 143).

The affective aspects of Christine’s inner experience were quite complex and included individual emotions experienced bodily, and multiple distinct, often contradictory simultaneous emotions. She occasionally perceived these contradictory emotions as competing for her attention. Christine also had frequent experiences in which thoughts and feelings were experienced simultaneously and could not be distinguished from one another. This experience of combined thoughts and feelings, in which there are cognitive emotions or affective thoughts, or an inability to make a clear distinction between thoughts and feelings, are common in bulimia and quite rare in DES with nonbulimic individuals (Doucette & Hurlburt, 1993b).

Christine also reported occasional bodily awarenesses, in which she experienced bodily sensations without an affective component, thus making bodily awareness distinct from a feeling experience. Some of these bodily awarenesses were termed congruent bodily awareness as they related to actual physical experience during sampling. However, Christine also experienced incongruent bodily awareness, in which she reported a sense of her body physically expanding, “puffing up” to create “a feeling of feeling the weight.” (Doucette & Hurlburt, 1993a, p. 149). This phenomenon may be attributable to a somatic experience of the body dissatisfaction characteristic of bulimia. Overall,

Christine's inner world was characterized by multiplicity, in which awareness was both sensed and directly experienced and emotion was complex, confused with cognition, and often contradictory (Hurlburt & Doucette, 1993b).

These two chapters have served to provide a review of bulimia, DES, and the DES sampling of inner experience in bulimia. DES was shown to be the most effective method of exploring inner experience to date and was shown to yield valuable new information about qualitative differences in inner experience for women with bulimia. The present study is a replication of the Doucette (1992; Doucette & Hurlburt, 1993b) study reviewed above. In the present study, I will identify a group of bulimic women and will use the DES Method to collect data about the salient characteristics of their inner experience. I will then present this data in an attempt to build upon the previously gained insights into the unique qualitative differences in inner experience of women with bulimia.

## CHAPTER 3

### METHOD

The current study was divided into three phases, the screening phase, the qualification phase, and the sampling phase. The participants, instruments and procedures used in each phase will be discussed.

#### Screening Phase

##### *Overview*

The Eating Attitudes Test (EAT-26; Garner, Olmstead, Bohr, & Garfinkel, 1982), a brief demographic questionnaire, and informed consent were administered to undergraduate psychology students on the first day of class in the Fall 2004 and Spring 2005 semesters at the University of Nevada, Las Vegas. A brief, non-standardized anxiety and depression questionnaire was also administered to be used in an additional Descriptive Experience Sampling study unrelated to the current thesis. Based on this initial screening, a subset of individuals identified as currently possessing or being at high risk for eating disorders was invited to enter the qualification phase of the present study.

##### *Participants*

Seven-hundred and sixty-six undergraduate university students (471 women and 295 men, mean age = 19.75 years) who were present at the first day of Fall 2004 or Spring 2005 semester introductory psychology classes at the University of Nevada, Las

Vegas participated in the screening phase of the present study. All students who participated in the screening phase were given psychology research participation credit; however of these 766 screening packages, 11 were incomplete and therefore excluded from the initial data, thus leaving a total of 755 participants (465 women, 290 men, mean age = 19.75 years) who completed the screening phase of the present study.

### *Instruments*

The Eating Attitudes Test (EAT-26; Garner, Olmstead, Bohr, & Garfinkel, 1982) is a brief 26-item self-report that consists of three subscales assessing self-report of dieting, bulimia and weight preoccupation, and oral control. The EAT-26 is appropriate for the assessment of anorexia, bulimia and partial syndrome eating disorders and was used in the 1998 National Eating Disorders screening program. After the 26 self-report items, the EAT-26 asks five yes-no questions regarding binge eating, purging, past history of eating disorder treatment, nonpurging compensatory behaviors, and suicidal ideation. Demographic information regarding sex, age, weight, height, and athletic involvement are also collected. The EAT-26 items are rated on 6-point Likert scales from never to always. Each item is then weighted from 0 to 3 based on symptomatic direction. Total scores range from 0 to 78, with higher scores indicating greater degrees of frequency and severity of eating disorder pathology. The clinical cut-off score based on standardization with nonpatient college students is 20. The EAT-26 has excellent psychometric properties, including .90 internal consistency and .89 test-retest reliability (Garner, et al, 1982; Banasiak, Wertheim, Koerner, & Voudris, 2001).

### *Procedure*

The researcher entered the classroom near the end of the first day of class, described the study briefly, and asked for volunteers to complete the screening battery

there in the classroom. Volunteers received participation credit to meet a course requirement. Participants completed the screening phase package after informed consent was explained and obtained. The EAT-26 was then scored. Participants scoring at or above 20 on the EAT-26 were contacted for participation in the qualification phase.

## Qualification Phase

### *Overview*

Participants identified in the screening phase as having significant eating disorder pathology were contacted to participate in the a more detailed, thorough assessment of their eating disorder pathology through the administration of an eating disorder, anxiety, and depression assessment battery as well as an eating disorder structured clinical interview. Participants who agreed to participate in this phase and who were still found to be experiencing clinically significant bulimia symptoms in the qualification phase were then invited to participate in the sampling phase of the study.

### *Participants*

Seventy undergraduate students (64 women, 6 men, mean age = 20.65 years) from the University of Nevada, Las Vegas were identified in the screening phase as experiencing clinically significant bulimia symptoms and were invited to participate in the qualification phase. Of these 70 students, 12 (11 women, 1 man, mean age = 20.42 years) agreed to volunteer for participation in the qualification phase and the remaining 58 declined or did not return calls when they were contacted and invited to participate.

### *Instruments*

The Beck Depression Inventory - Second Edition (BDI-II; Beck, Steer, & Brown, 1996) is a brief 21-item self-report measure for individuals aged 13 and above that takes

5 to 10 minutes to administer. The BDI-II assesses self-reported depression over the past 2-week period using DSM-IV diagnostic criteria. The items assess a full spectrum of depressive symptoms including sadness, pessimism, suicidal ideation, and tiredness. The intensity of each symptom is measured on a four-point Likert scale, with higher scores indicating a greater degree of severity. The BDI-II total scores range from 0 to 63, with minimal depression represented in the 0 to 13 range, mild depression in the 14 to 19 range, moderate depression in the 20 to 28 range and severe depression in the 29 to 63 range. The BDI-II is the most widely used measure for depression and has excellent psychometric properties including .93 internal consistency and .93 test-retest reliability.

The Beck Anxiety Inventory (BAI; Beck & Steer, 1993) is a brief 21-item self-report measure for individuals aged 17 and above that takes 5 to 10 minutes to administer. The BAI assesses self-reported anxiety symptoms over the past 1-week period. The items measured on the BAI include anxiety-related physical sensations such as numbness and shakiness and affective anxiety-related experiences including fear and inability to relax. The intensity of each anxiety symptom is assessed on a four-point Likert scale with higher scores indicating higher subjective levels of anxiety. The BAI total scores range from 0 to 63, with minimal anxiety in the 0 to 7 range, mild in the 8 to 15 range, moderate in the 16 to 25 range and severe anxiety in the 26 to 63 range. The BAI has been widely used in both research and clinical applications and has excellent psychometric properties including .92 internal consistency and .75 test-retest reliability.

The Eating Disorder Inventory - 2 (EDI-2; Garner, 1991) is a 91-item self-report measure for individuals aged 12 and above that takes 20 minutes to administer. The EDI-2 assesses self-report of eating disorder symptoms and related psychopathology across eight subscales: drive for thinness, bulimia, body dissatisfaction, ineffectiveness,

perfection, interpersonal distrust, interoceptive awareness and maturity fears; and three provisional subscales: asceticism, impulse regulation, and social insecurity. The EDI-2 uses a 3-point Likert scale to measure the frequency of eating disorder symptoms, with higher scores indicating higher levels of eating disorder pathology. The EDI-2 has been standardized on clinically diagnosed bulimia, anorexia and a control sample of college women. The norms for college women were used for the present study. The EDI-2 has excellent psychometric properties including .84 to .92 internal consistency, .77 to .96 test-retest reliability and high clinical sensitivity.

The Eating Disorders Examination, 12th Edition (EDE; Fairburn & Cooper, 1993) is a structured clinical interview that takes about one hour to administer. The EDE contains four subscales assessing dietary restraint and concerns about eating, shape and weight. The EDE provides an overall rating of eating disorder severity as well as individual subscale scores on DSM-IV eating disorder diagnostic criteria over the past 4-week period. Normative data is not provided for the EDE global score, but is available for each of the subscales. EDE items are rated in a 7-point Likert scale, with higher scores indicating greater eating disorder severity. The EDE is the most widely used clinical interview for eating disorders and has excellent psychometric properties including .83 to .99 interrater reliability and .68 to .90 subscale internal consistency.

#### *Procedure*

Participants identified as having clinically significant bulimia symptoms at the initial screening phase were invited to complete the interview battery. Informed consent was obtained and the battery was administered. Those participants who received high scores on the EDI-2 and the EDE were invited to participate in the sampling phase. The BDI-II and BAI were used to assess comorbidity in participants with potential eating

disorders. Participants with scores above 20 on the BDI, and above 16 on the BAI were considered to have clinically significant comorbid psychopathology. The present study did not exclude participants due to existing comorbid conditions, as comorbidity is the norm in bulimia, but we used this information in the attempt to achieve a heterogeneous sample.

## Sampling Phase

### *Overview*

Participants identified in the screening phase and confirmed in the qualification phase as having clinically significant bulimic symptoms were invited to participate in Descriptive Experience Sampling (DES).

### *Participants*

Five undergraduate psychology students (4 women, 1 man, mean age = 20 years) who were found to have clinically significant bulimic symptoms in the qualification phase participated in the final sampling phase of the study. The remaining seven students who completed the qualification phase declined invitations to participate in the sampling phase.

### *Apparatus*

Participants were issued a small beeper with an attachable transistor-radio-type earphone, designed with an ear hook to secure the earphone in one ear, thus minimizing interference with the participant's activities while sampling. The beeper is programmed to give a 400 Hz tone at random intervals. Participants were advised to adjust the beeper to a volume that is comfortable but clearly distinguishable and to stop the tone by pressing a small button on the beeper. The beeper generates tones at random intervals



ranging from one minute to one hour, with an average of 30 minutes between tones.

Participants were also issued a small pocket-sized notebook and instructed to record notes on their inner experience when each tone occurred.

### *Procedure*

Participants identified as having clinically significant bulimia symptoms at the initial screening phase, and having those symptoms confirmed in the qualification phase, were then invited to participate in the sampling phase of the present study. At the beginning of this phase, participants were advised of confidentiality and that they could discontinue the study at any time without penalty. Further, participants were told that if they have any inner experience that they would not be comfortable reporting, they could simply request that that particular sample be skipped.

Participants were then given the instructions for DES as described in detail in the Descriptive Experience Sampling section of Chapter 2. Briefly, these instructions were for participants to wear the beeper during their normal daily activities for a sufficient time to collect six samples (approximately 3 hours). Participants were asked to “freeze” their experience that was naturally ongoing at the last undisturbed moment before the beep occurred and record their experience in a notebook provided. Participants were then interviewed using the DES expositional interview method no longer than 24 hours after the samples were collected.

During the DES interviews, participants were carefully questioned to obtain the most complete and accurate understanding possible of the nature of their experience at each sample. The sampling/expositional interviewing process was repeated several days later for each participant, and then repeated again until there was a clear understanding of the salient characteristics of that individual’s experience across a sufficient number of

samples. Typically this involved seven sampling / expositional interview sequences. After the DES process was complete, the present researcher reviewed each sample with Dr. Hurlburt to obtain interrater agreement on the characteristics of inner experience described in each sample. The salient characteristics of each individual across all samples were then determined. Finally, the salient characteristics of the bulimic participants as a whole were determined. The samples are numbered according to day and order of sample so that the first day samples are numbered 1.1 to 1.6, the second day samples are numbered 2.1 to 2.6, and so on. All samples are presented as Appendix A.

## CHAPTER 4

### PRELIMINARY OVERVIEW OF SAMPLING PHASE RESULTS

The next five chapters will illustrate the nature of inner experience in each of the five sampling phase participants: Katja, David, Vanina, Margo, and Stella. Each of these participants demonstrated consistent efforts to communicate clearly and openly about their inner experience throughout the sampling interviews. Their efforts as co-researchers allowed us invaluable insight into their inner experience. This overview will provide a brief summary of the characteristics of inner experience of each participant. Chapters 5, 6, 7, 8 and 9 will provide a detailed examination of the inner experience of each participant. The individual chapters are presented in order of the severity of eating disorder pathology, from least to most severe, although all subjects had quite severe eating disorders. For these purposes, severity of bulimia was determined by averaging percentile scores on the EAT-26, the four subscales of the EDE, and the Bulimia subscale of the EDI-2. After these five individual chapters, Chapter 10 will provide the qualitative and quantitative results of the study by summarizing the commonalities and differences in experience across participants and their scores on the questionnaires and structured interviews.

To help keep the reader oriented during the upcoming results sections, we provide here a brief summary all five participants' results. Each will be described in detail in the upcoming individual chapters.

## Katja

Katja was a 23 year-old dancer and university student who was actively bulimic during the sampling period and who had been shifting between bulimia and anorexia for the past 14 years. Katja's inner experience was predominantly characterized by a fragmentation of her attention between two to four distinct, often bodily, simultaneous experiences. Katja was also the only participant in the study to experience multiple, interconnected awarenesses of mind, body, and spirit. These experiences occurred in 19% of her samples but the experience of spirituality was markedly difficult to adequately understand. Katja's feelings were also very complex, often overwhelming, poorly differentiated, and experienced as a somewhat distressing swirl of emotion. Katja had the least severe eating disorder pathology of all the participants at the time of sampling. Despite this relatively less severe pathology, the frequent fragmentation of her attention, combined with her overwhelming feelings, suggests that her inner experience may have often been distressingly chaotic and lacking in singular clarity of focus.

## David

David was an 18 year-old university student who was actively bulimic during the sampling period. David's inner experience was characterized by a striking lack of differentiation and almost total fragmentation of his attention to the point where individual aspects of each sample were at times partially identifiable but were not qualitatively separable from the larger mass of his inner experience. David was the only participant in the study to experience awareness that was almost completely lacking in differentiation. David experienced the second least severe eating disorder pathology across participants at the time of sampling. Despite this relatively less severe pathology,

the lack of differentiation combined with the intensity of fragmentation in his attention suggests that David's inner experience may be distressingly chaotic.

#### Vanina

Vanina was a 22 year-old dancer and university student who was actively bulimic during the sampling period and who had had several episodes of bulimia over the past several years. Vanina's inner experience was fragmented, with her attention split between two to six distinct, predominantly bodily, simultaneous experiences. Vanina was the only participant in the study to experience bodily decision-making. In this bodily decision-making, occurring in 24% of her samples, Vanina processed bodily the kind of situations that most individuals would process cognitively. Vanina's processing in these instances was done in a sequential bodily manner without any accompanying thought process. Vanina's feelings were complex, generally bodily, and poorly differentiated. Vanina often had thought/feelings in which cognition and affect were confused or were not clearly distinguishable. Vanina was at the mid-point of eating disorder pathology across participants. Vanina's markedly fractionated and bodily-focused inner experience suggests that she may have an overwhelming and chaotic inner life characterized by a lack of clear singular focus. Lending support to the potentially chaotic nature of her inner experience, Vanina would occasionally become confused and lose her train of thought while describing her samples.

#### Margo

Margo was an 18 year-old university student who did not identify herself as being actively bulimic during sampling despite meeting full DSM-IV bulimia criteria. Margo also had a previous episode of anorexia that was treated within the past two years. Margo's inner experience was characterized by a fragmentation of her attention between

two to five distinct, often imaged, simultaneous experiences. Margo was the only participant in the study to experience thought/sensory awareness, where she was unable to distinguish clearly between sensory and cognitive aspects of her inner experience. These types of experience are closely related to thought/feelings, but Margo was the only participant to experience a confusion of cognitive and sensory information on top of thought/feelings. Margo's feelings and thought/feelings were generally bodily and were relatively straightforward. Margo had the second most severe eating disorder pathology across study participants. While Margo did experience frequent fragmentation of attention, this fragmentation was generally between relatively straightforward, non-distressing elements, despite its lack of clear singular focus.

#### Stella

Stella was a 19 year-old university student who was actively bulimic during the sampling period. Stella's inner experience was characterized almost exclusively by sensory awareness. These sensory awareness experiences were strikingly clear and often allowed Stella to focus on the sensory in order to actively avoid potentially distressing situations. Stella's inner experience was characterized by a fragmentation of her attention. When Stella's attention was fragmented she was generally focused on the sensory aspects of her surroundings, with other experiences such as feelings, thought/feelings, perceptual awarenesses, and sensed unsymbolized thinking being present but less central than the sensory aspects of her awareness. In general, when Stella's attention was fragmented it was divided between closely interrelated aspects of her inner experience. Stella was the only participant in the study to experience sensed unsymbolized awareness, in which she had an awareness of an ongoing thought process without the thought itself being directly in awareness. Although this sensed

unsymbolized thinking was not common, accounting for only 7% of her samples, it is significant in its commonality with findings of ongoing sensed experience from other studies on inner experience in bulimia. Stella's feelings and thought/feelings were generally bodily, often distressing, and poorly differentiated. Stella had the most severe eating disorder pathology across study participants. While Stella did experience samples in which there was a clear, non-fragmented singular focus, the center of her awareness was quite unlike what would be found in sampling with non-bulimic individuals. While most individuals would generally experience whatever was predominantly occurring at the moment of the beep, the intensity of her sensory awareness combined with its distress avoidance function generally allowed Stella to focus her attention on sensory aspects of inner experience to the exclusion of other information that for most people would be central in awareness.

## CHAPTER 5

### KATJA

Katja was a 23-year-old university student and dancer at the time these samples were collected. Katja met the DSM-IV-TR (APA, 2000) criteria for bulimia and scored in the 77th percentile on the bulimia subscale of the Eating Disorders Inventory-II. Katja considered herself to be bulimic and was actively bulimic at the time these samples were collected. She explained that she had been experiencing shifts between anorexia and bulimia for the past 14 years. She was not in treatment for bulimia at the time these samples were collected but did express some interest in seeking therapy at the end of our sampling period. Katja volunteered for the study when she was contacted after an initial screening in one of her psychology classes and collected samples on seven sampling days over a seven-week period (once per week). A total of 42 samples were collected and discussed extensively. Complex multiplicity characterized the majority of Katja's inner experiences. This chapter will introduce selected samples in their entirety to illustrate the complexity of her experience and will then discuss the specific characteristics in each selected sample in the relevant sections.

Within the framework of this complex, multiple experience Katja had frequent sensory awarenesses that were generally experienced bodily or as multiple, interconnected awarenesses of mind, body, and spirit. Katja also experienced several images, frequent inner speech and frequent doing experiences. Feelings were reported



occasionally and were somewhat difficult to define clearly, occurring most often as part of a multiple affective experience that had bodily and emotional components. Perceptual awareness, unsymbolized thinking, and “happening of” experiences were experienced somewhat more rarely. Each of these characteristics will be discussed below.

### Complex Multiplicity

The most salient aspect of Katja’s inner experience was complex multiplicity, in which she experienced two or more separate, intricate, often interwoven simultaneous experiences. In 57% of her samples Katja had two to four separate, distinct experiences; single, straightforward experience represented in only 7 out of her 42 collected samples (17%). As an example of complex multiplicity, in sample 3.5 Katja had five separate, simultaneous awarenesses consisting of inner speech, typing, a visual image, an awareness of describing something in her writing, and a mental representation of the sensation she was describing. In this sample Katja was writing in a live online journal about the apprehension that, for her, “fat really is a feeling,” and was simultaneously saying to herself in inner speech the words “sharp objects.” Simultaneously she was aware of typing the same words on the keyboard; and also simultaneously was seeing a visual image of a girl who had attacked her with a stapler when she was in the 5th grade. This visual image was of the girl’s head, seen straight on, with dark hair. Although it was not a clear or detailed image, Katja knew it to be an image of the girl who had attacked her and this image was quickly flashing through her head. Katja was also simultaneously aware of describing fatness in her writing. She was describing this using the metaphor of a mean, vicious pest. She was also simultaneously aware that the girl in the image symbolized a mean, vicious pest to her. Katja perceived the girl in the image to be

menacing in the same way that she believed fatness to be menacing to her. This connection between the image and her description of fatness in her writing was experienced as a “mess in her head” made up of an idea of how she perceives fatness and a process of thinking about how this perception of fatness affects her.

### Sensory Awareness

Sensory awareness was a frequent aspect of Katja’s multiple experience; she experienced sensory awareness in 21 of her 42 samples (50%). Her sensory awarenesses were generally bodily and ranged from fairly straightforward single sensory bodily experiences to complex, multiple bodily phenomena. Sensory awareness also ranged from affectively neutral to somewhat distressing experiences.

An example of fairly straightforward sensory experience occurred in sample 3.4. Katja was reading a fortune cookie message while eating a fortune cookie. Both what she was reading (which was not symbolized in words but was a reading and understanding of the message) and the sensory aspects of the cookie, its dry texture and taste of mild sweetness were in her awareness. While the texture and taste in this sample were simple bodily sensations, Katja’s sensory awareness was also sometimes represented on a more complex bodily level. For example, in sample 4.5 Katja had a feeling and a separate, simultaneous complex bodily sensory awareness. In this sample, Katja was lying down next to her boyfriend with her cat lying on her stomach and purring. Katja had a feeling of being simultaneously warm, loved, relaxed, safe, and peaceful, a feeling that was experienced primarily as a bodily warmth radiating from the lower part of her chest, in an area lower and slightly wider than her heart. Katja also had a sensory awareness of the warmth and physicality of her boyfriend and cat, and another sensory awareness of the

vibration from the cat's purring on her stomach. Thus, in this sample Katja had a bodily apprehended feeling of being warm, loved, safe, relaxed, and peaceful, and two separate, simultaneous sensory awarenesses (of warmth and physicality from her boyfriend and cat, and of vibration from the cat's purring).

In 4 of her 21 sensory awareness samples (19%) Katja's bodily sensory awarenesses were qualitatively distressing for her. For example, in sample 6.6 Katja had an uncomfortable sensory awareness of being too full, like she was about to explode. This awareness had separate sensory, affective, and spiritual components that were experienced as interconnected. In the physical aspect of this sensation she was aware of the sensation of her stomach being distended, experienced as pressure and slight pain all over her body but especially in the stomach region, which was apprehended as distended and big "like a pregnant woman." Katja had a simultaneous sensory awareness of being physically sick, the sensations including being sick, hot, dizzy, nauseous, and primarily overwhelmed. This sensation of being overwhelmed had physical, affective, and spiritual aspects, which were experienced as a sensation of being physically, emotionally, and spiritually overwhelmed. Katja had difficulty describing the affective aspect of this experience, as if there was too much going on on all levels. Katja was experiencing a frenzied swirl of different emotions that she was unable to identify as either negative or positive. In the spiritual aspect of this experience, Katja experienced these awarenesses as interconnected more than separate; that the spiritual encompassed the physical and affective aspects but also seemed to be something beyond these experiences that she had difficulty articulating specifically, but summarized as both a withinness and beyondness. Katja experienced the physical aspects of this experience as being inside of her body, the

affective “frenzied swirl” as being both inside and outside of the body, and the spiritual aspects as being outside or beyond the body.

While sample 6.6 and three other samples were qualitatively distressing, Katja also had 17 neutral or positive bodily sensory awareness. For example, in sample 4.4 Katja was patting her boyfriend’s stomach and was simultaneously aware of her own body as being hot, with her face being particularly hot. She was also aware of laughing, of being in a silly mood, and of sensing a constant, deep aching pain in her kidneys. While this sample had potentially negative (heat/pain) and positive (laughter) components, it appeared to be qualitatively affectively neutral for Katja.

### Just Doing

Just doing activities, in which one is engaged in a specific activity, were reported in 13 of Katja’s 42 samples (31%). For example, in sample 2.2, Katja had a single just doing experience in which she was listening to her Mother talk about court proceedings on her cell phone. At the moment of the beep her mother was speaking the word “oath.” Katja was aware of listening to her Mother talk and comprehending what was being said with nothing else occurring in awareness. While sample 2.2 is fairly typical of “just doing” experiences, Katja also reported just doing in situations that might usually be associated with complex tasks. For example, in sample 5.2 Katja was working on a math problem. She was solving the problem and obtaining the correct answer as if this were occurring automatically, without any effort or concentration on her part and without any other awareness. Katja experienced the completion of this math problem as a “just doing” experience despite the fact that the task itself might appear to require far more active concentration than was expressed.

## Inner Speech

Katja reported inner speech in 10 of her 42 samples (24%). Katja's inner speech was primarily straightforward (7 of 10 samples), but she also experienced partially worded speech in 3 of the 10 samples, where Katja was speaking inwardly to herself but having some of the words missing despite the meaning's remaining intact. An illustrative example of each type will be discussed.

In sample 5.1 Katja was listening to a CD and was singing "All is full of love" in her head along with the CD that was playing. This inner singing was experienced as just like singing aloud. She was also simultaneously aware of dropping clothes into the hamper.

Sample 7.3 was an example of partially worded speech, where Katja was aware of the full meaning and context of what was being said but only some of the actual words were in her awareness. In this sample Katja was yawning and wondering what homework she should do next. This wondering was experienced as a rhythm of spoken words in her head, but only the word "French" was clearly apprehended, as if she were saying "Da da da French da da." There were spaces for the other words in the rhythm of the sentence; something of the words was there but the words themselves were not fully innerly articulated, despite the meaning of the thought being intact in awareness. Katja perceived this inner speech as speaking to herself, in her own voice, as if she had spoken aloud.

## Spiritual Experience and Integration of Mind/Body/Spirit

Eight out of Katja's 42 samples (19%) were characterized as being physically, mentally, and spiritually integrated, with a clear spiritual component. This is not a category of experience that has been described in previous inner experience research and

despite repeated, consistent, collaborative efforts among Katja and us over the seven-week sampling period we were unable to reach a clear understanding of the nature of her spiritual inner experience. Katja apprehended these as clear aspects of inner experience, but it was quite difficult for her to articulate these aspects or for us to fully understand the exact nature of these experiences. In order to examine the nuances of these experiences, two illustrative examples will be discussed with one having a somewhat positive affective overlay and one having a somewhat negative affective overlay.

An example of positively overlaid spiritual experience occurred in sample 3.6. In this sample Katja was looking at photos of a recent sunset and was aware of the colors in the photograph (an example of Sensory Awareness) while she was simultaneously daydreaming about the heavens. Katja apprehended this daydreaming as having separate but simultaneous mental, bodily, and spiritual aspects. The mental aspect of this daydreaming was experienced as an unsymbolized thinking about the beauty of the heavens. The physical aspect of this daydreaming was experienced as a bodily sensation of mild warmth radiating from deep inside of her body out in all directions. The spiritual aspect of the daydreaming simultaneously included a visual image of the heavens, an unsymbolized thought process (separate from the unsymbolized thought in the mental aspect of this experience), and something beyond these things that was difficult for Katja to describe. In the thought process occurring within the spiritual aspect of this experience, Katja was mentally meditating upon the heavens without this meditation being symbolized in words or images. In the image occurring within the spiritual aspect of this experience, Katja was seeing the heavens, as though she were expanding the actual photograph in her head so that she was looking up at the actual heavens. Katja perceived this image as more vivid than the actual photograph, and the image was seen as having

more clouds and was seen from the perspective of looking at the clouds from closer than on the ground. This image contained a clear element of spirituality for Katja but it was somewhat difficult for her to articulate the spiritual aspects of this experience. Although it may be tempting to conclude that the spirituality Katja experienced was just the spiritual content of the image and the bodily and mental experience of daydreaming contained in this sample, she definitively denied this and said it was far more than merely an image, bodily sensation, and mental daydreaming, was spiritual in nature, and was very difficult to express in words.

In sample 5.3 Katja had been at the computer writing about an intense experience that had happened a few minutes before. Her awareness at the moment of the beep was on the sensation of recovering from this intense experience, which she described as an ongoing gradual calming down. She was not particularly aware of what she was writing but the writing seemed to be just coming out, an example of a “just doing” experience. The experience of calming down was apprehended as a bodily, emotional, and spiritual process of tension reduction. The bodily aspect of this experience was perceived as a sensation of physical tension releasing throughout her body. The emotional aspect was apprehended as an emotional calming down that involved anxiety, frustration, tension, and pressure, experienced simultaneously as blending into one experience. At the moment of the beep these emotions had decreased more than halfway from where they had been but still involved negative affect.

The spiritual aspect of this experience was apprehended as a combination of thought, body, and emotion but also as a transcending of these things. Katja maintained that this was a clear apprehension of spirituality that was simply impossible for her to articulate in words. She steadfastly reported that the spirituality of the experience was

somehow present to her at the moment of the beep, but she simply could not translate that spirituality into words. She described this experience using the metaphor of many things going on simultaneously, like a rigorous dance of pressure, heat, spinning, and tension trying to get out of her, but even that fell short of capturing the spiritual experience.

### Feeling

Katja experienced feelings in 8 of her 42 samples (19%). Most of these feelings were quite complex and somewhat difficult for her to describe. Katja had difficulty determining if her feelings were apprehended mentally or bodily, and occasionally had difficulty determining if her feelings were positive or negative. Katja did not have any samples in which feelings were straightforward and easily apprehended for her. For example, in sample 5.5 Katja had a feeling of annoyance as well as a sensory awareness with undifferentiated affective and spiritual aspects. In this sample Katja was looking at packages of salad for the freshest one and her boyfriend was asking her if they had salad at home. At the same time, she was feeling a mild annoyance that she associated with her boyfriend's question about the salad. This feeling of annoyance was experienced as slight, experienced mentally, and difficult to describe.

Katja also had a separate, simultaneous sensation of being tired, drained, weak, out of it, and unwell, which were all experienced as part of a single sensory awareness throughout her body, particularly concentrated in her head. Katja apprehended the sensation of being tired/weak as primarily physical but she was also aware of being emotionally and spiritually drained. Katja perceived this experience as being integrated with physical, emotional and spiritual exhaustion, with the physical aspects being most pronounced. She was simultaneously experiencing being dizzy, ill and drained mentally,



emotionally, and spiritually, but it was difficult for her to explain the affective experience involved in this sample.

Another example of Katja's difficulty describing her feelings occurred in sample 6.6 (previously discussed in its entirety in the sensory awareness section). In this sample, Katja had a complex, multiple, simultaneously physical, affective, and spiritual experience of feeling too full and overwhelmed. This feeling was of "too much occurring on all levels" and was experienced as a frenzied swirl of multiple different emotions that she had difficulty identifying as either positive or negative and that were occurring both inside and outside of her body. It was slightly easier for Katja to describe the physical and spiritual aspects of this experience than the affective aspects. However, all of these aspects were qualitatively difficult for her to explain.

### Images

Katja had vivid, detailed, and complex images in 7 of her 42 samples (17%). Six out of these seven experiences included single images, but in one of the seven image samples Katja experienced two separate, simultaneous images.

Sample 2.4 was an example of a single image. Katja was innerly seeing her friend Mary performing on stage, dancing en pointe next to a golden cage. The rest of the stage was black. This image was clearly seen; Katja could see what Mary was wearing—a dark leotard and tights (she could not make out exactly what color). Most of Katja's attention was focused on the way Mary's body was moving in the image, but Katja was seeing the tall golden birdcage in the center of the stage with Mary dancing in front of it. Mary was moving in the image, and at the moment of the beep was passing in front of the cage. The experience was as if Katja were looking at Mary on stage, with no

borders, just blackness around the stage like in a theatre. The image was not quite as clear but was similar to actually watching her friend perform in a theatre.

In sample 2.6 Katja had two simultaneous visual images. One image was of herself at the bottom of a swimming pool, viewed from the edge of the swimming pool looking down to the bottom. The imaged Katja had inhaled and sunk to the bottom of the pool and was looking up. Simultaneously Katja had an image of the blue rippled surface of the water seen from below and of the trees and the house seen through that surface. These objects were seen as if looking up from under the water and were wavy, marbled, and somewhat blue. This was a clear visual image and was experienced as looking the same as if one actually did sink to the bottom of the pool and look up but was somehow able to breathe and stay alive and relaxed while remaining under water for an extended period of time. Thus these two simultaneous images were from above looking down at the underwater Katja, and from the underwater Katja's perspective looking up.

#### Perceptual Awareness

In 5 of the 42 samples (12%) Katja was engaged in perceptual awareness as a salient portion of multiple awarenesses. In most of these samples, Katja was aware of looking at something as a central part of the reported experience. For example, in sample 3.2 Katja was perceptually aware of looking at her math homework, and was simultaneously declaratively saying in her head "1.1, 1.2" just as if she were saying it out loud (an instance of Inner Speech) and was putting a star next to each problem to make it stand out.

### Happening of Speaking, Thinking and Reading

Katja had “happening of” experiences, in which inner events appear to occur without her direct guidance, in 4 of the 42 collected samples (9%). For example, in sample 5.3 (discussed above in the Spiritual Experience and Integration of Mind/Body/Spirit section), Katja was on line, writing to her interest group about a particularly intense, distressing experience that had occurred a few minutes before the beep. She described the writing as “just coming out,” as though the writing were occurring automatically without Katja being conscious of or actively directing the writing process.

### Unsymbolized Thinking

Katja experienced a thought process that did not include words, images, or other symbols (the process we call unsymbolized thinking) in 4 of her 42 samples (9%). For example, in sample 2.1 Katja was reading an online journal and was thinking a thought, which, if expressed in words, might be something like “I need to detox and cleanse myself.” In this sample, Katja was referring to detoxification and cleansing in a holistic health context but one may speculate that this context may overlap with bulimic compensatory behaviors. This thinking was not in words or images, but nonetheless was a clearly apprehended idea.

### Discussion

Complex multiplicity was the most salient aspect of Katja’s inner experience. The majority of Katja’s samples (57%) contained an average of two to four distinct, simultaneous experiences. While complex multiplicity in and of itself appeared typical of Katja’s experience it occasionally became distressing for her as in sample 6.6 in which

she described multiple feelings as a “frenzied swirl.” Overall, Katja’s inner experience was characterized by complex, multiple characteristics with frequent bodily sensory awareness, doing, inner speech, spiritual experiences, feelings and images. The prevalence of bodily sensory awareness may be influenced by her long-term dance training, in which bodily awareness is particularly important rather than to her history of eating disorders. While there is nothing in the eating disorder to suggest that there may be a greater tendency to bodily process information, it does make intuitive sense that long-term athletic performance may predispose one to process information in this manner, but this remains quite speculative.

Spiritual experiences and the integration of physical, mental, emotional and spiritual sensations were an especially salient and unique feature of Katja’s inner experience. Although these experiences were markedly difficult for Katja to explain in words or for us to reach a clear understanding of, they appeared to be an important aspect of her inner experience. During her interview sessions we spoke to Katja about these experiences, as we felt unable to define clearly or to understand fully the nature of these experiences even while understanding them to be a salient feature of Katja’s inner experience. She explained that it is somewhat difficult for her to articulate this experience in words and seemed to appreciate that while we were trying to reach an understanding of these experiences, they may be quite difficult to clearly express in language. Katja went on to say that she believed it would be somewhat easier for her to express these types of experience through movement than through words.

Feelings accounted for 19% of Katja’s inner experience and seemed to be markedly difficult for her to clearly identify and articulate. Katja revealed that she was actively bingeing and purging during the sampling period. The multiplicity and

complexity of Katja's emotions, and her difficulty identifying or describing these affective experiences may be characteristic of her bulimic behavior rather than typical of her inner affective experience overall, but to date we have no accurate way of determining if there is an affective difference between Katja's experience during bulimic and non-bulimic experiences.

## CHAPTER 6

### DAVID

David was an 18 year-old university student and wrestler at the time these samples were collected. He met the DSM-IV-TR (APA, 2000) criteria for bulimia and scored in the 98th percentile on the bulimia subscale of the Eating Disorders Inventory-II. David was not in treatment for bulimia at the time these samples were collected. David volunteered for the study when he was contacted after an initial screening in his introductory psychology class. A total of 11 samples were collected and discussed extensively over three sampling days during a six-week period. David withdrew from the study before the ideal number of samples were collected but gave his permission for the results of his samples to be used in the study.

#### Lack of Differentiation

David's experience was markedly undifferentiated, and remained strikingly unclear throughout his three-day sampling period despite consistent and sincere effort on the part of David and the co-interviewers. David's inner experience occurred along a continuum ranging from completely undifferentiated to moderately differentiated. Largely undifferentiated experience accounted for 9 of David's 11 samples (82%), with only 2 samples (18%) being somewhat more clearly differentiated and no samples at all being unquestionably clear. An example from each end of this continuum will first be

discussed to provide a sense of this range; then David's undifferentiated samples, representing the majority of his experience, will be discussed in greater detail.

An example of substantially undifferentiated experience occurred in sample 2.3, where David had a complex mass of largely undifferentiated visual images, some partially differentiated experience that seemed to be somewhere between thinking and inner speech, and a rather differentiated feeling. David was in class and had been talking about freedom of speech and the abortion rights issue before the beep. At the moment of the beep David was experiencing an undifferentiated complex mass of visual images, with three to five separate, overlapping visual images that he experienced as being like a slide show in which the images were seen one by one in rapid succession. David was somehow seeing images, and the images were seen to be black and white, but the content of the images was not clearly differentiated. The general topic of the images seemed to be aborted fetuses on signs held by anti-abortion protestors, but David was unable to determine if he was seeing the protestors, the signs, a specific image of a fetus, some combination of all of these elements, or something else in these images. Furthermore, he could not be sure what sequence these images were in or whether these images were in his awareness at the moment of the beep or slightly before the beep. Thus there was something visual about this experience, something black and white, something complexly multiple and sequential, but David could not be more specific than that.

In the partially differentiated portion of this experience, which occurred apparently at the same time as he was seeing these images, David was debating with himself which side of the abortion issue he was on. David experienced this debate as an unclearly differentiated, irregularly overlapping experience somewhere between just thinking and inner speech. This just-thinking / inner-speech phenomenon was somewhat

more differentiated than the multiple-image portion of the experience, but still markedly unclear. The just-thinking / inner-speech aspect of this experience was characterized by multiple, overlapping thoughts: “How could someone choose to have an abortion?” “How could someone kill an innocent baby?” “What if a 13 year-old girl became pregnant—then abortion might be best because the baby would not have a good life.” “What if a girl got raped—why on earth would she keep the baby?” These multiple thoughts/speakings seemed to be running through his head as if he were making rapid overlapping arguments to himself, one argument beginning before the previous one had ended, but it was impossible for him to be definite about this or about the extent to which these phenomena were thoughts or inner speech. It was impossible for David to be certain how many or how much of these just-thinking / inner-speech phenomena included words or what, if anything was in his awareness at the moment of the beep. This debate with himself was not clearly differentiated but was occurring somewhere between thought and inner speech, and overlapping irregularly.

The most differentiated portion of this sample, also experienced simultaneous with the other aspects, involved a feeling of remorse toward anyone who would have to make a decision about abortion. This feeling was experienced mentally but David was unable to distinguish anything more specific about this feeling. Thus, in this sample David appeared to have a series of undifferentiated images whose content and timing were not clearly specified, a somewhat more differentiated but still markedly unclear, complex, overlapping debate with himself that was apprehended as being somewhere between a cognitive and inner speech phenomena, and a somewhat more differentiated feeling of remorse.



An example of a somewhat more clearly differentiated experience occurred in sample 3.1. In this sample David was working on an English paper. At the moment of the beep he was trying to think of a better beginning phrase than “have to give up.” This trying to think of a replacement phrase was not symbolized in words or images (an example of unsymbolized thinking), and there was nothing else in awareness.

Since the majority of David’s experience was undifferentiated, additional samples will be discussed to provide insight into the nature of this undifferentiated experience. In general, this undifferentiation was a persistent, complex, multiple phenomenon in which there seemed to be many things going on that neither David nor the interviewers were able to clearly distinguish as being definitively in awareness at the moment of the beep.

In sample 2.2 David was looking at the time on his phone as he was walking through the university parking lot and had a “general recognition” of lateness and perhaps also a simultaneous sensory awareness of an airplane overhead. The “general recognition” of lateness was not clearly a thought or a feeling; maybe it was some of both or neither. It involved a series of thinkings / feelings / knowings / sensings / whatever, a semi-separable series of ill-defined fragments that might be expressed as: I’m late; what’s going to be next; what’s going to happen when I walk in late; am I going to walk in late; feeling embarrassed; imagining myself being embarrassed as I enter the classroom; confirming to myself that I’m late; seeing the time on the phone display; generally recognizing that I’m late; and so on. These aspects were more-or-less separable like the potatoes and meat in an overcooked stew—lumpy, not a uniform broth, but also not clearly defined individual thoughts or feelings either. All those ill-defined fragments were happening either at the same time or close enough to the same time that David could not distinguish a sequence or order.

At the same time, a jet airplane was flying low overhead making a quite deafening noise. David was unable to determine if that noise was in his awareness at the moment of the beep. Before and after the beep he was aware of the sensory aspects of the airplane noise, but had a great deal of difficulty determining if this was in fact in his awareness at the moment of the beep.

Within this mostly undifferentiated experience, David was somewhat more clearly aware of saying “Oh I’m late” out loud but this was also not very clearly differentiated. This is an example of a moderately differentiated aspect of experience within the larger undifferentiated mass in this sample. David was confident that he was speaking out loud, and was qualitatively far less confident about the other details of his inner experience at the moment of the beep despite exhaustive attempts on his part and on the part of the co-interviewers to understand exactly what was in his experience at the moment of the beep.

Sample 3.5 was the least differentiated of all of the samples. In this sample David was studying for a test and experienced his mind as being blank. This blankness was experienced as somehow more active and defined than a straightforward “spacing out” but it was not possible for David to determine exactly how this blankness was in his awareness at the moment of the beep. David described this experience as being a white sheet of paper and as being a seashell with air rushing through it. However, David was unclear if these were metaphors or if there was an actual experience of white paper or of a seashell with air rushing through it.

## Discussion

David’s inner experience was largely an undifferentiated mass of experience. Although he occasionally had partial differentiation at the moment of the beep, his

experiences were still strikingly “messy” experiences in which there seemed to be a mass of experience with occasional partially differentiated aspects. We came to refer to David’s inner experience as a “stew” in which there were at times identifiable aspects but these were often not qualitatively separable from the larger mass of undifferentiated experience. This stew of experience often became so undifferentiated that it appeared as a fluid mass in which no aspects could be identified clearly despite repeated efforts to reach an understanding of the nature of David’s experience. Although this is highly speculative, this “stew” of experience ranging from undifferentiated fluidity to semi-differentiated aspects within a larger undifferentiated whole is somewhat evocative of an experiential phenomena that mirrors vomit. It is interesting to imagine the potential parallels between undifferentiated inner experience and purging that may exist for David.

David’s inner experience was both extremely difficult to understand and qualitatively difficult for David to articulate despite consistent and sincere effort from both David and the co-interviewers. Even when David was in the midst of doing a simple task that may be assumed to be relatively straightforward, his inner experience was markedly undifferentiated. For example, in sample 3.5 (discussed above) David’s experience of blank-mindedness and his use of multiple metaphors may have been an attempt to explain that there was something more to this experience that was beyond blankness. However, this is necessarily speculative. Since the majority of David’s inner experience was undefined even when there was something going on with him, it might have been even more undifferentiated when there was an absence of inner experience. This blankness appeared to be qualitatively the least differentiated of David’s inner experiences. Despite exhaustive attempts to understand exactly what was in his awareness at the moment of the beep, neither David nor the co-interviewers were able to

gain a clear understanding of the nature of this undifferentiated blankness. David's repeated use of metaphor in this sample may suggest that this experience was so undifferentiated for David that it remained impossibly unclear to the point that it could not be articulated. David could not clearly distinguish the details of his inner experience even when there were aspects of his external environment that may be suggestive of parallel inner experience, such as the airplane noise previously discussed in sample 2.2 in which David believed that this noise "must" have been in his awareness because it was very loud, almost as though he was looking for external evidence to determine what may have been occurring in his inner experience. Although this is necessarily speculative, it may explain a potential contributor to David's lack of clarity. If his inner experience is largely undifferentiated, he may look to external factors to help him determine what is happening internally. In sample 3.1 (discussed above), the most substantially differentiated sample, David had unsymbolized thinking but even this was not completely differentiated: for example, he was not thinking of a replacement phrase, he was trying to think of the replacement.

While it may be tempting to dismiss David's lack of clarity as merely a difficulty communicating about his inner experience, the extensive careful interviewing employed with each sample combined with his pervasive difficulty defining the details of his inner experience make this quite unlikely. For example, in sample 2.3 (discussed above) David had undifferentiated images related to his debate with himself about the abortion issue. These images were striking in that it is quite unusual for individuals to have difficulty determining what they are seeing in visual images. Even if the images themselves were unclear, most people would be confident about what the images contained. However, David was unsure exactly what he was seeing in these images.

While DES samples generally require an average of 10-15 minutes per sample, allowing examination of an average of six samples per interview hour, we were able to complete only slightly more than half of the average number of samples per interview hour with David. It is possible that if David had more time using the DES method to examine his inner experience this pervasive lack of clarity may have resolved, but there is no way to know this definitively.

## CHAPTER 7

### VANINA

Vanina was a 22-year-old university student and dancer at the time these samples were collected. She met the DSM-IV-TR (APA, 2000) criteria for bulimia and scored in the 94th percentile on the bulimia subscale of the Eating Disorders Inventory-II. Vanina considered herself to be bulimic and identified herself as having had several periods of remission and exacerbation in the past several years. She was not in treatment for bulimia at the time these samples were collected but did express some interest in seeking therapy at the end of our sampling period. Vanina volunteered for the study after hearing about it from a friend who was participating. A total of 41 samples were collected and discussed extensively over eight sampling days during an 8-week period.

Complex multiplicity was the most salient aspect of Vanina's inner experience. She had a single experience in only 4 of 41 samples, with the remainder including typically three to six distinct, simultaneous experiences. Within this complex multiplicity, Vanina experienced frequent sensory awareness, generally manifested bodily. She also had frequent feeling experiences, which often had a strong, clearly bodily referent. A striking aspect of Vanina's inner experience was her tendency to think with her body rather than thinking in the traditional mental, cognitive sense. Vanina also had several images, usually clearly experienced, and occasionally multiple. She also had frequent activity-based experiences. On occasion Vanina experienced a fusing of thoughts and feelings in

which there does not appear to be a clear distinction between mental, physical, and affective processes. Vanina also experienced unsymbolized thinking that ranged from quite straightforward to complex, difficult to describe phenomena. Less commonly, perceptual awareness, inner hearing and inner speech were experienced, usually as one aspect of a complex, multifaceted experience. Each of these characteristics will now be discussed.

### Complex Multiplicity

Vanina had complex, multiple experiences in 21 of her 41 collected samples (51%). For example, in sample 4.4 Vanina had six separate, simultaneous experiences including three images, one unsymbolized thought, one experience of bodily decision-making, and one feeling. Vanina was standing in the bathroom with her left side turned to the mirror. She had pulled up her shirt and was looking at her stomach and waist in the mirror. Vanina was experiencing three separate, simultaneous images. First, she had an image of the shape of her stomach, her stomach in outline. Second, she had a separate, simultaneous image of the contents of her stomach, seen as a mix of food colors meshed together, and she understood the colors green and brown in the stomach contents to represent what she had eaten that day (green for salad, brown for bread). Third, Vanina also saw a separate and simultaneous image of her body as it appeared in the past. She saw this image of her body as it appeared in the past as slightly behind her actual self in the mirror, and although she could see her whole body in the image her awareness was focused on how small her actual waist looked compared to how it appeared in the in-the-past image. Vanina experienced this image of her body in the past as projecting out from the back of her head, as if it were an image being projected out onto a film screen.

At the same time, Vanina had an unsymbolized thought that if expressed in words would be something like, my stomach looks small compared to how much I ate today, but no words were actually present. Vanina also had a separate, simultaneous process of bodily decision-making. Unsymbolized thinking and bodily decision making will be discussed in detail in the sections below. In this bodily decision-making experience Vanina was recapping what she had eaten that day, which was apprehended as a sensation in her stomach that was evaluating or weighing out what she had eaten that day. Finally, Vanina had an accompanying feeling of mild bodily surprise as she was noticing how small her actual waist appeared compared to how it appeared in the image of herself in the past.

#### Sensory Awareness

Vanina experienced sensory awareness in 19 of her 41 samples (46%). Her sensory awarenesses were generally bodily, and these awarenesses were usually one aspect, if a quite complex one, of a larger, multifaceted experience. For example, in sample 5.1 Vanina was looking in a drawer and had an image of a cabinet with a box of saran wrap in it as well as two simultaneous sensory awareness. The image was somewhat blurry as if she were looking through a tinted window at the saran box. In the image the saran wrap box, the contents of the cabinet, and the cabinet door (open to the right) were visible but not distinct. Vanina also had a sensory awareness of the shape and colors of the saran wrap box, in that it was not merely the shape and color as identifying features of the box but that the shape and color in and of themselves were her focus. She had a separate simultaneous sensory awareness of the cabinet behind her. This awareness of the cabinet was experienced as bodily sensory knowing that the cabinet was behind her



that included a sensation on the side of her neck and down her side, as if she were getting ready to turn towards the cabinet.

### Bodily Decision-Making

Vanina had a salient characteristic of processing information that we termed “bodily decision-making.” This phenomenon was experienced in 10 out of her 41 collected samples (24%) and was a sequential, differentiated bodily decision-making process. Vanina seemed to be processing information in a strictly bodily manner that in other subjects might be processed cognitively. There was no accompanying mental thought process. Because this is a quite unfamiliar phenomenon, it is somewhat difficult to put into words. This section will use several samples to illustrate the nuances of this process.

For example, in sample 3.4 Vanina was hungry and was looking in the refrigerator determining which type of fruit she wanted to eat. As she was looking, her body was judging the fruits, physically reacting to each. She looked at a grapefruit and rejected it because her bodily reaction to the grapefruit was not as desired. Then she looked at a tangerine and an orange. Both of these fruits were again rejected because her bodily reaction to them was not as desired. When she saw an apple, her mouth watered and then she selected the apple. Thus the choice of fruit was not a thinking process but was a series of bodily reactions that resulted in a selection.

In sample 2.5 Vanina was trying to figure out what music she wanted to play while meditating. This figuring-out involved a review of the bodily sensation that she would experience from each of four types of music (Rachmaninov, Mozart, the sound of running water, and music from Chakra Therapy). These four types of musical experiences

seemed to move in a rotational orbit inside and around the front of her chest as she tried to determine the preferred type of music. During this process the music fragments would pass through her senses in quick succession. She could not say exactly how each musical selection was experienced except that it did not involve hearing. Somehow each selection was perceived in rapid, almost overlapping succession in this rotational orbit and each selection produced a bodily sensory awareness of how that musical selection would physically feel. The rotating series of these musical/bodily presentations eventually resulted in a selection of the music found to be desirable.

Vanina's process of bodily decision-making appeared to be common in situations that would for most people involve simple cognitive association or remembering. For example, in sample 4.3 Vanina was asking her Mother about a character in the novel *Don Quixote*. At the moment of the beep she simultaneously imaginably saw the character and experienced a process of increasing her focus on the image in order to try to recall what this character looked like and what he stood for. This process of trying to recall information about the character involved a physical sensation of a small vertical line that moved up from her stomach toward her brain and a simultaneous sensation of pressure spreading out across her forehead. This process of trying to recall was thus experienced entirely bodily.

In sample 5.2 Vanina was holding papers in her right hand, with a long, handwritten receipt with the corners turned up on top of the papers. She was looking at the receipt at an angle, was focused on the word "Reynolds," and was trying to determine where the receipt was from. This awareness of "trying to determine" was experienced as a physical sensation of an approximately  $\frac{1}{4}$  inch thick strip on the inner surface of her stomach that began at the solar plexus, moved up, and eventually came out of her body at

the mid-chest. At the moment of the beep, Vanina experienced this sensation as in the process of moving up but as not yet having come out. Vanina also had a separate but simultaneous parallel physical sensation that was associated with trying to determine if the receipt should be thrown away. This was experienced as a disc on the right side of her temple, moving counterclockwise. Neither of these separate but simultaneous parallel bodily sensations included a cognitive component, words, or any other symbolized or unsymbolized thought process that would usually be associated with this type of decision-making process. Vanina appeared to have significant difficulty putting her experience of bodily decision-making into words but was clear that this was a sequential, physically experienced decision-making process rather than a cognitive process. It may be tempting to dismiss this phenomenon by assuming simply that everyone reacts with their bodies. However, this was not physical reaction but was a sequential process of bodily decision-making. The process that most people would experience cognitively, Vanina experienced bodily.

### Images

Vanina had images in 9 out of her 41 samples (22%). Her images were generally part of larger complex multiple experiences and on three occasions she experienced more than one image simultaneously. We have seen examples of Vanina's images in several contexts so far in this chapter, for example, the multiple images of herself and her stomach in sample 4.4 (described in the complex multiplicity section), the saran wrap box in sample 5.1 (described in the sensory awareness section), the image of her mother and her mother's friend in sample 4.5 (described in the upcoming feeling section), and the character from the novel Don Quixote in sample 4.3 (described in the sensory awareness

and bodily decision-making sections). Vanina's images will now be discussed in greater detail.

In sample 5.3 Vanina was standing in the kitchen and had a single image of her mother's cat "Rosie" looking up at her and meowing. She did not hear the cat meowing in the image but understood her to be meowing from her appearance in the image. At the same time she could actually see her mother's other cat in the real doorway. In the center of her awareness was a physical sensation of trying to recall how long the cat in the image would normally take to come into the kitchen in this situation. This "trying to recall" was an example of Vanina's bodily decision-making. This was experienced as a physical sensation in her solar plexus about the size of a baseball, half inside the body and half outside of her body, and she knew this to be a process of trying to recall how long the cat would normally take to come into the kitchen, without any cognition being involved in the experience. At this moment she was also simultaneously listening for the cat in the image.

In sample 4.2 Vanina experienced two simultaneous visual images. At this beep she was looking at the words "lateral antagonism" on her computer screen and experienced two simultaneous visual images. She had a blurry image of the antagonistic character from the novel *Don Quixote*. In the image she could see this character's head, viewed in profile from the right side. The facial features in the image were not clearly defined, but she could see that he had on a conquistador hat and had a sly look on his face. Vanina also had a separate but simultaneous inner seeing of this same character sitting on a horse with a staff thrust into the ground. In this image Vanina knew this to be the same character but could not clearly see his face. These two images were superimposed one on top of the other, so that she saw both at the same time. The head

image was somewhat transparent, with the horse image being somewhat less blurry than the head image. Both images were experienced as moving in and out of transparency as she was looking at them.

### Feelings

Vanina experienced feelings in 8 out of her 41 collected samples (19%). These feelings were quite complex and were generally experienced physically with a clear bodily referent. For example, in sample 4.5 Vanina was aware of three simultaneous and somewhat affectively inconsistent feelings while dancing in her living room as her mother and her mother's friend watched. The three feelings were of silliness, of being uncoordinated, and a good feeling. The feeling of silliness was experienced as a physical sensation of laughing that spread throughout her stomach, deep into her stomach as though she were laughing (but she was not actually laughing at the moment of the beep). She had a separate but simultaneous feeling of being uncoordinated/guilty/stupid. This uncoordinated/ guilty/stupid feeling was experienced as a sensation on the side of her head, in a round area with defined edges on the front, right-hand side of her head, about the size of a compact disc. Vanina also had a simultaneous but separate good feeling that she experienced as physical sensation of happiness on the back of her arms and back and sides of her neck, a sensation of a bursting out that was somewhat difficult to define in words. At the same time, Vanina had a sensory awareness of the beat of the music she was dancing to. This beat was experienced deep throughout her body as though the music were physically moving in waves throughout her body. She also had a visual image of her mother and her mother's friend watching her dance. This was an image of them where they were actually sitting on the couch, experienced as if she were actually looking at

them where they were in fact sitting, but she was not actually looking at them in reality. Thus in this beep Vanina was simultaneously experiencing three separate feelings, (silly, uncoordinated, and good); a sensory awareness of the music in her body; and an image of her mother and her mother's friend.

### Thought/Feelings

Vanina occasionally had experiences that seemed to blend cognitive and affective elements so that thoughts were perceived affectively, affect was perceived cognitively, or elements of both were difficult or impossible to distinguish. This failure to distinguish thoughts and feelings, which we termed thought/feelings, occurred in 6 out of her 41 samples (14%). For example, sample 2.1 is an example of Vanina's difficulty in disentangling cognition and emotion, set in a typically complex experience. Vanina was overhearing her sister talk to one of Vanina's bulimic friends about bulimia. Vanina's sister sounded judgmental, and Vanina was feeling resentful about it, experienced primarily in a small area in her solar plexus. At the same time she was feeling bothered / alarmed by the conversation; this feeling (or feelings—Vanina couldn't be sure) was experienced primarily in the back of her brain and the top of the back of her neck. At the same time Vanina was nervous, but while the first two experiences seemed to be primarily or exclusively emotional, the nervousness was some mixture of emotion and cognition. This nervousness included a sharp, slightly nauseated feeling deep inside her stomach, in small area like a line, diffuse at the edges, going inwards. But it also included negative thoughts about her sister, like "does she think she's helping by judging me?" not in words but like a familiar chunk of an idea, so common or frequent that it didn't need to be thought explicitly. Vanina referred to this process as "code thought," a

chunk of ideas, not in words, that she automatically understood without having to say it. The negative thoughts seemed to be a part of the nervousness, but at the same time they also seemed to be a part of the resentment. Thus it appeared that Vanina's feeling of nervousness and resentment were simultaneous and combined but yet somehow separate.

Thus Vanina's blending of affect and cognition was apprehended as a complex, tangled experience. For example in sample 7.3 Vanina was driving and was about to turn right. She was looking at the sidewalk next to her car and was aware of the sensory aspects of two yellow lines next to her on the sidewalk, an example of sensory awareness. At the same time she was thinking/feeling about the idea of observing her dance class, rather than participating in it. This thinking/feeling was experienced as a difficult-to-explain, complex phenomenon that included a vague visual image of her coach dancing, an understanding of the dance class, an understanding of how would she would feel if she sat out the class instead of dancing, a wondering whether she should go and participate, a wondering whether she should just watch, wondering how would she feel about it, and so on all tangled together, not clearly defined. She couldn't be sure whether the individual pieces of the experience (the understandings, the wonderings) were thoughts or feelings.

### Unsymbolized Thinking

Vanina experienced thoughts that occurred without words, images, or other types of awareness (the phenomenon that we call unsymbolized thinking) in 4 out of her 41 samples (9%). These thoughts ranged from fairly simple, straightforward thoughts to quite complex multiple ones. For example, in sample 3.2 Vanina had one unsymbolized thought and one feeling. She was opening an envelope and was wondering if it was from the DMV. This wondering was experienced as an understanding of having the thought,

which if put into words might be something like “is it from the DMV?” without the thought being symbolized in words or images, and is thus an example of unsymbolized thinking. At the same time Vanina had a feeling of having done something wrong by opening the envelope that may not have been intended for her. This feeling of having done something wrong was experienced as a bodily sensation of a small portion of her heart racing that she associated with having done something wrong without needing to put this awareness into words.

In sample 3.3 Vanina had been looking at an old high school transcript that gave her name and the designation “high honor roll.” At the moment of the beep she was wondering what “high honor roll” meant. This wondering was experienced simultaneously as a visual image of her transcript and as an unsymbolized thought of trying to remember what happened that resulted in her achieving the high honor roll.

### Inner Speech

Vanina experienced inner speech (inner words experienced as though she had spoken them aloud) in 3 out of her 41 samples (7%). In sample 3.1, Vanina simultaneously had one experience of inner speech, two overlapping images, a feeling, and a sensory awareness. Vanina had dropped the beeper and was saying “Oh shit.” She was saying this to herself, in words, as though she had said it aloud. Vanina also had overlapping inner images in which she was seeing the present writer (Sharon Jones-Forrester) looking down as though she was disappointed and, overlapping with this, Vanina was simultaneously seeing an image of cell phones that she had broken in the past. Vanina had a simultaneous parallel feeling of fear that she had done something wrong that was experienced as a physical sensation in her abdomen that she associated



with hoping that the beeper didn't break when it dropped. This was experienced as a dull, repetitive poking, moving both inward and outward, all through the front and back of her body, but more strongly felt in the front. Vanina had a simultaneous sensory awareness of tension at the side of her eyes, as though her eye sockets were tensing and a physical sensation of tension in one small, inch-in-diameter spot on her forehead, slightly above and between her eyes. Vanina experienced all of this separate, simultaneous inner speech, images, feeling, and sensory awareness as a complex swirl that seemed to make the inner speech portion of the experience somewhat difficult to describe clearly.

Sample 7.6 was a more straightforward example of inner speech but was still somewhat unlike typical inner speech, where a subject speaks to herself, in words, in her own voice, with or without anything else in awareness. In this sample Vanina was singing to herself "just a spoonful of sugar helps the medicine go down." This was experienced as being the same as if she were singing it out loud, but in her head she perceived herself as being Mary Poppins singing, rather than as herself singing the Mary Poppins song in her own voice. She explained that she perceived this as herself singing using Mary Poppins voice, not just imitating Mary Poppins.

#### Just Doing

Vanina had just doing experiences in 2 out of her 41 samples (5%). For example, in sample 2.3 she was listening to her sister speak about her mother and she understood what was being said without any other awareness occurring. In sample 7.1, Vanina was at the bank drive-through and was looking at her ID and a receipt inside the tube from the bank, while she was reaching for the card and receipt in the tube. She was engaged in looking and reaching, without any other awareness.

## Discussion

Vanina's 41 collected samples gave us insight into her complex, multiple inner world. Early in the 8-week course of sampling Vanina appeared to have difficulty with the task of reporting her experiences and would often stop to ask "what was the question?" As interviewing continued, sampling appeared to become both easier and clearer for Vanina. It may be that greater familiarity with the task, greater comfort with reporting her inner experience, clearer apprehension of her inner experience, or some combination of all of these factors contributed to the qualitative improvement in her ability to engage comfortably in the interviewing process. While there was no qualitative change in her experience in terms of complexity and multiplicity, she was markedly more able to communicate her inner experience clearly at the end of the eight weeks of interviewing. However, Vanina's experience remained quite complex and required significant and consistent effort on both her part and the interviewer's part to reach a shared understanding of her experience.

Vanina's complex, multiple experiences were both unique and consistent with previous findings of the inner experience of women with bulimia. In particular, Vanina's fusing of thoughts and feelings and her bodily apprehension of experiences may interact with her bulimic ideation and behavior, but there is no way of determining the potential directionality of this interaction. There was nothing in the current bulimia literature that examines how this unique apprehension of cognition, affect, feeling, and complexity may interact to create conditions for bulimia but an increased understanding of these potentially interacting factors may yield important treatment and prevention clues. Vanina's process of bodily decision-making was not a characteristic that has been previously recognized in sampling research. This characteristic was discussed with

Vanina during her debriefing session and she suggested that she has a bodily sensitivity to her environment that may have come from her athletic training. It is unclear what actually contributes to Vanina's process of bodily decision-making, or the role it may play in her bulimia but this was a complex and clearly apprehended phenomenon that deserved careful attention in understanding the nature of her inner experience. Perhaps most importantly, this bodily decision-making phenomenon highlights the importance of interviewers setting aside assumptions and cognitive biases and listening carefully to reports of inner experience. The rewards of setting aside the "everyone reacts with their body" bias and examining Vanina's process of sequential bodily decision-making was clear when Vanina was asked at one point if this decision-making process was in her stomach rather than her head. She responded, "I'm glad you picked that up, I would have had a hard time explaining that." This response lends clear support to the idea that she was bodily decision-making, or processing traditionally cognitive information bodily. This was a unique characteristic of Vanina that would have been completely missed if cognitive processing was assumed when she described this decision-making process during the interviews.

## CHAPTER 8

### MARGO

Margo was an 18-year-old university student at the time these samples were collected. She met the DSM-IV-TR (APA, 2000) criteria for bulimia and scored in the 96th percentile on the bulimia subscale of the Eating Disorders Inventory-II. Although Margo did not identify herself as being actively bulimic during the interview period, she did endorse bulimia diagnostic criteria on both the self-report measures and the structured clinical interview during the qualification phase and also endorsed having experienced active bulimia in the past. Margo volunteered for the study when she was contacted after an initial screening in her introductory psychology class. A total of 39 samples were collected and discussed extensively over seven sampling days during a nine-week period.

Multiplicity was the most salient aspect of Margo's inner experience, with 56% of her experience containing two to five distinct, simultaneous experiences. Within this multiplicity, Margo experienced frequent clearly experienced images, frequent perceptual awareness, and sensory awarenesses that were generally manifested bodily. She also had frequent thought/sensory awareness, music-based experiences, and unsymbolized thinking. Margo also had relatively frequent feelings and thought/feelings in which there was not a clear distinction between cognitive and affective experiences. Less frequently, Margo experienced feeling fact of body, activity-based experiences, inner speech, worded

thought, and inner hearing, usually as one aspect of a multifaceted experience. Each of these characteristics will now be discussed.

### Multiplicity

Multiplicity was the most salient feature of Margo's inner experience. Margo had multiple experiences in 22 of her 39 collected samples (56%). For example, in sample 5.4 Margo had one image, three separate simultaneous thought/feelings of frustration, one sensory awareness, and one perceptual awareness. At the moment of the beep Margo was having a conversation with her friend Max about the movie Hotel Rwanda that she had seen earlier in the week. At the moment of the beep she had a clear image of the face of Don Cheadle, the movie's main actor, seen from the front as if she were looking at his face as it appeared in the movie. Earlier in the day Margo had had a frustrating conversation with Bill, one of her co-workers, about the same movie, and at the moment of the beep she had a thought/feeling of frustration with Bill's response to her comments about the movie. This frustration was experienced as a complex annoyance with Bill, experienced in her head, which incorporated a desire to shake him and a desire to have him stop responding to her comments about the movie in a way that she perceived as ignorant and insensitive. Simultaneously, Margo was trying to pull a bracelet off her wrist and had two separate, additional thought/feelings of frustration: an unpleasant bodily sense of frustration at not being able to get the bracelet off and a desire for relief that was experienced as a separate, undifferentiated frustration. It was difficult for Margo to specify how these three frustrations (the mental frustration toward Bill, the unpleasant bodily feeling of frustration and the separate, undifferentiated desire for relief) presented themselves to her at the moment of the beep, except that they were distinguishably

separate events each of which had, in some undifferentiated way, both cognitive and affective aspects. We therefore refer to these phenomena as three apparently separable thought/feelings. Simultaneously, Margo had a sensory awareness of pain in her wrist caused by the bracelet she was trying to remove. Margo also had a perceptual awareness of looking at her friend Max as she was having this conversation with him. Thus, at the moment of the beep Margo had one image (of Don Cheadle's face), three separate simultaneous thought/feelings of frustration (annoyed frustration toward Bill, bodily frustration, and a separate undifferentiated frustration of desiring relief), one perceptual awareness of her friend Max, and one sensory awareness of pain in her wrist.

### Images

Margo had images in 22 out of her 39 samples (56%). Her images were generally clear, straightforward, and part of larger multiple experiences, but on two occasions Margo had images whose details significantly differed from the reality depicted in the image. An example of each of these types of images will be discussed below.

An example of a clear, straightforward image within a larger multiple experience occurred in sample 7.2. In this sample Margo had a clear image and a separate, simultaneous unsymbolized thought, perceptual awareness, and musical experience. Margo was in her dormitory room looking at her friend Max who was sitting at her computer desk. At the moment of the beep she had an image of her bathroom sink and mirror, with a container beside the sink filled with rubber bands. Simultaneously, Margo had an unsymbolized thought that Max was very tanned. Margo had a separate, simultaneous perceptual awareness of the rubber band on Max's wrist. Margo also had a

musical experience in which she was aware of quietly singing aloud along with a CD that was playing.

In sample 3.3 Margo had an image of herself that differed from reality. In this image Margo could see herself walking to the dumpsters to take out the garbage. In the image she could see herself from the back, walking away from the point of view. She could see herself carrying trash bags in both hands and could see part of the dorms and the rocks on the side of the path that she was walking. This image was unusual in its detail in that the Margo in the image had curly hair and wearing a purple shirt although the actual Margo does not have curly hair or own a purple shirt. Simultaneously, Margo was tying up a garbage bag and had a sensory awareness of tension in her forearms as she was trying to pull the bag tightly closed.

#### Perceptual Awareness

In 19 of the 39 samples (49%) Margo had perceptual awarenesses in which she was looking at something as a central part of her experience. For example, in sample 6.6 Margo was watching a Gregory Hines DVD movie on her laptop computer and had a perceptual awareness of watching his feet as he was dancing in the movie. Margo also had a separate, simultaneous feeling of happy excitement.

In sample 7.6 Margo was taking a final exam and had a perceptual awareness of looking at question number 23 on the exam, with particular perceptual focus on options B and C, with option C being recognized as the correct answer. She had a separate, simultaneous unsymbolized thought about the substitute professor who had presented materials related to question 23 and a doing experience of actively concentrating on the exam.

## Sensory Awareness

Margo had sensory awareness in 9 out of her 39 samples (23%). Her sensory awarenesses were generally straightforward and experienced bodily. For example, in sample 2.6 Margo had a bodily sensory awareness, an inner speech experience, and an image. At the moment of the beep Margo was looking at a text message on her cell phone from her father and was reading the message to herself in inner speech. Simultaneously she had a sensory awareness of bodily excitement that she apprehended as a physical sensation of being excitedly energetic throughout her body. Margo also had an image of the view seen from the window of a hotel room that she had stayed in with her family on their last vacation. This image was of the scenery of beach, ocean, and palm trees that could be seen from the hotel room window and appeared to be identical to the view from the actual hotel room window. Margo associated this image with the cell phone text message about their upcoming family vacation that she had received from her father.

In sample 5.3 Margo was kneeling on the floor and had just reached up to rest her forearms on her bed. At the moment of the beep she had a sensory awareness of coldness on the front of her bare forearms, and a separate, simultaneous image of the name “Bo Diddley.” This was an image of the letters in the name, with light letters on a dark background. The image was not very clear, and was seen very briefly, but she could see it enough to know what it was.

## Thought/Sensory Awareness

Margo occasionally had experiences that seemed to blend cognitive and sensory elements so that thoughts were perceived sensorially, sensation was perceived cognitively, or elements of both were difficult or impossible to distinguish. This failure to



distinguish thoughts and sensations, which we termed thought/sensory awareness, occurred in 7 out of her 39 samples (18%). For example, in sample 2.4 Margo was reading a paper from a homework assignment and was chewing on a bite of food. At the moment of the beep she had a thought/sensory awareness related to the food, a worded thought, a perceptual awareness, and a simultaneous, separate unsymbolized thought. In the thought/sensory awareness aspect of this experience, Margo was chewing on the bite of food and had a thought/sensory awareness that what she was chewing was disgusting. This thought/sensory awareness was apprehended as a sensory awareness of the unpleasant taste of the food, a bodily sensation of disgust in reaction to the food, and a thoughtful consideration of what had been done differently in the preparation of the food that were all occurring simultaneously and were not defined thoughts or sensations but rather had fused sensory and cognitive aspects into a single experience. Simultaneously, Margo was repeating the phrase “dozens of drugs” from the homework paper she was reading to herself, in a worded thought without inner hearing or inner speech. Margo also had a perceptual awareness of looking at her printer, and had a separate simultaneous undifferentiated unsymbolized thought process that this phrase “dozens of drugs” sounded weird to her.

In sample 2.5 Margo had a thought/sensory awareness related to her stomach in which she had a sensation of slight nausea, rumbling, and constant pain deep in her lower abdomen in a 3-inch long strip, fused with a cognitive understanding that this pain must have had something to do with what she had eaten earlier. These were not experienced as separate bodily and cognitive aspects of one experience but were experienced as a semi-differentiated, intertwining, singular simultaneously bodily and cognitive experience. Margo also had a simultaneous perceptual awareness of looking at a list of songs on the

Kazaa program on her computer, and was aware of singing aloud along with a CD that was playing.

In two of the seven thought/sensory awareness samples, Margo's thought/sensory awareness had a clear self-presentation element. For example, in sample 3.1 Margo was laughing as she was talking with a friend who had said that he had called her earlier. At the moment of the beep Margo had a thought/sensory awareness that her laugh did not sound real to her. This was apprehended as a complexly undifferentiated cognitive / sensory experience, cognitive in the sense that she knew that the laugh was forced and that she was laughing to make her friend feel better and sensory in that she heard her laughter to have an unnatural sound. Simultaneously, Margo had an image of herself sitting in her room looking down at the missed calls on her cell phone that was open in her right hand.

### Music

In 10 of Margo's 39 samples (26%) active awareness of music was a central aspect of her inner experience. These samples involved active awarenesses of singing, rapping, listening to music, or dancing to music. For example, in sample 4.6 Margo was actively listening to a soundtrack CD from the film *Ghost World* and had a simultaneous image of the main actress in the film dancing to this music. The image was moving and was apprehended as being identical to how the actress appeared in the film, as though Margo were innerly seeing that scene from the film.

In sample 6.5 Margo was again actively listening to music and was also aware of rapping the words to the song she was listening to. Simultaneously, Margo had a bodily sensory awareness of her eyes stinging and an activity-based experience of preparing to

put in eye drops. Margo also had a separate, simultaneous image of a man she had seen earlier in the day sitting on a bench in the courtyard outside of her dormitory. She saw the man in this image from the back, from the same perspective that she had seen him earlier.

### Unsymbolized Thinking

Margo experienced thoughts that occurred without words, images, or other types of awareness (the phenomenon that we call unsymbolized thinking) in 8 out of her 39 samples (20%). These thoughts were generally straightforward, clearly apprehended, and experienced as one aspect of a multiple experience. For example, in sample 5.1 Margo had an unsymbolized thought about whether she should buy Coke or Pepsi at the grocery store. Simultaneously, Margo had a fleeting image of a Diet Pepsi bottle, but she perceived the unsymbolized thought as being somehow separate from this image. Margo also had a separate, simultaneous perceptual awareness of her friend sitting at her computer, and an awareness of actively listening to music from an Eric Clapton CD that was playing. Simultaneously, Margo had an activity-based experience of writing the word “diet” on the grocery list she was preparing.

In sample 6.2 Margo was standing at her bedroom window and had an unsymbolized thought that was apprehended as a curious wondering if her friends who live in the dormitory room directly across from her were able to see into her window. Simultaneously, Margo had an image of the friends who live across from her. This image was of her friends sitting on their beds and smiling, seen from head-on, as though Margo were standing in her friend’s room looking at them. Margo also had a separate, simultaneous sensory awareness of her eyes hurting as she was adjusting to the brightness from the window, and had a perceptual awareness of hearing the shower running in the bathroom.

## Feeling

Margo experienced feelings in 8 of her 39 samples (20%). Most of these feelings were quite straightforward, clearly apprehended, bodily, and experienced as one facet of a larger, multiple experience. For example, in sample 4.2 Margo had a feeling of happiness that she associated with her sister, although her sister was not directly in her awareness at the moment of the beep. This happiness was bodily apprehended as a lightness throughout her body. Simultaneously, Margo had an image of a black CD player that she recognized as belonging to the sister. The CD player in the image was apprehended as the same as if she were looking at her sister's CD player in reality. Margo had a separate, simultaneous awareness of actively listening to a Bow Wow CD. Just prior to the beep, Margo had read the phrase "attendant duties" in a paper, and at the moment of the beep was repeating that phrase back to herself in inner speech. This inner speech was apprehended as being in her own voice, as though she had said this phrase aloud.

In sample 6.6 (discussed previously in the perceptual awareness section), Margo was feeling happy and excited. This happiness and excitement was fused into a single feeling that was apprehended simultaneously as a bodily lightness and mental awareness of being happily excited. Margo was also watching a Gregory Hines DVD at the moment of the beep and had a perceptual awareness of his feet as he was dancing.

## Thought/Feelings

Aside from the thought/sensory awareness experiences (described above) in which Margo had fused cognitive and sensory experiences, she also occasionally had experiences that seemed to blend cognitive and affective elements so that thoughts were

perceived affectively, affect was perceived cognitively, or elements of both were difficult or impossible to distinguish, a phenomenon we termed thought/feelings. Thought/feeling occurred in 5 out of Margo's 39 samples (13%). For example, in sample 2.2 Margo was working on a paper for school and had a thought/feeling of happy relief that she had chosen the topic she was working on for this paper. This happy relief thought/feeling was apprehended as an awareness of satisfaction with the topic that was experienced both bodily and mentally, but that she was unable to distinguish as having separable cognitive and affective aspects. Simultaneously, Margo had an image of the title of the paper, in black font on a white background and a perceptual awareness of the paper that she was loading into her printer.

In sample 4.1 Margo was just finishing reading a sentence that contained the phrase "religious leaders and pro-choice views" and had a thought/feeling of confusion that was apprehended as a thought process that the terms "religious leaders" and "pro-choice views" did not seem to go together and a feeling of confusion that were experienced as a single, semi-differentiated phenomenon with both affective and cognitive elements, that were not possible to distinguish at the moment of the beep. Margo had a separate, simultaneous image of the news anchor Bill O'Reilly sitting behind the anchor desk as though she were watching him on television. Margo also had a perceptual awareness of the phrase "religious leaders and pro-choice views" bolded on her computer screen, with the remaining words in the sentence not being specifically in awareness. Aside from these feeling and thought/feeling samples, Margo also experienced feeling fact of body on three occasions, which will be discussed below.

### Feeling Fact of Body

In 3 of the 39 samples (8%), Margo had an experience in which she had an ongoing affective state without the emotion itself being specifically in awareness, an experience we refer to as “feeling fact of body.” For example, in sample 2.1 Margo was sitting at her computer and was annoyed, although the feeling of annoyance itself was not specifically in awareness at the moment of the beep. Simultaneously, Margo had a perceptual awareness of the song selection list on her computer.

In sample 6.3 Margo was happy, without specifically feeling happy at the moment of the beep. She also had a separate, simultaneous image of the essay she was writing completed, typed out, and tucked into a purple folder. At the moment of the beep Margo was about to text message her friend and had a simultaneous perceptual awareness of the text message lines on her cell phone and an unsymbolized thought about what she was about to say in the text message.

### Inner Speech

Margo experienced inner speech in 3 of her 39 samples (8%). This inner speech was generally straightforward and experienced in her own voice, as though she were speaking aloud. For example, in sample 2.6 (previously discussed in the sensory awareness section) Margo was reading a text message from her father to herself, in inner speech, in her own voice. This inner speech was apprehended as being identical to if she were reading the message aloud. Simultaneously, she had a sensory awareness of bodily excitement and an image of the view from the hotel room that she stayed in with her family on their last vacation.

In sample 6.4 Margo was reading the word “blog” on her computer and repeating this word back to herself, in inner speech, in her own voice, as if she had said this word aloud. Simultaneously, Margo had a thought/feeling of oddness that she apprehended as a sense of the word “blog” as strange. Margo perceived this oddness as an undefined awareness of the strangeness of this word, occurring somewhere between a thought and a feeling, that she was unable to clearly distinguish. At the moment of the beep Margo was also actively listening to and rapping along with music.

### Discussion

Multiplicity was the most salient aspect of Margo’s inner experience. Overall, Margo’s inner experience was characterized by a high frequency of clear images, frequent perceptual awareness, bodily sensory awarenesses, and unsymbolized thinking.

Margo also experienced thought/sensory awareness. This difficulty distinguishing between thought and sensory awareness has not been found in other bulimic or non-bulimic DES participants. While this is necessarily speculative, it is possible that Margo may not experience thought directly in potentially uncomfortable self-presentation situations but may need to rely on a complex, undefined fusing of thoughts and sensations to provide feedback. For example in sample 3.1 (discussed in the thought/sensory awareness section) Margo’s awareness of her laugh as unnatural was not a clear, defined cognitive understanding but a complex, fused semi-defined sensory and cognitive awareness. Margo’s music-based inner experiences were somewhat unusual in that her involvement with the music was an active and central aspect of her inner experience. While it is fairly common for individuals to have an awareness of the perceptual or sensory qualities of music, or a slight awareness of music in the background

of experience, it is less common for individuals to be aware of and actively engaged in music as a central part of their inner experience. Margo also had relatively frequent feelings, which were perceived more clearly than the other participants in the study. Margo also experienced relatively frequent thought/feelings, a characteristic common to all of the individuals with bulimia studied using DES. Overall, Margo's inner experience was the most qualitatively clear and straightforward of all of the participants in the study, and she was also the only individual in the study that did not identify as being actively bulimic at the time of sampling. While this is somewhat speculative, it is possible that the relative clarity of Margo's inner experience may be correlated with her lack of active bulimic behavior at the time of sampling. More research is required to determine the potential existence and directionality of this relationship.



## CHAPTER 9

### STELLA

Stella was a 19 year-old university student at the time these samples were collected. She met the DSM-IV-TR (APA, 2000) criteria for bulimia and scored in the 99th percentile on the bulimia subscale of the Eating Disorders Inventory-II. Stella was not in treatment for bulimia at the time these samples were collected but requested a referral for treatment at the end of our sampling period. Stella volunteered for the study when she was contacted after an initial screening in her introductory psychology class. A total of 40 samples were collected and discussed extensively over seven sampling days during a 10-week period.

#### Sensory Awareness

Sensory awareness was by far the most salient aspect of Stella's inner experience, occurring in 31 out of her 40 collected samples (78%). Sensory awareness was the only clearly differentiated experiential category for Stella. Stella less frequently experienced feeling, thought/feeling, feeling fact of body, perceptual awareness, unsymbolized thinking, and one image during her sampling period; these experiences were generally not as clearly differentiated as sensory awareness.

Not only was Stella's sensory awareness quite striking in its frequency, but it was also quite striking in its exclusivity in the sense that Stella was often aware of what

seemed to be a relatively insignificant sensory detail at times when it would seem to be more usual to be paying attention to a more central perceptual aspect of her environment. Stella's sensory awareness ranged from simple, straightforward phenomena to actively focusing on the sensory to avoid potentially distressing experiences. Each of these types of sensory awareness will be discussed below.

In 24 out of her 40 samples (60%) Stella had straightforward sensory awareness. For example, in sample 3.1 Stella was sweeping the floor and was aware of the shape and color of the thin trail of dirt left after collecting dirt into the dustpan. In sample 3.4 Stella was doing inventory at work and was pulling a box off the shelf. She was aware of the dry, dusty, papery sensation of the box against her fingertips, and, again through her fingertips, of sensing the inner rigid texture of the corrugated layer through the wavy surface of the box. She also was noticing the color of the box and the shape of the corner of the label on the box; nothing else was in awareness. In sample 6.3 Stella was playing with the tips of her hair and was aware of the grainy texture of the tips against her fingers, with nothing else in awareness at the moment of the beep. In sample 7.4 Stella was changing clothes in the bathroom at work and was aware of the aqua color of the floor tiles and also was aware of the sensation of cold pressure from the floor on the balls of her feet; nothing else was in awareness.

In 7 out of her 40 collected samples (18%) Stella had sensory awareness that she apprehended as actively trying to focus on the sensory, apparently to avoid potentially distressing stimuli. For example, in sample 7.5 Stella was at work eating her lunch and had a sensory awareness of heaviness in her eyebrows and an ongoing thought/feeling of being worried and upset that was somehow slightly present but was not directly in her awareness at the moment of the beep. In this sample Stella was focusing on the sensory

heaviness in her eyebrows in an attempt to avoid the thought/feeling of being worried and upset. She did this by focusing her attention on the heaviness in her eyebrows as she furrowed them, explicitly trying, in a contrived way, not to think or feel.

In Sample 3.6 Stella was on the phone with her father, who was screaming at her over the phone. Instead of paying attention to what her father was screaming about, Stella was instead noticing the sensory aspects of this experience: the phone speaker was being overdriven by the screams, and Stella was noticing the distortion of the sound. She was also aware of the speaker-driven vibrating sensation in her skin and bone in a region slightly (about a ½ inch) in front of her ear. Stella also had an ongoing bodily frustration, but although this feeling apparently existed in her body, it was not in her awareness at the moment of the beep (and is thus an example of what we call “feeling fact of body”). Thus at the moment of the beep Stella was paying attention to the sensory (auditory and mechanical) aspects of the distorted sound, rather than to its content (what her father was yelling about) or her reaction (frustration).

In sample 5.6 Stella was in a traffic jam on the freeway and was frustrated by the delay. However, at the moment of the beep she was not experiencing this frustration directly (and thus it qualifies as a feeling fact of body); instead, she was actively trying to channel her frustration into a sense of calmness by looking at the fuzzy blue outline of the sky framed by the cut-outs in her steering wheel. Thus she was purposefully focusing on the sensory aspects of the blueness rather than on the traffic or her frustration.

In sample 3.5 Stella was in her supervisor’s office. Her supervisor was talking to Stella, but Stella was not listening to what the supervisor was saying. Instead, Stella was focused exclusively on the color and texture of the supervisor’s hair. In sample 7.1 Stella was in conversation with her new boss at work. During this conversation, he had moved

“into her space” and was now physically too close to her in a way that Stella found very uncomfortable and threatening. In response, Stella had leaned back away from him. Now, at the moment of the beep, Stella was feeling the arching, stretching sensations in her back as she arched away from him. Thus, at the moment of the beep Stella was not aware of her feeling threatened by her boss’ advance; in fact, she was not aware of her boss at all—not aware of his advance and not aware of what he was saying (he was talking to her, but she wasn’t hearing it). Rather than experience his advance, rather than experience her feeling threatened, she was focused on the relatively inconsequential arching sensations of her back.

These samples allows us to speculate that Stella employs this kind of focused sensory awareness as a way of avoiding potentially problematic situations. For example, to reiterate the nuances of sample 7.1 (discussed in detail above) when asked if the knowledge of her threatened feeling was somehow in awareness at the moment of the beep, it was difficult for Stella to identify any awareness of that threat beyond a bodily sensory awareness of her physical reaction to it (leaning back). It may be that instead of allowing herself to directly experience her discomfort with his intrusiveness in an affective or cognitive manner, she withdrew from the situation to focus intently on the sensory aspects of this experience to the exclusion of any other type of processing. This appears to be an active focusing on sensory awareness as a means of coping with or withdrawing from an uncomfortable situation.

### Feeling

Stella experienced feelings in 8 of her 40 samples (20%). These feelings were generally experienced physically with a bodily referent and were difficult for Stella to

articulate clearly. For example, in sample 5.4 Stella was cleaning out the contents of her car trunk after battery acid had been spilled. She was feeling angry, primarily apprehended as a physical sensation of tightness around the front of her head in the size and shape of a hat band, with the tightness moving inward and extending from ear to ear across the front but not the back of her head. Stella was simultaneously actively moving things out of her trunk quickly so as not to get battery acid on them.

In sample 6.5 Stella was on her computer, searching through her e-mail inbox and had a feeling of being antsy, uplifted, and hopeful while she was anticipating an e-mail from her friend. This feeling was apprehended as a physical sensation of being lightly uplifted all over the upper part of her body. While the experience of this antsy, hopeful, uplifted state was clear for her, it was somewhat more difficult for Stella to distinguish this as a feeling. Simultaneously, Stella had a perceptual awareness of looking at the computer screen. Aside from these eight feeling samples, Stella also experienced feeling fact of body on three occasions, which will be discussed below.

### Thought/Feeling

Stella had frequent experiences in which cognition and affect were confounded and undifferentiated so that it was difficult or impossible to distinguish whether an experience was a thought or a feeling; therefore we call this phenomenon “thought/feeling.” These experiences occurred in 8 out of 40 samples (20%). For example, in sample 7.2 Stella was eating lunch at work and had a frustrated thought/feeling, experienced as one tangled apprehension of being frustrated, about wanting to stop worrying about how much or what she was eating, and about being hungry. Although this experience appeared to have cognitive and affective aspects it did

not seem possible for Stella to distinguish between which aspect was which.

Simultaneously Stella also had a sensory awareness of the redness of the sauce on her plate. In sample 6.2 Stella had a similar thought/feeling of being displeased, apprehended as an actively being angry with herself that she had eaten. This anger seemed to be somehow both cognitive and affective; it was impossible for her to distinguish whether she was feeling angry or was thinking angry thoughts. Stella also had a separate, simultaneous sensory awareness of the brown color of the milk in her cereal bowl.

In the previous two samples, the phenomenon of thought/feeling appeared to have a single cognitive/affective referent (frustration, displeasure). However Stella also experienced more complex thought/feelings. For example, in sample 4.2 Stella was experiencing an undifferentiated “ball” in her head. She was not able to distinguish whether this “ball” had separate affective and cognitive aspects, but she associated this with rejection, ongoing sadness, and knowledge that something was troubling her. At the moment of the beep she was aware that there were several events contributing to this “ball,” but none of those events were specifically in awareness. This “ball” was an undifferentiated mass that Stella was unable to clearly define as cognitive and affective and that appeared to be qualitatively distressing to her.

In sample 7.5 (described above in the section on Sensory Awareness) Stella was eating lunch and was focused on the sensory awareness of heaviness in her eyebrows in and active attempt to not think or feel worried and upset. The thought/feeling of being worried and upset was somehow present but not directly in her awareness at the moment of the beep. Thus, she was worried and upset but was focused on the sensory to avoid allowing herself to go through the thought/feeling of being worried/upset. This example differs from straightforward thought/feeling in that it is an ongoing awareness of the

thought/feeling of being worried and upset, without the thought/feeling being specifically in awareness at the moment of the beep. At the moment of the beep, Stella's attempt to focus on the sensory in order to avoid the thought/feeling was largely successful so that a remnant of the thought/feeling was in awareness but the thought/feeling itself was not. This phenomenon is quite similar to a thought/feeling fact of body, paralleling the feeling fact of body experiences that will be discussed below.

### Feeling Fact of Body

In 4 of the 40 samples (10%), Stella had an experience in which she had an ongoing affective state without the emotion itself being specifically in awareness, an experience we refer to as "feeling fact of body." We have described two of these examples above (samples 3.6 and 5.6 in the Sensory Awareness section), in each of which Stella had ongoing frustration. A third instance is sample 2.4, where Stella had an ongoing dull feeling of worry, but at the moment of the beep she was not paying attention to the worry. In this sample Stella was watching a movie and had a sensory awareness of the way in which one of the characters in the movie was moving his eyes.

In sample 3.3, Stella was eating lunch and had an ongoing dissatisfaction and irritability. She was confident that this dissatisfaction/irritability was somehow ongoing in her body at the moment of the beep, but she was not directly aware of it at that moment. Stella also had a separate, simultaneous sensory awareness of the metallic texture and curved shape of the fork in her mouth.

### Perceptual Awareness

In 7 of the 40 samples (17%) Stella had perceptual awarenesses, typically looking

at something as a central part of her experience. For example, in sample 5.5 Stella was at work and was looking for something to do. At the moment of the beep she was perceptually aware of looking into the trashcan to see if it needed to be changed. She also had a separate, simultaneous feeling of boredom. In sample 2.5 Stella was washing the dishes and pouring dish soap into the water. She was perceptually aware of looking at the soap bubbles in the bottom of the sink. She was not particularly interested in the sensory aspects of the bubbles (thus this was not an example of sensory awareness); instead she was looking at the bubbles as part of the action of washing the dishes.

### Sensed Unsymbolized Thinking

Stella did not have any examples of clearly defined thinking throughout the interviewing period. The clearest experiences that she had to thinking were thought processes referring to the existence of an ongoing concern, without directly having a thought about the concern itself. For most individuals thinking is generally either in awareness or not, and is generally clearly differentiated, but Stella had ongoing, sensed awarenesses in which the existence of a thought was ongoing in awareness, without the details or content of the thought itself being in awareness. We termed this phenomenon sensed unsymbolized thinking. This experience differs from unsymbolized thinking, in which an individual experiences a thought process that does not include words, images, or other symbols. In sensed unsymbolized thinking an individual has an awareness of an ongoing thought process without the thought itself being directly in awareness.

Stella experienced sensed unsymbolized thinking in 3 of her 40 samples (7%). For example, in sample 2.1 Stella was at work arranging roses and had a sensory awareness, a feeling of worry, and a vague ongoing, sensed unsymbolized thought process. At the



moment of the beep Stella had a sensory awareness of the veins on the pink petals of the roses she was arranging and a feeling of worry that was apprehended as a sensation on the surface of her chest like her heart fluttering. There had been a particular problem (the details of which she did not identify during our interview) that led to the worry, but that was not specifically in awareness. Instead, Stella had a simultaneous, sensed ongoing unsymbolized thought process that this particular problem existed without the content or details of the problem itself being in awareness.

In sample 2.3 Stella was driving to a friend's house and had a sensory awareness, a feeling of being relieved, and a vague ongoing sensed unsymbolized thought that an upcoming discussion with her friend would make her feel better. At the moment of the beep Stella had a sensory awareness of the pavement. This was a sensory awareness of how the pavement materials were pressed together. She was driving too fast actually to see the specific visual detail of the pavement, but her sensory awareness was elaborating the visual details of the pavement. Simultaneously, Stella was feeling relieved, which was apprehended as a bodily reduction of tension and increase of relaxation throughout her body. Stella also had a separate, simultaneous vague sensed unsymbolized thought that she was going to discuss a problem she was having with her friend, and that this discussion would result in her feeling better. The fact that she was going to have a discussion that would make her feel better was slightly in her awareness, but the topic of discussion, and the content/context of the problem was not in awareness.

In sample 4.1 Stella was at work and was crying and feeling sad about her new boss, who was making her uncomfortable. This sadness was apprehended as a physical sensation of heaviness deep in her chest. Stella had a separate, simultaneous, somewhat undifferentiated sensed unsymbolized thought that the situation with her boss was

another stressor that she had to deal with. Stella had an ongoing, slightly cognitive sense that that this was another stressor she had to deal with, but it was the “another-ness” of the stressor rather than the context or content of the stressor itself that was in awareness. In many subjects, this awareness would be experienced as a clearly differentiated thought, but for Stella this was an ongoing, somewhat cognitive but undifferentiated understanding.

### Image

Stella had an image in 1 of her 40 collected samples (2%). In sample 4.5 Stella was driving home from work and considering what to wear to a friend’s party. This consideration was apprehended as seeing an image of picking things out in her closet. At the moment of the beep, Stella had a clear image of a black t-shirt suspended in a white background. This image was apprehended as the totality of wondering what she should wear, and was not a separate thought process; that is, the image seemed to have been created to answer the question of what she should wear. Stella also had a simultaneous ongoing thought/feeling of relief that was apprehended as a bodily sensation of lightness and a cognitive sense of relief that she would not be spending the evening focusing on something that had been troubling her. This thought/feeling of relief was difficult for her to explain and was not clearly differentiated as a specific thought or feeling but as an awareness that was an undifferentiated somewhat cognitive, somewhat affective experience.

### Discussion

Sensory awareness was by far the most salient aspect of Stella’s inner experience,

accounting for all but 22% of her experiences. It is fairly uncommon for individuals to have such a high frequency of sensory awareness, and even rarer for individuals to have sensory awareness as one of their only clearly differentiated experiential category. Stella also appeared to actively engage in sensory awareness as a means of actively avoiding potentially distressing situations. Although Stella was aware of using sensory awareness to “zone out” she appeared to be actively engaged in the sensory to such an extreme degree that she did not experience thinking, feeling, or other types of processing that other individuals would commonly use as a means of attempting to cope with stressful events. Feelings appeared to be somewhat undifferentiated and difficult to clearly identify for Stella. Although she was aware of ongoing states of mind, such as worry, sadness, and anger, it was the ongoing feeling state itself, rather than the context of the feeling that seemed more central in her awareness.

Stella’s experience of sensed unsymbolized thinking parallels the ongoing “tails” of thought found in research with other participants with bulimia. Stella does not appear to engage in cognition that is not undifferentiated or confounded with feelings and appears to avoid thinking or feeling states that may be distressing for her. In most individuals thought is clearly differentiated and does not involve an ongoing but outside-of-awareness tail referring to the thought with the details, content, or context of the thought itself being in awareness. For Stella, there were three instances in which a thought process was waiting to happen, and to which she had a referring thought, but there were no inner experiences in which thought was clearly differentiated. Stella’s almost exclusive focus on sensory awareness may be a way for her to cope with threatening or distressing stimuli, but more research is required to determine the role that this sensory focus may play in her bulimia.

## CHAPTER 10

### ACROSS-PARTICIPANT RESULTS

This study has, broadly speaking, two kinds of results: the characterizations of single participants and the across-participant characterizations of bulimia. We have already discussed the single-participant results: Chapters 5 through 9 presented the idiographic descriptions of each participant as revealed by DES. The present chapter presents the across-participant characterizations.

Within the across-participant characterizations, this study has again two kinds of results: those that come from our DES investigation and those that come from more objective measures. We will discuss the DES across-participant results first.

#### DES Results

DES is primarily an idiographic exploration of the experience of individuals. We have embodied that by presenting the inner experience characteristics of each of our participants one participant at a time, one idiographic portrait in each of the preceding five chapters. Thus, in Chapter 5 we described Katja as a particular individual, relatively independent of any group identification. Thus, in Chapter 5 we did not particularly describe Katja's bulimia, or Katja's dancing, or Katja's role as a student, even though in some sense it was true that Katja was bulimic, and a dancer, and a student. Instead, we described Katja; if her bulimia, her dancing, or her student activities emerged as a salient characteristic of her experience, then we described it; if not, we didn't describe it.

Therefore, Chapter 5 was about Katja, Chapter 6 was about Vanina, and so on. However, those one-participant-at-a-time idiographic results can also be examined for patterns of experience that seem to apply across participants. Because each of our subjects is bulimic, this across-participant examination might lead us to discover some characteristics of bulimia. That is, the across-participant examination might be expected to remove some of the idiosyncratic qualities of each individual participant while allowing the general qualities of bulimics to emerge. Of course, our subjects had features in common other than bulimia; they were all students, for example, and all young adults. However, we have considerable experience sampling the inner experience of students and young adults; our task in this chapter is to allow characteristics to emerge that apply to several or all of our bulimic subjects but that are not typical of other DES subjects.

The most frequent across-participants characteristics of inner experience as discovered by DES are summarized in Table 1. This table presents the percentage frequency with which each of these characteristics occurred for each subject. Because individuals may experience two or more different characteristics in some samples, the percentages may not sum to 100. Table 1 is organized according to frequency, from most to least frequent characteristic of inner experience. Exceptions were made to this organizational rule when grouping related characteristics or highlighting individual characteristics would facilitate clarity of presentation. Specifically, thought/feelings and feeling-fact-of-body experiences were grouped under the feeling category, and thought/sensory awareness and sensed unsymbolized thoughts were grouped under the unsymbolized thinking category since these types of experiences were thematically related. The nature of each frequently occurring characteristic across participants will now be discussed.

Table 1

## Frequency of Inner Experience Characteristics (in percentages)

Category	Katja	David	Vanina	Margo	Stella
F	57	82	51	56	32
	complex	undiff.	complex	clear	occasional
SA	50	18	46	23	78
	bodily	undiff.	bodily	bodily	bodily/ avoidant
I	17	18	22	56	2
	detailed	ud	clear	clear	rare
PA	12	0	14	49	17
	clear	none	clear	clear	clear
FL	19	9	19	20	20
	complex/ undiff.	undiff.	complex/ bodily	clear/ bodily	undiff./ bodily
T/F	2	18	14	13	20
	N/A	undiff.	often bodily	bodily/ mental	tangled
FB	2	0	0	8	10
	clear	N/A	N/A	clear	frustrated
P	29	9	7	5	20
	bodily/ mental	undiff	bodily/ mental	bodily/ mental	bodily/ mental
D	31	9	5	15	5
	clear	N/A	clear	clear	clear
IS	24	9	7	8	0
	clear	undiff	clear	clear	N/A
U	9	9	9	20	0
	clear	undiff	clear	clear	N/A
T/SA	0	0	0	18	0
	N/A	N/A	N/A	fused	N/A
SU	0	0	0	0	7
	N/A	N/A	N/A	N/A	ongoing
BDM	0	0	24	0	0
	N/A	N/A	bodily	N/A	N/A
MBS	19	0	0	0	0
	spiritual	N/A	N/A	N/A	N/A
H	9	0	0	0	2
	ongoing	N/A	N/A	N/A	N/A

Note. F = Fragmentation; SA = Sensory Awareness; I = Image; PA = Perceptual Awareness; FL = Feeling; T/F = Thought/Feeling; FB = Feeling Fact of Body; U = Unsymbolized Thinking; T/SA = Thought/ Sensory Awareness; SU = Sensed Unsymbolized Thinking; BDM = Bodily Decision-Making; MBS = Mind/Body/ Spirit Integration; H = Happening Of Experience; Undiff = Undifferentiated.

## *Fragmentation*

The most salient characteristic of our bulimic participants as a group was that none of them had a straightforward, simple focus on important characteristics of their environments, as do most other people. We will refer to this lack of focus as “fragmentation” of attention, and this fragmentation manifested itself in four primary ways across participants: attention that was divided between multiple complex separate phenomena, as experienced by Katja and Vanina; attention that was divided between fairly straightforward phenomena, as experienced by Margo; attention that was so profoundly disturbed nothing was thematic in awareness, as experienced by David; and attention focused on some sensory detail rather than on the important perceptual events in the environment, as experienced by Stella. Each of these types of fragmentation share a lack of single focused attention on what would normally be central in awareness in non-bulimic individuals. Each of these manifestations of fragmentation of attention will now be discussed.

Each of the study participants had fragmentation of attention, as shown in Table 1. Katja experienced multiplicity in 57% of her samples, and Vanina experienced multiplicity in 51% of her samples. The fragmentation was complex in that their attention was divided between two to six complex, separate, simultaneous phenomena, including bodily sensory awareness, feelings, images, and unsymbolized thoughts.

Both Katja and Vanina had experiences in which their attention was divided between neutral and qualitatively distressing phenomena. For example, in Katja’s sample 3.3, Katja was doing her math homework and was saying to herself in inner speech “thus the fixed points are,” had a perceptual awareness of the CD that she was listening to, and had a separate, simultaneous bodily sensory awareness of fatness that she apprehended as

an expanding sense of pressure just under the surface of her skin, pushing out in all directions as though she were going to explode.

In Vanina's sample 5.5, she was cutting into a perogi to determine if it was cooked all of the way through. This determining was a bodily decision-making that was only partially differentiated but included a physical sensation of her old roommate's energy in her ears and a non-cognitive understanding of what someone else would do in the same situation. Vanina also had a separate, simultaneous bodily sensation of gnawing hunger that she apprehended as being both bodily hunger and as the movement of a monster-like presence in her stomach.

Thus, for Katja and Vanina, fragmentation of attention occurred when they focused on two to six separate, complex, occasionally distressing phenomenon at the same rather than aiming their focus at the "center of the target" of what would be in awareness for most individuals at the moment of the beep.

Margo experienced multiplicity in 56% of her samples. However, unlike the complex, fragmented, multiple experience of Katja and Vanina, or the profound lack of differentiation characteristic of David, Margo's fragmentation was characterized by a division of her attention between two to five distinct, fairly straightforward phenomena, including images, perceptual awareness, sensory awareness, feeling, thought/feeling, inner speech, musical experiences, and unsymbolized thinking. For example, in Margo's sample 3.4, she was sitting at her computer and three separate, simultaneous awarenesses: a perceptual awareness of looking at the spyware program on her monitor, a sensory awareness of clicking on her computer mouse, and a thought/sensory awareness of frustration that she apprehended both as a bodily sensation of frustration and a cognitive apprehension of frustration. Thus, across participants, multiplicity occurred for both



complex and straightforward phenomenon. While both Katja and Vanina had experiences in which their fragmentation included a distressing experience, Margo's inner experience was generally non-distressing or affectively neutral.

David's attention was completely fragmented in 82% of his samples. His attention was so fragmented that it was not possible to ascertain exactly what, if anything, was in the center of his awareness at the moment of the beep.

Stella's attention was fragmented in 32% of her samples, which was the lowest frequency of any of the study participants, and what we are calling "fragmentation" is different for Stella than for the other participants. In many situations, Stella's attention was narrowly focused on some sensory detail, rather than what would be obviously more primary in awareness in other individuals. For example, in Stella's sample 3.5 her supervisor was talking to her but Stella was not at all aware of what was being said. At the moment of the beep, she had withdrawn her focus from what her boss was saying and was solely focused on the texture and color of her supervisor's hair.

Thus Stella's attention was focused and single-minded, unlike our other participants. However, this attention was frequently off the "center of the target." We think this deserves to be called "fragmented" because it is as if the naturally important events in the environment are blocked off ("fragmented away") from Stella's experience.

Thus across participants, there was a fragmentation of attention, in which each individual was unable to clearly and singly focus on what would be the center of awareness in non-bulimic individuals. What we are calling "fragmentation" involved multiplicity of experience for Katja, Vanina, and Margo. Fragmentation for David was the failure to coalesce anything as the center of attention; for Stella, it was the focus on an insignificant sensory detail at the expense of the main event.

### *Sensory Awareness*

Sensory awareness, in which there was a focus on some particular sensory characteristic of inner or external experiences, was the second most frequently occurring characteristic of inner experience across participants. Referring to Table 1, sensory awareness was experienced by each of the study participants. Katja experienced sensory awareness in 50% of her samples. David experienced largely undifferentiated sensory awareness in 18% of his samples. Vanina experienced sensory awareness in 46% of her samples, and Margo experienced sensory awareness 23% of the time. Stella experienced sensory awareness almost exclusively, accounting for 78% of her samples.

Sensory awareness manifested in two primary ways across participants: bodily sensory awareness, and external sensory awareness. Stella was the only participant to experience sensory awareness as a means to avoid situations that she perceived as potentially leading to her becoming upset. Each of these manifestations of sensory awareness will now be discussed in detail.

Bodily sensory awareness, in which one is focused on the sensory aspects of bodily phenomena, was experienced by each of the study participants. Bodily sensory awareness represented the following portions of total awareness: 45% for Katja, 9% for David, 41% for Vanina, 18% for Margo, and 35% for Stella. Across participants, this bodily sensory experience ranged from simple to complex. In an example of straightforward bodily sensory awareness, Katja, in her sample 4.2, was cooking and was aware of a sensation of hotness all over the surface of her body but experienced most intensely on her face. In an example of slightly more complex bodily sensory awareness, in Margo's sample 5.4 she had a bodily sensory awareness of pain that was simultaneously apprehended as a sensation of a bracelet pressing against her wrist and

being pulled as she was trying to remove it. This action contributed to a simultaneous bodily sensation of pain and pressure at the moment of the beep, and was accompanied by two separate feelings of frustration, and an image of the actor Don Cheadle that she associated with the topic she was discussing.

Sensory awareness of external phenomena, in which attention was focused on the sensory aspects of the external environment, was less common than bodily sensory awareness across participants. External sensory awareness represented the following portions of total sensory awareness: 5% for Katja, 9% for David, 5% for Vanina, 5% for Margo, and 43% for Stella. An example of sensory awareness of external phenomenon occurred in Vanina's sample 7.3, previously discussed in Chapter 7. In this sample Vanina was driving and was aware of the yellowness of two yellow lines next to her car on the sidewalk. There was also a separate simultaneous thought/feeling related to her dance class in this sample that was discussed in detail in Chapter 7.

Thus, Katja's total sensory awareness of 50% divided into 45% bodily and 5% external, David's total sensory awareness of 18% divided into 9% bodily and 9% external, Vanina's total sensory awareness of 46% divided into 41% bodily and 5% external, Margo's 23% sensory awareness divided into 18% bodily and 5% external, and finally, Stella's 78% total sensory awareness divided into 35% bodily and 43% external, making her the only individual for whom external sensory awareness was more prevalent than bodily sensory awareness.

Unlike the other study participants, Stella had experiences in which her attention was intensely focused on the sensory aspects of her inner or external environment in order to actively avoid distressing situations. Examples of this unique type of sensory awareness were discussed in detail in Chapter 9. Overall, sensory awareness was

common across participants. Each participant had many samples in which they were focused on particular sensory characteristics.

### *Images*

Images were the third most frequently occurring characteristic of inner experience across participants. These images ranged from clear, single visual experiences to multiple, undifferentiated visual inner experiences. As seen in Table 1, images were experienced by each of the study participants. At 56%, Margo had markedly more images than the remainder of the study participants. The majority of her images were clear, single, and part of a larger multiple experience. Vanina had the second greatest frequency of images, at 22%. Her images were also clearly differentiated, and were occasionally multiple. David experienced multiple images 18% of the time, and these images were a semi-differentiated phenomenon within a larger mass of undifferentiated experience. Katja experienced images 17% of the time, and like Vanina, her images were also very clear, and on one occasion multiple. Stella experienced an image on only one occasion.

### *Perceptual Awareness*

Perceptual awareness, in which an individual is focusing on the perceptual qualities of something in their external environment, was the fourth most frequently occurring feature of inner experience across participants. The majority of this perceptual awareness involved participants looking at an object in their environment and perceiving it clearly, as a central part of their awareness at the moment of the beep. As seen in Table 1, perceptual awareness experiences ranged from 12% to 49% across participants with the exception of David, who was the only participant who did not have any conscious, thematic perceptual awareness of external experiences. Speculatively, it may be that the

markedly undifferentiated nature of David's inner experience applied also to the perceptual qualities of his environment.

### *Feelings*

Although feelings were the fifth most frequently occurring characteristic of inner experience, these results were important in determining that feelings were relatively infrequent and poorly differentiated. Margo was the only participant to have clearly defined and clearly apprehended, relatively straightforward feelings throughout the sampling period. The remainder of the participants had difficulty clearly apprehending their affective experiences. Katja had feelings that were often multiple, complex, occasionally distressing, and not clearly differentiated. Katja did not have any samples in which her feelings were straightforward and easily apprehended, and occasionally had difficulty determining if her affective experiences were positive or negative. Stella's feelings were generally single in comparison with the feelings of the other participants, but like Katja's, her feelings were not clearly differentiated. For example, in Stella's sample 4.1, she was feeling sad but this sadness was not clearly differentiated and was difficult for her to define. She was aware that this sadness included a feeling of heaviness deep in her chest but it also included an undifferentiated sensation in her head that was difficult for her to define. Thus, for Stella, sadness was experienced simultaneously as a bodily heaviness in her chest and as a sensation in her head that was somewhat undifferentiated.

For most people, sadness would be a clearly differentiated experience but for Stella, it is largely undifferentiated other than as a sensation of heaviness and something else that remained largely undifferentiated. For most individuals feelings

would be a clearly apprehended emotional experience, but for Stella, and for the other study participants, feelings are not clearly differentiated phenomena.

Vanina's affective experiences were slightly clearer than Katja's but shared a high degree of complexity in that her feelings were often multiple, and occasionally distressing. For example, in Vanina's sample 7.4, she was speaking to her mother and she was feeling simultaneously irritated and frustrated. These feelings were apprehended simultaneously as complex bodily sensations of pain and confusion in her forehead and cloudiness throughout her head that she associated with a distressing struggle that she was having with herself to feel normal. Thus, in this sample, Vanina's feelings were multiple, distressing, and included complex, undifferentiated bodily phenomenon. For most individuals irritation or frustration would be clearly differentiated and would generally be experienced bodily or cognitively, but for Vanina, and for the other study participants, feelings remained largely undifferentiated and occasionally resulted in confusion and distress.

David had only one sample in which there was an affective experience but this was so markedly undifferentiated it was not possible to determine its degree of clarity or complexity.

Vanina, Margo, and Stella generally experienced their feelings bodily. David's one affective experience was markedly undifferentiated but did not appear to be apprehended bodily. Katja had difficulty determining if her feelings were apprehended mentally or bodily. Referring to Table 1, the frequency of feelings ranged from 9 to 20% across participants.

### *Thought/Feeling*

Each participant in the present study had few feelings, and the feelings that they had were not clearly differentiated. Each participant also had samples in which they had extensive difficulty differentiating between affective and cognitive experiences. Thus, participants were feeling their thoughts or thinking their feelings, in contexts that for nonbulimic individuals would result in clearly differentiated affective or cognitive experiences. This phenomenon, termed thought/feelings, was the sixth most salient characteristic of inner experience across participants ranging from 2 to 20% across participants as seen in Table 1. Thought/feeling experiences were generally apprehended as a complex, tangled, and inseparable mass of simultaneously affective and cognitive experiences. In 22% of the thought/feeling experiences across participants, the thought/feeling was qualitatively distressing and was focused on food, eating, or other potential bulimic symptomatology. These will be discussed in greater detail in the upcoming section on preoccupation with weight, shape, or food. For example, in Stella's sample 7.2 (discussed in detail in Chapter 9), Stella was eating lunch and had a tangled thought/feeling of frustration centered around being hungry and wanting to stop worrying about what or how much she was going to eat.

### *Feeling Fact of Body*

Feeling fact of body, in which an individual has an ongoing affective state without the emotion itself being specifically in awareness was the twelfth most salient characteristic of inner experience in bulimia. This phenomenon was not consistently found across participants, occurring only for Katja, Margo, and Stella, and ranging in frequency from 2% to 10% as seen in Table 1. Katja had only one feeling fact of body experience, accounting for 2% of her samples. This was an ongoing feeling of happiness

without the happiness itself being specifically in awareness at the moment of the beep. Margo and Stella had slightly more frequent feeling facts of body, at 8% and 10% respectively, and these ranged from positive to negative ongoing affective states. Neither Vanina nor David had any feeling fact of body experiences.

#### *Preoccupation with Weight, Shape, or Food*

Across participants, there were samples in which preoccupation with weight, shape, or food were central in awareness. These preoccupations occurred variously as bodily sensory awareness, feelings, images, thought/feelings, or thought/sensory awarenesses, and were often but not always qualitatively distressing. Three examples will be provided to illustrate the range of these preoccupation experiences. Since preoccupation with weight and shape are key diagnostic criteria of bulimia, these samples were not assumed to be merely examples of the separate inner experience categories they represented but were considered as a separate category of inner experience across participants. Preoccupation with weight, shape, or food was the eighth most frequently occurring characteristic of inner experience across participants. Referring to Table 1, preoccupation was experienced by each of the study participants. Katja experienced this type of preoccupation in 29% of her samples. David experienced preoccupation in 9% of his samples. Vanina experienced preoccupation in 7% of her samples. Margo experienced this type of preoccupation 5% of the time. Stella experienced preoccupation in 20% of her samples.

The preoccupation with weight, shape, or food was generally associated with bulimic symptoms. For example, in Katja's sample 6.6, Katja had a bodily sensory awareness of being too full, as though she were about to explode. This sample included a bodily sensory awareness of her stomach being distended, experienced as pressure and



slight pain all over her body but especially in the stomach region, which was apprehended as distended and big “like a pregnant woman.” Katja had a separate, simultaneous sensory awareness of being physically sick, the sensations including being sick, hot, dizzy, nauseous, and overwhelmed. This sample also contained interwoven affective and spiritual aspects, which were discussed in detail in Chapter 5.

In another example of preoccupation with weight, shape or food, in Stella’s sample 6.2 she was eating cereal, and had a thought/feeling of being angry that she had eaten the cereal. She apprehended this as an undifferentiated thought/feeling in her head without any accompanying physical referents that was very difficult for her to describe beyond an intertwined, undifferentiated and undistinguishable thought and feeling of anger associated with what she had eaten. She also had a separate, simultaneous external sensory awareness of looking into the cereal bowl and noticing the brownness of the milk.

In Vanina’s sample 7.2 she was eating and had a bite of sandwich in her mouth. At the moment of the beep Vanina was chewing and had a sensory awareness of the taste and texture of the food in her mouth, and a separate, simultaneous thought/feeling about whether each ingredient in the sandwich was good or bad for her that she apprehended as a complex, ongoing, semi-differentiated analysis that would eventually result in her reaching a decision about how she would feel about eating the sandwich but this decision making process was incomplete and ongoing at the moment of the beep.

Therefore, this preoccupation with weight, shape, and food occurred across several different categories of inner experience, was often but not always qualitatively distressing, and accounted for an average of 14% of inner experience samples across participants.

### *Doing*

Just doing experiences, in which an individual is engaged in a specific activity at the moment of the beep, was the seventh most salient feature of inner experience across participants. These just doing experiences generally involved participant's listening, watching TV, doing chores, or driving. Each of the participants had just doing experiences, ranging from 5% to 31% across participants as seen in Table 1.

### *Inner Speech*

Inner speech was the eighth most salient characteristic of inner experience across participants. As seen in Table 1, inner speech was experienced by each of the study participants with the exception of Stella and ranged in frequency from 7 to 24%. This inner speech was generally clear, primarily straightforward, and involved participant's innerly speaking or singing to themselves, and was heard in the participant's own voice. Unlike the other study participants, Katja also had partially worded inner speech experiences, in which she was speaking inwardly to herself with the full meaning of what was being said remaining intact despite having some of the words missing.

### *Unsymbolized Thinking*

Unsymbolized thinking, in which an individual experienced a thought without words, images, or other types of awareness, was the ninth most salient feature of inner experience across participants. As seen in Table 1, unsymbolized thinking was experienced by each of the study participants with the exception of Stella, and ranged in frequency from 9 to 20%. Katja, Margo, and Vanina had unsymbolized thinking that was generally clearly apprehended and was experienced as one aspect of a larger multiple experience. However, David had unsymbolized thinking that was primarily undifferentiated and occurred as one aspect of a larger undifferentiated mass of

experience. Stella did not have any instances of unsymbolized thinking during the Descriptive Experience Sampling period. Overall, unsymbolized thinking, and cognition in general, was strikingly infrequent across participants.

#### *Thought/Sensory Awareness*

In referring to Table 1, Margo was the only participant in the study to have experiences in which she apprehended thoughts sensorially or sensations cognitively, or was unable to distinguish between thoughts and sensations, a characteristic termed thought/sensory awareness. Margo's thought/sensory awareness experiences were quite similar to thought/feelings in that they were not clearly apprehended as either thoughts or sensory awarenesses, but were a simultaneous, semi-differentiated, intertwining single bodily and cognitive experience. These thought/sensory awarenesses occurred in 18% of Margo's samples.

#### *Sensed Unsymbolized Thinking*

In referring to Table 1, Stella was the only participant in the study to have sensed unsymbolized thinking. Although unsymbolized thinking was relatively common across participants, as discussed previously, Stella was the only participant who did not have any examples of clearly defined thinking throughout the interviewing period. Her experiences of sensed unsymbolized thinking involved thought processes referring to the existence of an ongoing concern, without directly having a thought about the concern itself. In non-bulimic individuals thinking is generally either in awareness or not, and is generally clearly differentiated. However, for Stella there were ongoing, sensed awarenesses in which the existence of a thought was ongoing in awareness, without the details or content of the thought itself being in awareness. The phenomenon of sensed unsymbolized thinking was not found in other participants in the present study, but was a

common feature of inner experience in bulimia in previous studies and for participants in previous studies of inner experience in bulimia (Doucette & Hurlburt, 1993a). Of particular interest, previous studies of inner experience in bulimia have associated sensed awarenesses with the severity of bulimia (Doucette & Hurlburt, 1993a). In the present study, Stella had the most severe bulimic pathology and was also the only individual to manifest sensed unsymbolized thinking.

#### *Bodily Decision Making*

Referring to Table 1, Vanina was the only participant in the study to have bodily decision-making experiences. These experiences occurred in 24% of her samples and involved a sequential, differentiated bodily decision-making process in which she was processing information in a strictly bodily manner that in other subjects might be processed cognitively. There was no accompanying sense of a mental thought process. This was not a category of experience that has been described in previous inner experience research either in bulimic or non-bulimic individuals. None of the other participants in the present study had bodily decision-making experiences.

#### *Mind/Body/Spirit Integration*

Referring to Table 1, Katja was the only participant in the study to have spiritual experiences. These experiences occurred in 19% of her samples and involved an integration of cognitive, bodily, and spiritual aspects of inner experience with a clear spiritual component. This was not a category of experience that has been described in previous inner experience research and despite repeated, consistent, collaborative efforts between Katja and the present researchers over the eight-week sampling period we were unable to reach a clear understanding of the exact nature of her spiritual inner experience. None of the other participants in the present study had experiences composed of spiritual

or integrated cognitive, bodily, and spiritual experiences. However, the intertwining integration of cognitive, bodily, and spiritual aspects of inner experience share with both thought/feelings and thought/sensory awareness a difficulty in clearly distinguishing the cognitive and affective elements of an experience.

### *Happening Of Experiences*

“Happening Of” experiences, in which inner events appear to occur without the individual’s direct guidance, was a less common characteristic in inner experience across participants. Referring to Table 1, only Katja and Stella had happening of experiences, occurring in 9% and 2% of their samples respectively. These samples involved happening of speaking, reading, writing, and thinking, as though these events were occurring automatically without being consciously directed by the participant. Happening of experiences share features of multiplicity and sensory awareness, in that what would appear to be occurring centrally at the moment of the beep is not directly in awareness. In these types of experiences, participants were engaged in an activity without the activity itself being directed by them.

### *DES Results Summary*

Each of the five participants met criteria for a DSM-IV bulimia diagnosis and had relatively similar degrees of eating disorder pathology. However, in examining the most frequently occurring characteristics of inner experience, there were both commonalities and marked differences across participants. Thematically, all participants shared a fragmentation of attention with a distinct inability to directly focus on what for most non-bulimic individuals would be the center of awareness at the moment of the beep.

In fragmentation, attention was fragmented across participants, either as a focus on complex, separate phenomenon (as was the case for Katja and Vanina), profoundly

undifferentiated phenomenon (as was the case for David), straightforward simultaneous phenomenon (as was the case for Margo), or multiple sensory phenomena (as was the case for Stella). Despite this small variability in presentation, each participant was united by a marked fractionation of attention, with a lack of clear, single focus.

In sensory awareness, attention was fractionated toward an intense focus on the sensory rather than what would be in the center of awareness in non-bulimic individuals. This focus on the sensory was variously manifested across participants as a bodily sensory awareness, or as a focus on the sensory aspects of external phenomena. For Stella, the fragmentation of attention with intense focus on the sensory was used as a means of avoiding potentially distressing phenomena. Each participant shared a common characteristic of focusing on the sensory in situations in which most non-bulimic individuals would be focused on what was more obviously demanding attention at the moment of the beep.

This fragmentation of attention was also shared across participants in terms of feelings, thought/feelings, thought/sensory awarenesses, and feeling fact of body. In each of these types of experience participants shared some degree of difficulty accurately identifying affect, accurately distinguishing between affect, cognition, and sensory experiences, or actively focusing their attention on what in non-bulimic individuals would be a clear affective experience. Therefore, these participants had feelings that were quite strikingly unlike the feelings found in the inner experience of nonbulimic individuals. The inner experience of feelings in the present study included feelings that were unclear, feelings that were thought instead of felt, or feelings that were not felt but were ongoing in the body. Overall, these participants had little straightforward emotional experience. In happening of experience there is no focus at all on what is occurring,

rather phenomena appears to be happening automatically without being actively directed by the individual.

Preoccupation with weight, shape, or food occurred in several different ways across participants, was often associated with qualitative distress, and provided support for clear representation of bulimia diagnostic criteria in inner experience across participants.

There was also a striking lack of cognitive experiences across participants. In situations that for most non-bulimic individuals would involve clearly differentiated thought these participants demonstrated rare instances of unsymbolized thinking or symbolized thinking. Cognitive experiences appeared to be predominantly undifferentiated or inseparably intertwined with affective or sensory aspects of experience. Although this is necessarily speculative, a lack of clearly differentiated cognition may be in and of itself distressing. Future research both within and outside of DES may yield more information about how bulimia may interact with cognition to influence this unusual finding.

Each participant shared a consistent fragmentation of attention across the salient features of inner experience. This inability to focus directly on what for non-bulimic individuals would be most saliently in the center of awareness may significantly contribute to their bulimic pathology.

Despite these distinct commonalities centering around a marked fractionation of attention, each participant also had features of inner experience that were unique to them. Although the specific individual characteristics of inner experience were discussed in Chapters 5 through 9, a brief review of the unique features of inner experience not shared across participants may be beneficial. To review, Katja was the only participant to have

integrated mind/body/spirit experiences. Vanina had unique bodily decision-making inner experiences. Margo was the only participant in the study to have thought/sensory awareness. Stella was the only participant in the study to have sensed unsymbolized thinking.

### Assessment Results

Each of the five participants who completed the sampling phase of the study (Katja, David, Vanina, Margo, and Stella) were assessed using the Eating Attitudes Test (EAT-26; Garner, et al., 1982), the Eating Disorder Inventory – 2 (EDI-2; Garner, 1991), the Eating Disorders Examination, 12th Edition; (EDE; Fairburn & Cooper, 1993), the Beck Depression Inventory - Second Edition (BDI-II; Beck, Steer, & Brown, 1996), and the Beck Anxiety Inventory (BAI; Beck & Steer, 1993). Table 2 presents the overall assessment results in percentiles for each participant on each of these measures.

While the EAT-26, BDI-II, and BAI provide a single score global index of bulimia, depression, and anxiety, the EDI-II and EDE are both scored according to bulimia diagnostic subscales. The EDI-II is composed of eight subscales: drive for thinness, bulimia, body dissatisfaction, ineffectiveness, perfection, interpersonal distrust, interoceptive awareness and maturity fears; and three provisional subscales: asceticism, impulse regulation, and social insecurity, with higher scores on each subscale indicating higher levels of eating disorder pathology in each of the corresponding areas. The EDI-II does not include a global score of eating disorder pathology.

The EDE is composed of four subscales: restraint, eating concerns, shape concerns, and weight concerns, with higher scores on each subscale indicating higher levels of eating disorder severity in each of the corresponding areas.



Table 2

## Assessment Results (Percentiles)

Measure	Katja	David	Vanina	Margo	Stella
EAT-26	99	98	99	99	99
EDE-R	73	89	99	99	99
EDE-EC	78	99	99	99	99
EDE-SC	97	95	99	99	99
EDE-WC	99	99	99	99	99
EDI-DT	64	99	96	94	99
EDI-B	77	98	94	96	99
EDI-BD	98	67	90	90	95
EDI-I	89	92	89	94	99
EDI-P	91	58	96	71	8
EDI-ID	66	66	82	66	99
EDI-IA	70	75	87	91	99
EDI-MF	79	87	99	65	98
EDI-A	39	98	88	88	99
EDI-IR	41	69	91	98	97
EDI-SI	81	62	92	51	99
BDI	44	67	93	64	99
BAI	70	37	66	77	99

Note. EAT-26 = Eating Attitudes Test; EDE-R = Eating Disorder Examination (EDE) Restraint; EDE-EC = Eating Concern; EDE-SC = Shape Concern; EDE-WC = Weight Concern; EDI-DT = Eating Disorder Inventory-II Drive for Thinness; EDI-B = Bulimia; EDI-BD = Body Dissatisfaction; EDI-I = Ineffectiveness; EDI-P = Perfectionism; EDI-ID = Interpersonal Distrust; EDI-IA = Interoceptive Awareness; EDI-MF = Maturity Fears; EDI-A = Asceticism; EDI-IR = Impulse Regulation; EDI-S = Social Insecurity; BDI = Beck Depression Inventory-II; BAI = Beck Anxiety Inventory

The EDE provides an overall rating of eating disorder severity as well as individual subscale scores on DSM-IV eating disorder diagnostic criteria. However, normative data is only provided for the subscales and is not used for the global score.

The BDI-II and BAI are currently the most commonly used measures to assess depression and anxiety. The manuals for both the BDI-II and BAI recommend that caution be used when applying these measures to individuals with other psychiatric disorders (BDI-II; Beck, Steer, & Brown, 1996; BAI; Beck & Steer, 1993). Since depression and anxiety are the most commonly comorbid diagnoses in bulimia (APA, 2002) it is appropriate to assess comorbidity. However, one may speculate that there are specific items on the BDI-II such as items related to self-dislike, self-criticalness, agitation, loss of energy, sleep, appetite, fatigue, irritability, and concentration difficulties that may be confounded with eating disorder pathology. There are also items on the BAI that may be confounded with eating disorder pathology, such as items related to dizziness, heart racing, shakiness, abdominal discomfort, faintness, facial flushing, and sweating, all of which may be influenced by the frequency and severity of bingeing and purging behavior. More research is required to determine how these specific items on the BDI-II and BAI may interact or confound with eating disorder pathology.

Each participant was assessed using the non-patient student population norms for each respective scale or subscale. Individual assessment results for each of the participants, in order of eating disorder pathology, from least to most severe, will now be discussed, followed by a brief review of the assessment results for the study population overall.

Katja had a high frequency and severity of eating disorder pathology as evidenced by a 99th percentile on the EAT-26, scores above the 70th percentile on all four subscales

of the EDE, and a 64th percentile on the Eating Disorder Inventory-2 (EDI-2) Drive for Thinness subscale, a 77th percentile on the EDI-2 Bulimia subscale, a 98th percentile on the EDI-2 Body Dissatisfaction subscale, an 89th percentile on the EDI-2 Ineffectiveness subscale, a 91st percentile on the EDI-2 Perfectionism subscale, a 66th percentile on the EDI-2 Interpersonal Distrust subscale, a 70th percentile on the EDI-2 Interoceptive Awareness subscale, a 79th percentile on the EDI-2 Maturity Fears subscale, and an 81st percentile on the EDI-2 Social Insecurity. Katja also endorsed bingeing and purging, using laxatives and diuretics and indicated no past treatment for an eating disorder on the EAT-26. In examining comorbidity, Katja had minimal depression, as evidenced by a 44th percentile on the BDI-II, and moderate anxiety, as evidenced by a 70th percentile on the BAI.

David had a high frequency and severity of eating disorder pathology as evidenced by a 98th percentile on the EAT-26, scores above the 85th percentile on all four subscales of the EDE, and a 99th percentile on the Eating Disorder Inventory-2 (EDI-2) Drive for Thinness subscale, a 98th percentile on the EDI-2 Bulimia subscale, a 67th percentile on the EDI-2 Body Dissatisfaction subscale, a 92nd percentile on the EDI-2 Ineffectiveness subscale, a 66th percentile on the EDI-2 Interpersonal Distrust subscale, a 75th percentile on the EDI-2 Interoceptive Awareness subscale, an 87th percentile on the EDI-2 Maturity Fears subscale, a 98th percentile on the EDI-2 Asceticism subscale, and a 69th percentile on the EDI-2 Impulse Regulation subscale. David also endorsed bingeing but with no recent purging, using laxatives and diuretics, and indicated no past treatment for an eating disorder on the EAT-26. In examining comorbidity, David had mild depression, as evidenced by a 67th percentile on the BDI-II, and minimal anxiety, as evidenced by a 37th percentile on the BAI.

Vanina had a high frequency and severity of eating disorder pathology as evidenced by a 99th percentile on the EAT-26, scores at the 99th percentile on all four subscales of the EDE, and a 96th percentile on the Eating Disorder Inventory-2 (EDI-2) Drive for Thinness subscale, a 94th percentile on the EDI-2 Bulimia subscale, a 90th percentile on the EDI-2 Body Dissatisfaction subscale, an 89th percentile on the EDI-2 Ineffectiveness subscale, a 96th percentile on the EDI-2 Perfectionism subscale, an 82nd percentile on the EDI-2 Interpersonal Distrust subscale, an 87th percentile on the EDI-2 Interoceptive Awareness subscale, a 99th percentile on the EDI-2 Maturity Fears subscale, an 88th percentile on the EDI-2 Asceticism subscale, a 91st percentile on the EDI-2 Impulse Regulation subscale, and a 92nd percentile on the EDI-2 Social Insecurity subscale. Vanina also endorsed bingeing and purging, using laxatives and diuretics and indicated no past treatment for an eating disorder on the EAT-26. In examining comorbidity, Vanina had moderate depression, as evidenced by a 93rd percentile on the BDI-II, and mild anxiety, as evidenced by a 66th percentile on the BAI.

Margo had a high frequency and severity of eating disorder pathology as evidenced by a 99th percentile on the EAT-26, scores at the 99th percentile on all four subscales of the EDE, and a 94th percentile on the Eating Disorder Inventory-2 (EDI-2) Drive for Thinness subscale, a 96th percentile on the EDI-2 Bulimia subscale, a 90th percentile on the EDI-2 Body Dissatisfaction subscale, a 94th percentile on the EDI-2 Ineffectiveness subscale, a 71st percentile on the EDI-2 Perfectionism subscale, a 66th percentile on the EDI-2 Interpersonal Distrust subscale, a 91st percentile on the EDI-2 Interoceptive Awareness subscale, a 65th percentile on the EDI-2 Maturity Fears subscale, an 88th percentile on the EDI-2 Asceticism subscale, and a 98th percentile on the EDI-2 Impulse Regulation subscale. Margo also endorsed bingeing but not purging,

using laxatives and diuretics, and indicated past treatment for an eating disorder on the EAT-26. In examining comorbidity, Margo had mild depression, as evidenced by a 64th percentile on the BDI-II, and moderate anxiety, as evidenced by a 77th percentile on the BAI.

Stella had a high frequency and severity of eating disorder pathology as evidenced by a 99th percentile on the EAT-26, scores at the 99th percentile on all four subscales of the EDE, and a 99th percentile on the Eating Disorder Inventory-2 (EDI-2) Drive for Thinness subscale, a 99th percentile on the EDI-2 Bulimia subscale, a 95th percentile on the EDI-2 Body Dissatisfaction subscale, a 99th percentile on the EDI-2 Ineffectiveness subscale, a 99th percentile on the EDI-2 Interpersonal Distrust subscale, a 99th percentile on the EDI-2 Interoceptive Awareness subscale, a 98th percentile on the EDI-2 Maturity Fears subscale, a 99th percentile on the EDI-2 Asceticism subscale, a 97th percentile on the EDI-2 Impulse Regulation subscale, and a 99th percentile on the EDI-2 Social Insecurity subscale. Stella also endorsed bingeing and purging, using laxatives and diuretics, and indicated no past treatment for an eating disorder on the EAT-26. In examining comorbidity, Stella had severe depression, as evidenced by a 99th percentile on the BDI-II, and severe anxiety, as evidenced by a 99th percentile on the BAI.

In examining the assessment results across participants, we averaged the percentile scores for the EAT-26, the four subscales of the EDE, and the Bulimia subscale of the EDI-2 to assess overall eating disorder pathology across participants on the six dimensions most directly related to bulimia. Using the results of this examination of the averages, Katja demonstrated the lowest overall level of eating disorder pathology, at the 87th averaged percentile, with David demonstrating the second lowest level, at the 96th averaged percentile. Vanina's assessment placed her at the mid-point of eating

disorder pathology across participants, at the 98th averaged percentile. Margo had the second most severe eating disorder pathology, at the 98.5th averaged percentile, and Stella demonstrated the highest overall levels of eating disorder pathology, at the 99th averaged percentile. The presence of slightly higher subscale scores, combined with severe comorbid depression and anxiety for Stella is likely to increase the severity and frequency of her bulimic behavior, and markedly decrease her ability to cope with her symptoms.

In terms of the assessment results for the study population overall, each instrument was scored according to the norms for a university student, non-patient population. The structured clinical interview used in the present study, the Eating Disorder Examination (EDE), 12th Edition (Fairburn & Cooper, 1993) allowed for greater insight into the frequency, severity, and variability of eating disorder pathology across participants. Vanina, Margo, and Stella all scored at the 99th percentile on the Restraint Subscale, while Katja at the 73rd percentile and David at the 89th percentile also demonstrated a high but less frequent degree of restricting behaviors. All of the participants, with the exception of Katja scored at the 99th percentile on the Eating Concern subscale, suggesting a shared high degree of preoccupation with, guilt toward, and fear of losing control over eating. Katja endorsed an elevated but somewhat lower degree of concerns across each of these areas, scoring in the 78th percentile on this subscale. Each participant scored at or above the 95th percentile on the Shape Concern subscale, suggesting a shared preoccupation and dissatisfaction with their current bodily shape. Each participant scored at the 99th percentile on the Weight Concern subscale, suggesting a profound shared preoccupation with, and dissatisfaction toward their weight. The findings across the EDE subscales are consistent with each participant's current

bulimia diagnosis and suggest that Katja currently appears to have a somewhat lower measured degree of eating disorder pathology overall than the other participants, with David having slightly more elevated pathology, but that Vanina, Margo, and Stella all shared severe eating disorder pathology across each of the EDE subscales.

The Eating Disorder Inventory-2 (EDI-2; Garner, 1991) allowed for greater insight into the specific nature of the eating disorder pathology across participants. Katja had a lower preoccupation with weight as evidenced by a 64th percentile on the Drive for Thinness subscale relative to the other study participants, each of whom scored at or above the 94th percentile. This finding is consistent with the results of the Bulimia subscale, which demonstrated a consistently high (at or above 94th percentile) for all of the participants with the exception of Katja. On the Body Dissatisfaction subscale, David was relatively less unhappy with his body than each of the female study participants. Due to the fact that there are relatively few studies focusing on males with Bulimia, more research is needed to determine how gender may impact results on this subscale.

On the Ineffectiveness subscale, each of the participants demonstrated strong and relatively comparable feelings of worthlessness and inadequacy, suggesting low levels of self-esteem across participants. The Perfectionism subscale illustrated the widest degree of variability across participants, with Katja and Vanina endorsing items relating to unreasonably high self-standards, Margo endorsing an elevated but relatively lower degree of self-expectation, David endorsing a relatively normative self-standards, and Stella endorsing strikingly low self-expectations. On the Interpersonal Distrust subscale, Katja, Margo, and David demonstrated moderate potential difficulties with alienation and forming relationships, with Vanina and Stella having relatively greater difficulties in this area. Each participant demonstrated elevations on the Interoceptive Awareness subscale,

indicating difficulty with accurately identifying and responding to affective and physical cues. Although this is necessarily speculative, the occurrence of thought/feeling inner experiences across participants may be influenced by the dysregulation of interoceptive awareness. On the Maturity Fears subscale, Katja and Margo demonstrated a moderately elevated concern with reaching physical and psychological maturity, with Vanina, Stella, and David demonstrating relatively high degrees of concern in this area. This finding is somewhat surprising in that this subscale is often associated more with anorexia than with bulimia. However, Katja and Margo, the only individuals in the study to endorse a past history of anorexia as well as current bulimia, were relatively better adjusted on this subscale.

On the Asceticism provisional subscale, all of the participants with the exception of Katja endorsed a tendency to hold beliefs promoting the virtuousness of oral self-restraint. On the Impulse Regulation provisional subscale, Vanina, Margo, and Stella endorsed items consistent with poor impulse control, with David demonstrating a moderate elevation in this area, and Katja demonstrating better than normative impulse control. On the Social Insecurity provisional subscale, Katja, Vanina, and Stella demonstrated high degrees of dissatisfaction with the quality of social relationships, whereas Margo and David were relatively normative in this area.

The Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996) and the Beck Anxiety Inventory (BAI; Beck & Steer, 1993) were used in assessing the presence of depression and anxiety, the two diagnostic conditions most commonly comorbid with bulimia.

There was wide variability in comorbid depression, ranging from minimal to severe, with Stella endorsing items consistent with severe comorbid depression. Vanina



endorsed items consistent with moderate depression but ranked in the 93rd percentile, just missing the cut-off for severe depression. Katja endorsed items consistent with minimal depression, while Margo and David both endorsed items consistent with mild depression.

There was also wide variability in comorbid anxiety, ranging from minimal to severe, with Stella endorsing items consistent with severe anxiety, and David endorsing items consistent with minimal anxiety. Katja and Margo both endorsed items consistent with moderate anxiety, whereas Vanina endorsed items consistent with mild anxiety. Due to the current small sample sizes in DES studies, additional research is required to determine how the existence of comorbid depression and/or anxiety may influence the nature of inner experience in bulimia.

Thus, in terms of eating disorder pathology, Katja was the least severe, followed by David, with Vanina demonstrating the mid-range of eating disorder pathology, Margo having the second most severe, and Stella having the most severe eating disorder pathology.

The detailed assessment results for each participant, in order of eating disorder pathology, from least to most severe, are presented in Appendix B. In Appendix B the assessment results are organized by measure, with each measure presented as a single table, with the exception of the EDI-2. Appendix B splits the EDI-2 into two tables, labeled Table B.3 and Table B.4 in Appendix B due to the large number of subscales on this measure.

## CHAPTER 11

### DISCUSSION

Despite 25 years of research, much remains unclear about the etiology, maintenance, and course of bulimia. Because this uncertainty may be due in part to a striking lack of research focused on the inner experience of individuals with bulimia, we designed the present study to explore the inner experience of bulimia in an attempt to uncover potential clues to this profoundly disruptive disorder. This discussion will be structured as a review of each of the primary inner experience characteristics of interest in the across participants DES results (fragmentation, sensory awareness, images, feelings, thought/feeling, feeling fact of body, preoccupation with weight, shape, or food, and cognition). Each of these results will first be compared to what previous DES studies have found about bulimic participants, and then will be contrasted with the current bulimia literature view. This will be followed by a brief discussion of the assessment limitations. Finally, limitations of the present study and potential implications for future research will be presented.

#### Comparison of DES and Bulimia Literature Results

##### *Fragmentation*

The five participants in the present study all experienced a marked fragmentation of attention with a distinct inability to directly focus on what for most non-bulimic

individuals would be the center of awareness at the moment of the beep. This was a consistent, marked inability to sustain a clear, single focus averaging a frequency of 56 % across participants. This fragmentation of attention manifested in three primary ways: attention that was fragmented between multiple, separate phenomena; attention that was fragmented through focus on sensory detail rather than the important events in the environment; or attention that was so profoundly undifferentiated that it was fragmented beyond any recognizable features.

The fragmentation of attention found in the present study was strikingly consistent with the previous DES study of inner experience in bulimia (Doucette & Hurlburt, 1993b). Doucette and Hurlburt found multiple inner experience to be the most salient feature of inner experience in bulimia, averaging 73% across participants (Doucette, 1992). Although they termed this phenomenon multiple inner experience rather than using the term fragmentation of attention, these terms both describe the same intertwining phenomena in which there is a lack of direct focus on what for most non-bulimic individuals would be the center of awareness at the moment of the beep.

The present study found a range of manifestations of fragmentation of attention, whereas fragmentation in the previous study (Doucette, 1992; Doucette & Hurlburt, 1993b) focused on multiplicity, in which individuals were focused on two or more distinct, separate phenomena, without distinguishing between the various ways in which this multiplicity was manifested.

However, Doucette and Hurlburt (1993b) found that these multiple, fragmented experiences appeared to be related to increased bulimic pathology, with individual multiplicity increasing as individual bulimic symptoms worsened. The present study did not find this clear relationship between fragmentation of attention and bulimic pathology.

Thus, both of the Descriptive Experience Sampling studies that have examined the inner experience in bulimia have found that fragmentation of attention is the most clear, and consistent feature of inner experience in bulimia. This is an extremely important and startling finding in that what is most salient in the inner experience of bulimia as discovered by DES is virtually unknown in the extant bulimia literature.

Within the current (non DES) bulimia literature as a whole, we have been unable to find any studies that have discovered or examined fragmentation of attention in bulimia. Given that both we and Doucette and Hurlburt (1993b) found fragmentation of attention to be the most salient feature of the inner experience of our bulimic participants, it is noteworthy that this has not been discovered to be a feature of the inner experience of bulimia in the existing non-DES literature. It is quite possible that the extant bulimia literature has not found the phenomena of fragmentation of attention or multiplicity because it is not captured by psychology's currently existing survey assessment measures or structured clinical interviews. Therefore, until we begin to avoid cued responses and ask open questions about inner experience in bulimia we may well continue to make assumptions about the nature of bulimia that do not accurately reflect the its true nature.

### *Sensory Awareness*

The five participants in the present study all had frequent sensory awareness, in which they were focused on the sensory characteristics of their internal or external environment, rather than being focused on what for most non-bulimic individuals would be central in awareness. Sensory awareness averaged a frequency of 43% across participants, with Stella having a strikingly high (78%) frequency of sensory awareness. This sensory awareness manifested in two primary ways: focus on the sensory characteristics of bodily experiences occurred at an average frequency of 30% across the

present study participants and focus on the sensory characteristics of the external environment occurred at 13% across the present study participants.

The sensory awareness results in the present study were strongly consistent with the previous DES study of inner experience in bulimia (Doucette, 1992), which found “bodily awareness” occurring at an average of 26% across participants. That percentage is strikingly close to the 30% bodily sensory awareness found in the present study.

The Doucette study did not discuss sensory awarenesses of the external environment, apparently not recognizing the importance of this phenomenon. However, Doucette’s subjects did in fact report such sensory awarenesses. For example, Melissa, one of the participants in the Doucette (1992, p. 130) study had a sample in which she was watching the news on television and was focused on the sensory aspects of the bright red color of the anchorwoman’s hair and blush and how these two different sources of redness seemed to blend together. Today, we would call that sensory awareness, but Doucette and Hurlburt (1993b) did not. Thus Doucette’s (1992) “bodily awareness” is a subset of what is termed sensory awareness in the present study, and their participants did report external sensory awarenesses as well, but Doucette and Hurlburt did not categorize them.

Thus, both Descriptive Experience Sampling studies that have examined the inner experience in bulimia have found that sensory awareness is a frequent and consistent feature of inner experience in bulimia. This is a very important finding in that the salience of sensory awareness is unknown in the extant bulimia literature. As was true in the case of fragmentation discussed above, psychology’s current assessment methods are inadequate for capturing this frequent aspect of inner experience in bulimia. While the current DES studies of inner experience in bulimia have been based on small sample

sizes, the consistency of sensory awareness could alter our current understanding of bulimia.

Thus within the extant bulimia literature there is no direct focus on sensory awareness as a potential component of bulimia. The only two areas of standard psychological research that even indirectly relate to the predominance of sensory awareness in inner experience are explorations of interoceptive awareness and examinations of sensory sensitivity in accurate estimation of body image. Interoceptive awareness (Garner, 1991) refers to an inability to accurately identify and respond to affective states and physical cues related to hunger and satiety. The interoceptive awareness subscale of the EDI-2 (Garner, 1991) is relevant to the present study findings with regard to sensory awareness, infrequent and poorly differentiated feelings, negative feelings, and thought/feelings and will thus be discussed in each of these sections. Sensory sensitivity has not been studied widely in the context of bulimia, other than in studies focused on perceptual abilities in accurately assessing body image (Gardner and Bokenemp, 1996). However, as they rely exclusively on retrospective reports, neither interoceptive awareness nor sensory sensitivity adequately capture the nature of sensory awareness in the inner experience of bulimia. Results of each of these areas as they may overlap with sensory awareness will now be discussed.

Interoceptive awareness is one subscale measure of The Eating Disorder Inventory - 2 (EDI-2; Garner, 1991). Interoceptive awareness, which an examination of the EDI items shows would better be called “Disturbance of interoceptive awareness,” examines difficulties both in accurately identifying and responding to affective states and with identifying physical cues relating to hunger and satiety. The EDI-2 items relating to difficulty identifying physical cues may overlap with the sensory awareness inner

experiences seen in the DES participants. For example, three of the ten interoceptive awareness subscale items relate to physical sensations: confusion about what is physically occurring inside the individual, confusion about the existence or non-existence of the physical sensation of hunger, and a physical sensation of feeling bloated after eating without having overeaten (Garner, 1991). However, there are several potential difficulties with the EDI-2 (Garner, 1991) interoceptive awareness subscale that will be addressed below in our discussion of assessment limitations. The present study found sensory awareness to be a salient feature of inner experience in bulimia, however the EDI-2 (Garner, 1991) does not clearly determine if sensory awareness in the context of interoceptive awareness actually exists. While it identifies the three items relating to physical sensations above, it does not examine if an awareness of these sensations is a positive or negative feature of inner experience in bulimia. The EDI-2 (Garner, 1991) suggests that individuals with bulimia may experience an insensitivity to bodily sensations: inability to identify accurately physical sensations, difficulty determining if they are hungry, and a sensation of bloating after eating. The present study finds the opposite: inner experience in bulimia is characterized by a hypersensitivity to bodily sensations. Additionally, the present study found a preoccupation with weight, shape, or food in which individuals reported being acutely aware of hunger rather than being insensitive to hunger-related cues. While the present study was consistent with the one item of the EDI-2 (Garner, 1991) interoceptive awareness subscale related to a sensation of bloating after eating, sensory awareness in the present study was largely inconsistent with the other interoceptive awareness subscale items. Therefore, it is possible that a disturbance in interoceptive awareness could partially explain inner experiences reflecting sensations of bloating in the present study. However, the hypersensitivity to

physical sensations and acute awareness of hunger found in the present study is not consistent with the conceptualization of a lack of interoceptive awareness as a key component of the inner experience of bulimia. The affective aspects of the interoceptive awareness subscale of the EDI-2 (Garner, 1991) will be reviewed further in our discussion with regard to the feeling results of the present study.

Additionally, studies of disturbances in interoceptive awareness in eating disorders have suggested the existence of a pattern of difficulty with accurately identifying and responding to affective and physical cues, particularly in distinguishing the sensory cues related to hunger and satiety. For example, Fassino, Piero, Gramaglia, and Abbate-Daga (2004) found evidence of a higher level of disturbance in interoceptive awareness among bulimic participants relative to anorexic, and obese but non-eating disordered participants.

There was also one study that might be suspected to be examining a link between sensory sensitivity and accurate assessment of body image in bulimia. In this study, Gardner and Bokenemp (1996) presented participants with repeated video images of portions of their actual bodies digitally altered to be approximately 10% too wide to 10% too thin. Participants were then asked to determine if the images presented to them were distorted. Gardner and Bokenemp (1996) defined sensory sensitivity as the threshold at which an individual would be sensitive to detecting subtle changes in visual representations of their body image. Thus, this study examined a very narrow and specific sensory sensitivity to detecting subtle distortions in body image, whereas DES defines sensory awareness far more broadly, as an awareness of the sensory characteristics of the internal or external environment. Gardner and Bokenkamp (1996) found no significant differences in sensory sensitivity to distorted images between



bulimic and non-eating-disordered individuals whereas the present study, using a far more holistic and broader definition of sensory awareness, found that the inner experience of individuals with bulimia was in fact characterized by hypersensitivity to sensory information.

Given the high frequency of sensory awareness in the present study, it is striking that a focus on the sensory characteristics of the internal or external environment has not been recognized as a common feature of the inner experience of bulimia in the existing non-DES literature. In fact, the extant literature suggests a lack of sensory awareness while the present study found the exact opposite, that the inner experience of bulimia is characterized by a hypersensitivity to sensory cues. The lack of sensory awareness findings in the extant bulimia literature are directly related to a failure to ask directly about the moment-by-moment details of individual inner experience. The currently used retrospective assessment and clinical interview methods are markedly inadequate for capturing the existence of sensory awareness in inner experience.

#### *Infrequent and Poorly Differentiated Feelings*

The five participants in the present study experienced relatively infrequent and usually poorly differentiated feelings. Feelings occurred with an average frequency of 17% across participants and for all individuals with the exception of Margo were characterized by persistent difficulty in apprehending affective experiences clearly.

The relatively low frequency of feeling experiences, averaging 17% across participants in the present study, was quite inconsistent with the previous DES study of inner experience in bulimia, which found a greater than 70% frequency of feelings across participants (Doucette, & Hurlburt, 1993b). However, the present study was consistent with the previous study (Doucette & Hurlburt, 1993b) in finding that feelings were

generally multiple, complex, often experienced bodily, and were occasionally undifferentiated (Hurlburt, 1993a; Doucette & Hurlburt, 1993b). The bodily apprehension of feelings shared by Vanina, Margo, and Stella in the present study had also been found in the previous study of both bulimic and non-bulimic participants (Doucette & Hurlburt, 1993b).

There are three possible explanations for the discrepancy in frequency of feelings between the present study and the Doucette and Hurlburt (1993b) study. First, our participants may have differed affectively from those that Doucette and Hurlburt (1993b) studied in 1993. Second, it is possible that the examiners in the Doucette and Hurlburt (1993b) may have differed in their qualification criteria for what does and does not constitute an affective inner experience. Third, Doucette and Hurlburt (1993b) may have been insensitive to the distinction between sensory awareness and feelings, so that experiences categorized as bodily sensory awarenesses in the present study may have been termed feelings in the previous study. For example, Doucette (1992, p. 156-157) presented a sample in which one of her participants, "Christine" experienced a somatically-oriented feeling that was simultaneously apprehended as a physical sensation of "rush" in her face and chest that she understood to be a re-experiencing of how she felt when she was thin, and a thought/feeling of lightness and spontaneity while she was imaginally involved in a conversation with her husband while knowing she was thin. At the same time, Christine had a simultaneous incongruent bodily sensation of heaviness, bonelessness, and puffiness in her chin, and thighs that she identified as being like being in mourning. Christine apprehended these bodily sensations as a thought/feeling of joy associated with this bodily sensation of lightness/thinness and an accompanying bodily awareness of heaviness. This is one example in which an experience was coded as a

feeling experience that qualitatively appears to be more accurately identified as bodily sensory awareness, with a somewhat less differentiated affective component. Both the present study and the Doucette and Hurlburt (1993b) study categorized feelings several ways. The present study categorized feelings four ways: feelings, thought/feelings, thought/sensory awareness, and feeling facts of body, whereas Doucette and Hurlburt (1993a) categorized feelings five ways: experienced feelings, somatically oriented feelings, sensed feelings, contradictory feelings, and thought/feelings. More research is required to determine the most useful way to break down the characteristics of emotional experience.

Overall, the results with regard to feelings across participants in the present study were very surprising. Although feelings were the fifth most frequently occurring characteristic of inner experience in our bulimic sample, the frequency of feelings was actually quite comparable to the frequency of feelings in non-bulimic individuals (Hurlburt, 1990), and thus frequency of feelings does not appear to be a factor in bulimia for the participants in the present study. Thus, studies of inner experience in bulimia to date have agreed that feelings are often complex, bodily apprehended, and poorly differentiated, but have disagreed as to the frequency of feelings. More research is required to determine the exact nature of feelings in the inner experience of bulimia.

Within the extant bulimia literature there is little direct focus on infrequent or poorly differentiated feelings as a core aspect of bulimia. The only bulimia studies to address this phenomenon are studies of interoceptive awareness. For example, the interoceptive awareness subscale of the EDI-2 (Garner, 1991), which we discussed above in the sensory awareness section, examines difficulties identifying and accurately responding to physical and affective cues. The EDI-2 items relating to difficulty with

accurately identifying affect can be divided into three items that reflect potentially undifferentiated feelings, and four items that address confusion with regard to negative affect, which will be discussed in the negative feelings section below. The EDI-2 (Garner, 1991) interoceptive awareness subscale contains three items that potentially correspond to undifferentiated feelings, these are: confusion about what emotion is being experienced, ability to identify what emotion is being experienced, and inability to accurately identify which emotion is being experienced.

The EDI-2 (Garner, 1991) suggests that individuals with bulimia may experience an inability to identify affective cues accurately. The present study results with regard to poorly differentiated feelings, and thought/feelings also suggest a disturbance in ability to accurately identify affect but are manifested in a far more complex and consistent manner than is supported by the existing EDI-2 (Garner, 1991) interoceptive awareness subscale items. Traditional retrospective assessment measures that include questions related to interoceptive awareness are therefore insufficient to capture the undifferentiation of feelings and inability to distinguish between thoughts and feelings across bulimic participants in the present study.

### *Negative Feelings*

Four of the five participants in the present study, with the exception of David, experienced at one time or another positive, neutral, and negative feeling experiences; David's affect was entirely negative. Because negative affect is considered to be a common feature of inner experience in bulimia, negative feelings will be discussed separately from feelings in general. Across participants, negative affect moments generally outnumbered positive affect with the exceptions of Margo and Vanina. To illustrate, Katja's feelings were 12% negative and 7% positive for a total of 19%;

Vanina's feelings were 14% negative and 5% positive for a total of 19%; David's feelings occurred at a total of 9% and were entirely negative. However, Margo experienced 10% negative and an equal 10% positive feelings for a total of 20% and Stella also experienced 10% negative and an equal 10% positive feelings for a total of 20%. Overall, negative feelings averaged 11% across participants in the present study, and positive feelings accounted for 6% for a total of 17% feelings across participants.

Doucette and Hurlburt (1993b) did not report the relative frequency of negative to positive feeling experiences in the inner experience of bulimia, and thus we cannot compare the present and previous study on this basis. More research is required to determine the exact nature, frequency, and specificity of negative affect in the inner experience of bulimia.

Within the extant literature, individuals with bulimia are believed to experience high degrees of negative affect and to use the binge-purge cycle as a means to cope with overwhelming affective and situational stressors (Hay, 2003; Cohen, 2003). Additionally, individuals with bulimia have been found to have a consistently higher degree of negative affect than their non-eating-disordered peers (Fairburn, Stice, et al., 2003; Cohen, 2003; Oates-Johnson & DeCourville, 1999). The EDI-2 (Garner, 1992) interoceptive awareness subscale contains four items relating to negative affect that include: a sense of fear related to strong emotions, concern about uncontrolled emotions, inability to accurately identify emotions when distressed, and worry that becoming distressed will lead to eating.

The present study provided mild support for the importance of negative affect in bulimia, with negative affect occurring an average 11% across participants and while positive affect occurred an average of only 6% across participants. However, the present study did not find evidence for the extreme importance of negative affect suggested by

the literature. Future DES studies of the inner experience of affect in non-bulimic individuals may shed additional light onto this finding.

The current “gold standard” retrospective assessment measures and structured clinical interviews clearly probe for the presence of negative affect and are thus particularly vulnerable to mood dependent memory effects and self-presentation bias. More importantly, the present study demonstrated that by probing for negative affect, these methods may exaggerate the importance of negative affect in the inner experience of bulimia.

#### *Thought/Feelings*

All five participants in the present study experienced extensive difficulty distinguishing between affect and cognition. Most non-bulimic individuals demonstrate clearly defined affective or cognitive experiences, but for the bulimic individuals in the present study there was a marked pattern of feeling their thoughts, thinking their feelings, or experiencing a complex, inseparable, intertwined mass that was simultaneously experienced as affective and cognitive without any clearly differentiated boundaries. This thought/feeling phenomenon occurred at an average frequency of 13% across participants.

Thought/feelings were found as a particularly salient feature of inner experience in the previous DES study of individuals with bulimia (Doucette & Hurlburt, 1993b), and are rarely found in non-bulimic individuals. However, thought/feeling experiences occurred at a lower level of frequency in the present study, occurring at an average frequency of 13% as opposed to the median of 40% found in the previous study (Doucette & Hurlburt, 1993b). The 13% found in the present study, while lower than the 40% found by Doucette and Hurlburt (1993b), is still markedly high. Furthermore, recall

that Doucette and Hurlburt reported a higher frequency of feelings overall, however, and Doucette and Hurlburt (1993b) may also have categorized bodily sensory awarenesses as feelings, as discussed in the feeling section above, thus potentially elevating the frequency of feelings relative to the current study. Most individuals in the general population do not experience difficulty distinguishing between affect and cognition. The consistent inability to experience or identify affect accurately, or to distinguish between affect and cognition found in the present and previous study (Doucette & Hurlburt, 1993b) is likely to play an active role in bulimic pathology.

Within the current bulimia literature, there have been few studies examining the difficulty distinguishing between affect and cognition. Studies of alexithymia in eating disorders have suggested the existence of a pattern of difficulty with identifying, describing, and expressing affect in bulimia (DeGroot, Rodin, & Olmsted, 1995; Cochrane, Brewerton, Wilson, & Hodges, 1993). However, by focusing exclusively on issues of either affect identification and expression dysregulation, or on affect and physical sensation identification and response dysregulation, neither the alexithymia literature nor the interoceptive awareness literature capture the nuances of the persistent difficulty distinguishing between affect and cognition found across participants in the present and previous (Doucette & Hurlburt, 1993b) DES study. Our participants experienced a consistent difficulty distinguishing between affect and cognition that appeared far more complex than merely the difficulty with identifying, describing, and expressing affect found within the alexithymia literature (DeGroot, Rodin, & Olmsted, 1995; Cochrane, Brewerton, Wilson, & Hodges, 1993) or the difficulty identifying and responding to affective and physical cues found within the interoceptive awareness literature (Garner, 1991; Fassino et al., 2004).

### *Feeling Fact of Body*

Three of the five participants in the present study (Katja, Margo, and Stella) had feeling fact of body experiences. These were apprehended as ongoing affective states without the emotion itself being specifically in awareness at the moment of the beep. Feeling fact of body experiences happened relatively rarely, with an average frequency of 4% across the present study participants.

The present study results with regard to feeling fact of body were inconsistent with the previous study of inner experience in bulimia (Doucette & Hurlburt, 1993b), which did not find evidence of feeling fact of body. Further research is required to determine the frequency, function, and potential discerning variables of which participants do and do not experience feeling fact of body as an aspect of inner experience of bulimia.

Within the current bulimia literature as a whole, there have been no studies examining the existence, function, or prevalence of feeling fact of body experiences in the inner experience of bulimia.

### *Preoccupation with Weight, Shape, or Food*

The five participants in the present study experienced preoccupations with weight, shape, or food that manifested variously as bodily sensations, feelings, images, thought/feelings, or thought/sensory awarenesses. These preoccupation experiences were often distressing and occurred at an average frequency of 14% across participants.

The average frequency of 14% preoccupation with weight, shape, or food across participants in the present study was consistent with the Doucette and Hurlburt (1993b) study, which found a range of 5% to 16% of thoughts about food. The preoccupation category in the present study was somewhat broader in its definition of preoccupation



than the previous study in that thoughts, feelings, images, thought/feelings, or thought/sensory awarenesses were all assessed for their relevance to preoccupation with weight, shape, or food.

The present study and the previous Doucette and Hurlburt (1993 a; 1993b) both found occasional incongruent bodily awareness, in which an individual's inner physical experience did not reflect outward bodily reality. Incongruent bodily awareness is a rarely reported experience outside of bulimia and may be an inner representation of bodily dissatisfaction.

Thus, both DES studies of inner experience in bulimia have found a consistent pattern of preoccupation with weight, shape, or food that supports the extant literature as a whole in the belief that this preoccupation is a key feature of the inner experience of bulimia.

Within the current bulimia literature there is extensive support for preoccupation with weight, shape, or food in the inner experience of bulimia. Self-evaluation that is excessively influenced by weight and shape is a key diagnostic feature of bulimia (APA, 2000). According to the current bulimia literature, the weight, shape, or food preoccupation associated with bulimia, and ultimately bulimia itself, can be activated through a complex set of risk factors and involve a high presence of negative eating, weight, and shape cognitions in bulimic individuals (Cooper & Fairburn, 1992). The substantial frequency and qualitatively distressing nature of the inner experience of preoccupation with weight, shape, or food found across participants in the present study thus appears to be consistent with the current bulimia literature. However, the present study of inner experience in bulimia examined inner experience directly without cueing particular responses and therefore did not measure potential risk factors associated with

bulimia. Therefore, the present and previous DES studies of inner experience in bulimia, suggest that the preoccupation with weight, shape, or food presumed to be a fundamental aspect of the experience of bulimia is in fact a frequent and salient feature of inner experience in bulimia.

### *Images*

The five participants in the present study experienced visual images, qualitatively ranging from single, clear visual images to multiple, largely undifferentiated images. The frequency of visual images averaged 23% across participants. The results with regard to the frequency, clarity, and characteristics of visual images in the present study were consistent with the salience of images in the previous study of bulimic participants, which found an average of 34% across participants (Doucette & Hurlburt, 1993b). The frequency of images is slightly higher but not significantly higher than images in the inner experience of non-bulimic individuals (Doucette & Hurlburt, 1993b). Within the extant bulimia literature, there have been no studies examining the existence, function, or prevalence of images in the inner experience of bulimia.

### *Inner Speech*

Four of the five participants in the present study experienced inner speech with an average frequency of 10% across all five participants, including 0% for Stella, the only participant without inner speech.

Findings with regard to inner speech in the present study were consistent with the findings of the previous study of inner experience in bulimia (Doucette & Hurlburt, 1993b) in two important ways. First, the present study supported the finding that inner speech occurs at a lower rate of frequency among bulimic versus non-bulimic individuals, who experience inner speech at an approximate frequency of 25%. Second,

the present study supported the Doucette and Hurlburt (1993b) finding that the highest frequency of inner speech in inner experience occurred for the participant with the least severe bulimic pathology. This was the case in the present study for Katja, who had the lowest degree of bulimic pathology and highest frequency of inner speech across participants.

Thus, both the present study and the previous Doucette and Hurlburt (1993b) study found a relatively low frequency of inner speech in the inner experience of bulimia relative to non-bulimic individuals and found higher rates of inner speech corresponding to lower rates of bulimic pathology across participants. However, there have been no studies examining the phenomena of inner speech in bulimia within the current non-DES bulimia literature. It is quite likely that the traditional retrospective assessment measures miss the phenomena of inner speech entirely and are therefore not sufficiently capable of confirming the nature of inner speech in bulimia.

#### *Unsymbolized Thinking*

Four of the five participants in the present study had unsymbolized thinking, in which they experienced a thought without words, images, or other types of awareness, with an average frequency of 9% across all five participants, including 0% for Stella, the only participant without unsymbolized thinking. The present study findings with regard to unsymbolized thinking were somewhat surprising in relation to the previous study of inner experience in bulimia. Doucette (1992) found directly experienced unsymbolized thinking to be strikingly high, occurring at an average frequency of 69% across their participants, and with the highest frequency corresponding to the individual with the most severe bulimic pathology. In contrast, the present study demonstrates a markedly low frequency of unsymbolized thinking across participants with Stella, the only participant

with no unsymbolized thinking demonstrating the highest severity of bulimic pathology.

However, the present study was consistent with the previous study (Doucette and Hurlburt, 1993b) in their finding that women with more severe eating disorder pathology reported sensed unsymbolized thinking and other forms of sensed awareness experiences more frequently (Doucette & Hurlburt, 1993b). Stella, was the only individual in the present study to have sensed unsymbolized thinking, and was the participant with the most severe bulimic pathology.

Although these DES studies of the inner experience of bulimia differed in terms of the frequency of inner experience in bulimia, and agreed about the correlation between bulimic pathology and sensed awareness, the present study also found a lack of cognition overall, above and beyond infrequent unsymbolized thinking, which will be discussed in the following section.

#### *Lack of Cognition*

There was a striking lack of thinking overall in the present study, averaging a frequency of only 11% across these four participants. There was no corresponding lack of cognition found in the Doucette and Hurlburt (1993b) study of inner experience in bulimia. While we acknowledge that there is undoubtedly cognitive processing occurring within these individuals, there is very little overt thought or conscious cognitive processing in awareness among these individuals. Whereas most non-bulimic individuals frequently report the experience of thinking, our bulimic individuals have very complex, undifferentiated inner experience in which there are multiple, tangled, interwoven inner experiences with little experience of thought. The DES expositional interviewing method, which is quite straightforward for most individuals, was quite difficult for these study participants. We speculated that this lack of the experience of cognition, combined with

the complexity of their inner experience, may have contributed to this qualitative difficulty with the DES task.

Our finding of a striking lack of cognition is particularly surprising in light of the understanding of the cognitive components of bulimia within the current literature. Within the current bulimia literature, cognitive distortions about weight, shape, and appearance have been found to maintain bulimia (Kearney-Cooke & Striegel-Moore, 1997) and individuals with bulimia were found to have more negative eating, weight and shape related cognitions than non-eating disordered individuals (Cooper & Fairburn, 1992). These cognitive distortions have been found to contribute to a tendency for individuals with bulimia to minimize the risk associated with their behavior and view engaging in bulimic behaviors as a means to assert control and decrease the distress caused by cognitive distortions (Waller, 2002; Gleaves et al., 2000; Polivy & Herman, 2002; Kearney-Cooke & Striegel-Moore, 1997). This would suggest that cognition is a critical and perhaps essential element in the maintenance, course, and treatment of bulimia.

In contrast to the Doucette and Hurlburt (1993b) study, the present study found cognition to be relatively infrequent, suggesting that the cognitive distortions assumed to be a primary component of bulimia in the extant literature may not be shared by all individuals with bulimia. The existence of cognitive distortions may in fact be impacted by a lack of cognition overall, potentially providing fertile ground for cognitive distortions.

Of the 173 samples of inner experience collected across these five participants, only 20 samples contained cognitive awareness. Stella, the individual who did not have any direct cognitive experience did have sensed unsymbolized thinking, in which she had

an ongoing awareness of a thought without the thought itself being in awareness. In situations that for most non-bulimic individuals would involve clearly differentiated thought these participants demonstrated rare instances of unsymbolized thinking or symbolized thinking. Cognitive experiences across participants appeared to be predominantly undifferentiated or inseparably intertwined with affective or sensory aspects of experience. Although the present study is based on a small sample size, this lack of cognition may provide critical challenges to our cognitive bias with regard to the nature of inner experience in bulimia.

#### Assessment Limitations

Thus far, we have discussed how the present study results compare to the results of the previous study of inner experience in bulimia and to the assumptions about the inner experience of bulimia in the extant literature. The present study also used the EAT, EDI-2, and EDE, the “gold standard” psychometric assessment measures of bulimia in order to provide an understanding of the bulimic pathology of each of the five participants studied. We will now discuss the limitations of these psychometric measures.

The present study demonstrated that consistency in non-DES psychometric assessment results yields necessary but not adequate information about eating disorder pathology. For example, knowing that these five participants scored between the 87th to the 99th percentile when the percentile results of the EAT-26, EDE, and Bulimia subscale of the EDI-2 were averaged tells us almost nothing about the nature of either their specific experience of bulimia or of their inner experience overall. The specific limitations of the assessment measures used in the present study will now be discussed.

Each of the five study participants had a high degree of eating disorder pathology,

ranging from the 87th to the 99th percentile when the percentile results of the EAT-26, EDE, and Bulimia subscale of the EDI-2 were averaged. However, those shared high scores do not sufficiently account for either the commonality or wide variability in eating disorder pathology and inner experience found across participants.

The EAT-26 and EDI-2 are currently the most commonly used self-report assessment measures in bulimia research, and the EDE is the most commonly used structured clinical interview. Although these assessment measures did allow greater insight into the nature of each individual's eating disorder pathology, as self-report measures the EAT-26, BDI-II, BAI, EDI-2, and EDE are vulnerable to several methodological difficulties, including retrospective bias, potential misunderstanding or misinterpretation of the items and/or time frames on the measures (Crowther & Sherwood, 1997; Polivy & Herman, 2002).

More importantly, participants may be motivated to avoid honestly endorsing personal and potentially threatening information on self-reports. Self-reports may also not sufficiently account for the impact of current symptomatology and level of distress on an individual's ability to accurately complete self-report measures (Kessler, et al., 2000). By carefully avoiding leading questions, and avoiding any explicit reference to bulimia pathology, DES significantly avoids the threatening information extant in traditional quantitative assessments of bulimia and thus guards against confounds based on inaccurate reporting.

Consistent with Guest (2000), the present study has adhered to the recommended practice of using multiple and multimodal assessment to control for these potential biases in reporting to the highest degree possible. However, the findings presented here from these multiple and multimodal assessments are strikingly insufficient in terms of

accounting for either the commonalities or differences in inner experience across participants, despite the presence of commonalities and differences in assessment findings. The current status quo “gold standard” in bulimia research thus falls short of accounting for individual variability. Research endeavors that fail to examine both commonalities and individual differences in bulimia may account for the relative lack of success in prevention and intervention initiatives, despite 25 years of consistent effort.

The EAT-26 (EAT-26; Garner, et al., 1982) was a useful screening tool for assessing eating disorder pathology overall and for screening for binge eating, purging, nonpurging compensatory behaviors, past history of eating disorder treatment, and suicidal ideation. However, each of the five study participants scored at or above the 98th percentile, which did not account for the substantial variability in the frequency or severity of eating disorder pathology among the participants.

This suggests that the EAT-26 may lack sensitivity in screening for variability in eating disorder pathology among these five participants all of whom attained scores at or above the 98th percentile. These findings are consistent with the Garner, et al. (1982) recommendation that the EAT-26 should not be used exclusively as a diagnostic tool but may serve as a useful general screening tool for eating disorder pathology. Future studies may be needed to determine the relative utility of using non-patient norms in university students manifesting clinically significant eating disorder pathology, with the potential goal of creating separate norms for potentially symptomatic individuals who are not currently in treatment.

The EDI-2 (Garner, 1991) is currently the most commonly used self-report psychometric measure of eating disorders. However, as was suggested in our discussion of sensory awareness, feelings, negative feelings, and thought/feelings above, the



interoceptive awareness subscale of the EDI-2 contains potentially confounded and confusing items related to affect and physical sensations. The potential limitations of this subscale are threefold. First, although this subscale is entitled “Interoceptive Awareness” it actually measures a lack of or disturbance in, the construct of interoceptive awareness. Therefore, endorsing interoceptive items positively leads to higher scores on the interoceptive awareness subscale when what is actually being endorsed is a lack of interoceptive awareness. Second, the ten interoceptive awareness subscale items vary widely in their clarity. While nine of the items are written relatively clearly, one item, referring to either affective or physical sensation confusion is quite confusing, asking the test taker if they have difficulty determining what is occurring inside of them without including an affective or physical referent. Third, the interoceptive awareness subscale includes items related to confusion about affective states, items related to negative affect, items related to anxiety about eating triggered by emotion; and items related to confusion about physical and affective cues associated with eating. Therefore, although it is entirely possible that a disturbance in interoceptive awareness may be an important aspect of bulimia, the currently favored measure used to assess this is extremely vulnerable to misinterpretation due to subscale items that include potentially confusing and confounded aspects of a relatively loosely defined construct. Future editions of the EDI-2 (Garner, 1991) will hopefully work to more clearly define the construct of interoceptive awareness and may benefit from separating affective and physical portions of this subscale and editing items to guard against confusion to the highest degree possible.

While the EDE structured clinical interview generally allows for a more thorough assessment of diagnostic criteria, and provides opportunity for additional support, referrals to counseling, and opportunities to detect inconsistencies in responding, it is still

vulnerable to self-presentation bias. Additionally, the shame associated with eating disorder pathology and potential reluctance to seek treatment, may bias interview responses. Although the EDE yields an invaluable opportunity for test administrators to assess symptoms and provide needed referrals, it should not be relied upon as an absolutely accurate and bias-free portrayal of eating disorder pathology. We believe that DES interviewing significantly reduces self-presentation and retrospective biases through the avoidance of self-report measures and leading questions, and through employing careful interviewing strategies to continually assess for any potential self-presentation bias.

DES allows us to collect ideographic detail that reveals that while these individuals share commonalities they are less alike than assessment data would suggest. For example, Katja had experiences that blended cognition, affect, and spiritual elements; David had strikingly undifferentiated inner experience; Vanina engaged in bodily decision-making, Margo experienced a fusing of thought and sensory awareness; and Stella actively focused on sensory awareness to avoid distressing experiences. If we accept that a score ranging from the 87th to 99th percentiles would make individuals quite similar we may be tempted to take a “one size fits all” approach to intervention that would miss the opportunity to use the unique idiographic strengths and deficits of each individual to design an individualized and potentially far more effective approach to treatment.

Future studies may benefit from questioning the current status quo of relying solely on assessment measures to determine the nature of individual bulimic pathology. The limited degree of success associated with current bulimia intervention and prevention strategies may be improved by a re-thinking of research methodologies that would allow

us to gain a richer understanding of the daily inner experience of bulimia and a move away from over-reliance on bias vulnerable self-report assessment measures.

### Present Study Limitations

The present study was based on a small, non-random sample of individuals with bulimia, and may thus not generalize to the wider population. It is possible that these five individuals with bulimia may differ in some systematic or non-systematic manner from other individuals with bulimia.

This sample is also heterogeneous in terms of existing comorbidity. We elected to use a heterogeneous sample for two primary reasons. First, this study employs a small sample size so maintaining a homogeneous sample would not significantly impact the power of our results. More importantly, one of the major flaws in many large-scale studies of bulimia is that individuals with comorbid disorders are excluded. Since comorbidity is the rule rather than the exception in bulimia, it is potentially of greater clinical utility to use a homogeneous sample. Future examinations of inner experience in bulimia will hopefully yield larger and more homogeneous samples.

The present study is also sensitive to self-selection biases and attrition. Since the DES process necessitates a longer time commitment than many survey-based studies, it is possible that individuals who are willing to commit this degree of time may differ in some systematic way from qualifying individuals who did not volunteer to participate. The relatively long time commitment in DES research also makes these studies especially sensitive to attrition. Additionally, although the lack of leading questions, explicit instruction to skip any material that an individual does not wish to report, and

collaborative nature of DES interviewing minimizes the risk, there may still be a risk of self-presentation bias.

### Summary

In summary, the present study and previous study of inner experience in bulimia (Doucette & Hurlburt, 1993b) found striking results about the inner experience of bulimia that challenge the previously held assumptions about the nature of bulimia in the extant literature. A brief review of these results will now be discussed.

Fragmentation of attention was found to be the most prevalent aspect of inner experience of bulimia in the present and previous DES study but remains virtually unknown within the extant bulimia literature. The present and previous DES studies also found sensory awareness to be an essential feature of the inner experience of bulimia. However, despite studies of interoceptive awareness and perceptual sensory sensitivity, there is no direct focus on sensory awareness in the extant bulimia literature.

The present study found infrequent and poorly differentiated feelings to characterize the affective nature of inner experience in bulimia. While the multiple, complex, and bodily-apprehended nature of feelings were consistent across DES studies, the present and previous study differed with regard to the frequency of feelings. There is almost no direct focus on infrequent or poorly differentiated feelings in the extant bulimia literature. The interoceptive awareness subscale of the EDI-2 (Garner, 1991) addresses a difficulty identifying affective cues but does not sufficiently capture the undifferentiated nature of feelings in the present study.

Negative feelings were somewhat common in the present study, but the previous study did not report the relative frequency of negative to positive feeling experiences in

the inner experience of bulimia, and thus we cannot compare the present and previous study on this basis. The relative infrequency of feelings overall in the present study are striking given the assumption of high degrees of negative affect in the extant bulimia literature.

Thought/Feelings were found to be a salient feature of the inner experience of bulimia in both the present and previous DES study of bulimia. However, there is no direct focus on this phenomenon in the extant bulimia literature. Studies of alexithymia and interoceptive awareness are suggestive of potential difficulties accurately identifying affect but do not capture the qualitative nature of the persistent difficulty distinguishing between affect and cognition found in the inner experience of bulimia in DES studies.

Preoccupation with weight, shape, or food was found to be a common feature of the inner experience of bulimia by the present and previous DES study, consistent with the assumption of this preoccupation as a key feature of bulimia in the extant literature.

Inner speech was also found by both DES studies of inner experience in bulimia but this phenomenon has not been examined in the extant bulimia literature.

Unsymbolized thinking was relatively uncommon in the present study and strikingly high in the previous study of inner experience in bulimia. The extant bulimia literature focuses largely on the content of thoughts and thus does not directly examine the phenomenon of unsymbolized thinking.

An overall lack of cognition was strikingly consistent in the present study and was not found by the previous study. This is markedly inconsistent with the belief in the extant literature that cognitive distortions play a key role in bulimia.

## Suggestions for Future Research

The present study focused on the inner experience of individuals with bulimia to explore potential new discoveries in this profoundly disruptive disorder. We found that inner experience in bulimia is quite different from what might be assumed by the current literature. Specifically, we found that inner experience in bulimia is far more complex than the triangulation of social pressure, negative affect, and cognitive distortions about weight, shape, or appearance. Instead, we found a marked fragmentation of attention in which individuals were unable to focus their attention clearly and singly on what would normally be in the center of awareness in non-bulimic individuals. None of the individuals in the present study were able to have their attention clearly and singly aimed at the center of what would normally be in awareness at a given moment in time.

We found that attention in individuals with bulimia was also fragmented through a bodily or external focus on sensory stimuli over the perceptual aspects of their surroundings. One of our participants engaged in an active focus on the sensory in order to avoid potentially distressing aspects of her environment.

We found that feelings were also strikingly fragmented. There were relatively few clearly differentiated feelings and a high degree of difficulty distinguishing between affect and cognition. Feelings were not experienced as clearly differentiated phenomenon, instead they fractured into semi-differentiated or undifferentiated phenomena in which individuals experienced thinking their feelings, feeling their thoughts, sensing their feelings, feeling their sensations, having an ongoing but not clearly apprehended feeling, or having bodily apprehensions of feelings without the feeling itself being directly in awareness. Overall, these individuals with bulimia

experienced feelings in a manner that was strikingly different from the manner in which most individuals experience feelings.

We found a marked lack of cognitive experiences across participants. Cognitive experiences remained relatively infrequent and undifferentiated and when they occurred they tended to be fragmented between feelings, or sensory experiences.

These findings suggest that the current “gold standard” of using multiple and multimodal assessment to understand bulimia is insufficient. In using Descriptive Experience Sampling, the present study found potentially important aspects of inner experience and rich ideographic data previously not accessible through our existing assessment measures of bulimia.

Individuals with bulimia may be highly motivated to misrepresent themselves during assessment, either through shame and stigma, or through a desire to avoid detection and intervention efforts (Crowther & Sherwood, 1997; Polivy & Herman, 2002). By avoiding leading questions, allowing participants to refuse to report on any item of their choice, and using interviewing methods that create a collaborative dialogue about inner experience with participants, DES accesses a higher degree of truth about the nature of inner experience than is possible in traditional assessment measures. We believe that DES provides a far more efficient, accurate, and comprehensive measure of inner experience in bulimia than is possible using traditional assessment measures.

By relying almost exclusively on traditional assessment measures, the field of bulimia research has failed to uncover key ideographic data that could be used to individualize effective intervention, prevention, and relapse innovations. These innovations are urgently needed. Individuals experiencing the profoundly disruptive symptoms of bulimia are experts on their own inner experience and asking them about

their inner experience can yield important and previously unexplored directions for research. The time has come to embrace new ideographic research methods that may continue to uncover new pathways to successful prevention, intervention, and recovery.

Future research endeavors may yield important discoveries by exploring the fragmentation of attention in greater depth. Specifically, future studies examining inner experience in bulimia may yield additional insights into the foundation and maintenance of this consistent failure to maintain focus on the center of awareness. None of the individuals in the present study were able to have their attention clearly and singly aimed at the center of what would normally be in awareness at a given moment in time. It is possible that there may be an interaction between this inability to maintain a clear singular focus and bulimic pathology. More research is required to determine the nature, directionality, and reliability of the potential relationship between fragmentation of attention and bulimia.

Future research endeavors may also yield important discoveries by exploring the preferential focus on the sensory in the inner experience of bulimia. While this is necessarily speculative, it is likely that the distressing bodily sensory awareness in this sample was directly related to bingeing and purging. Each participant in the present study had a high degree of eating disorder pathology; it is likely that this type of distressing bodily sensory awareness may be associated with bulimic behavior. Additional studies may be needed to clarify the exact nature of the relationship between sensory awareness and bulimic pathology.

The present study found a marked lack of clearly differentiated affect across participants. This is a very important finding that may significantly impact our thinking about affect-focused prevention and intervention strategies. For example, the current



bulimia literature suggests that negative affect is common in bulimia, but our study asserts the possibility that it is not negative affect, but lack of clearly differentiated affect that most accurately characterizes the affective inner experience of bulimia. Future research examining the relative frequency of negative to positive affect in both bulimic and non-bulimic individuals may help to inform the consistency of these findings. Additionally, examination of the affective nature of inner experience in bulimia may yield innovative strategies for prevention and intervention based on these findings.

The results with regard to feelings and thought/feelings across participants in the present study pose a significant challenge to our currently held assumptions about affect and cognition in the inner experience of bulimia. This finding suggests that there may be far more complex affective and cognitive components of inner experience in bulimia than were previously believed. This fusing of affect and cognition significantly challenges the presuppositions about the nature of inner experience in bulimia within the current literature. Although this is necessarily speculative, an inability to distinguish between affect and cognition, or difficulty directly focusing on affective experience may be in and of itself distressing.

Future research may yield more information about the nature and directionality of the relationship between bulimia and this pattern of difficulty accurately identifying affect, accurately distinguishing between affect, cognition, and sensory experiences, or difficulty actively focusing attention on what in non-bulimic individuals would be a clear affective experience. This finding suggests that intervention or prevention initiatives aimed exclusively at addressing either negative affect in bulimia or cognitive distortions about weight, shape, or food may be insufficient. Undertaking these research initiatives

may be an important first step in building new frameworks for innovations in bulimia research.

Although the present study provided support for a pattern of preoccupation with weight, shape, or food in the inner experience of bulimia it did not find evidence of a consistent pattern of cognitive distortions or negative schemas in the inner experience of bulimia. The relative lack of cognition overall suggests that the cognitive distortions and schemas may explain less about the nature of inner experience in bulimia than was previously believed. This finding suggests that intervention or prevention initiatives aimed exclusively at changing cognition in bulimia may be insufficient. Although this is necessarily speculative, a lack of clearly differentiated cognition may be in and of itself distressing. Future research both within and outside of DES may yield more information about the nature and directionality of the relationship between bulimia and a relative lack of cognition, and may help to further illuminate this surprising finding.

In summary, DES has provided us with an innovative method to an accurate, ecologically valid access to the inner experience of bulimia and has allowed us to demonstrate that this inner experience surprisingly differs from what was previously believed about the nature of bulimia. Future research will hopefully use this method to expand our knowledge about the complex inner world of individuals with bulimia to create desperately needed innovative, effective, and individualized prevention and intervention initiatives.

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## APPENDIX A

### PARTICIPANT SAMPLES

#### Katja Samples (See Chapter 5)

**1.1:** Inner calmness and words in head of song she was listening to, words in head were “state of emergency” from Bjork, experienced as singing along in her head to the song just as though it was being sung aloud, also aware of a feeling of inner calmness, experienced as a spiritual/bodily feeling of inner calm, sensed in middle of body, core of body, deep down, in the chest and stomach area, calmness felt both in and beyond the body but it was difficult for Kim to describe this “beyondness” *Coding: F, SA bodily, Inner Speech, MBS*

**1.2:** Energy felt flowing, she was eating a bowl of soup but not paying attention to the eating, instead noticed how it felt, aware of the warmth in her stomach and the warmth separately in her body from the soup, energy flowing experienced as a bodily feeling of all of the blood circulating, experienced as bodily and spiritual, felt in her upper body and arms, experienced as energy coursing through her, similar to tingling but tingling not entirely accurate, difficult for her to describe this sensation. *Coding: SA bodily, Preoccupation, MBS*

**1.3:** Doing homework (fact of what she was doing), not really concentrating on the homework, just doing it, listening to music and aware of a physical sensation in her stomach, identified as a negative sensation in region of her stomach, difficult describing specifics of this sensation. *Coding: F, Doing, Preoccupation, SA bodily*

**1.4:** Just listening to her sister talk, paying attention to her sister and listening to her talk, attending to what was being said, not having to work at understanding, just understanding. *Coding: Doing*

**1.5:** Thinking “I hope the beeper doesn’t go off because this is silly”, experienced as saying some of the words in her head, the idea as a whole was in her head, some of the words were in awareness, but other words were not, not thinking every word, idea was there and she’s thinking some of the words, experienced as progression of thought, rhythm of inner speech was there, and some of the words were in place but some of the words were missing, but thought was following progression of all of the words, words experienced in own voice, as though she had said it aloud, also laughing to herself, and experiencing a feeling of silliness apprehended as a difficult to describe feeling, not a specific bodily feeling, not a specific head feeling, somehow she knows feeling of silliness is happening. *Coding: Partially worded inner speech, Feeling*

**1.6:** Thinking that she wished her boyfriend would let her have the light on and that she had to hurry/it's almost midnight, wish about light experienced as an idea and some of the words were there, experienced as a whole idea, but only some of the words in awareness, can't say which words are in awareness and which aren't at that moment, but boyfriend's name and light seemed to be in awareness, have to hurry portion experienced as saying "Shit I have to hurry it's almost midnight", saying whole phrase in her head, all of the words there, in her own voice, just as if she said it out loud, pace a bit rushed, if she said it out loud it would have been rushed as well, also had a difficult to describe feeling of annoyance. *Coding: F, Partially worded Inner Speech, Feeling*

**2.1:** Reading an online journal, thinking "I need to detox and cleanse herself", no words or images, just the idea, she had been reading earlier about somebody else talking about detoxing and cleansing in an online journal (before the beep) and at the moment of the beep was thinking she needs to do that, just thinking "I should detox and cleanse herself", experienced as just knowing that she's thinking this. *Coding: U*

**2.2:** She was listening to her Mom talk about the naturalization process on her cell phone, the word closest to when the beep went off was the word oath, just listening and comprehending was just coming along with the words with nothing else going on. *Coding: Doing*

**2.3:** Watching TV and involved with the show, happy for one of the girls that something happened to on the show, more paying attention to the show with ongoing awareness of happiness in background, happiness experienced in upper chest, in the front of the chest, felt fluffy light feeling of happiness, both inside and outside of chest, happiness felt like a "cotton bally" feeling of bursting moving outwards from the chest, cotton balls and liquid bursting out of chest. *Coding: Doing, FB*

**2.4:** Seeing an image of her old friend performing, she was en pointe dancing like a bird flitting around next to a golden cage, rest of the stage was black, I couldn't tell what color her leotard & tights were, see a clear image of her, but couldn't tell what color she was wearing, mostly paying attention to the way she was moving, how her body was moving, remember leotard being dark but couldn't tell exactly what color, tall golden cage supposed to be a bird cage, cage is in the middle of stage and she was dancing in front of it, watching the moving image, right at the moment of the beep she was in front of the cage, image is like she's looking at her on stage, no borders, just blackness around the stage like in a theatre, not quite as clear as watching it in person but similar to as if she was actually watching her in a theatre, also happy for her experienced as a warmth both inside and outside of her chest but most of her awareness was on the image. *Coding: Image, Feeling*

**2.5:** Felt overheated, ill, dizzy, sick, out of it, drained, shaky, hazy, mind felt hazy and unclear, just wanting to let go was her idea, felt this as one experience and all of these words describe that one sensation, all of these things were going on at the same time, it's a bodily feeling and also "all of me", body/mind/soul, everything experienced at once, mind also feeling hazy and unclear, idea in her head that I wanted to let go, experienced not as words or images just the idea of wanting to let go was there, wanted to not feel that

way anymore. *Coding: U, SA bodily, Preoccupation, MBS*

**2.6:** Felt the strange calm of nothingness, like holding your breath, like when you inhale and sink to the bottom of the pool and look up at the surface, but somehow stay calm, relaxed and able to breathe, had an image of part of herself but at the same time was looking from her eyes up through the surface of the water, mostly looking upwards and sees blue ripples of the water, rest of the world looks marbled, see trees and house they look wavy, there's colors but mostly everything is blue from the water, clear visual image, also sees herself like in a dream, can't remember which parts of self, but saw parts of self and was also seeing through her eyes, a hint of seeing herself but mostly focused on seeing the image, strange calm of nothingness experienced as a bodily sensation and as a mental, bodily, and spiritual feeling of relaxation. *Coding: Image, SA bodily, MBS*

**3.1:** Song playing in her head, it was the phrase "I don't blame you" along with piano, at the same time looking at pictures wondering which folder a particular one was in on her laptop. Song playing in head, like she was listening to it but it wasn't on, the phrase "I don't blame you" was going on at the moment of the beep, listening in head just as if she was listening to it out loud on a CD, half of her attention is on that & half is on the pictures, not singing along to it, just listening to it in her head. Looking at pictures wondering which folder a particular one was in, experienced as looking at pictures but more of attention is on wondering which folder a particular picture is in, experienced as a thought process with no words. *Coding: F, Inner Hearing, U, PA*

**3.2:** Saying in her head "1.1, 1.2" as if she was saying it out loud just as if she had said it factually out loud, declaratively saying it, looking at her math homework putting a star next to each problem to make it stand out, nothing else. *Coding: Inner Speech, PA*

**3.3:** Words in her head were "thus the fixed points are", she felt fat and was aware of mellow music, words in head were all in her mind at the moment of the beep, saying them to herself, in her own voice, just as if she were saying them out loud, was writing them at the same time but the writing wasn't really in awareness, feeling fat experienced as a sensation of feeling bloated, gross, and ugly, felt like there was pressure under her skin, expanding like she was going to explode, felt pressure under skin everywhere throughout her body, experienced as a sensation just below the surface of her skin, pressure pushing outward, sensation of going to explode, words bloated/gross/ugly all part of this sensation of fatness, mellow music experienced as a song playing on CD, that she was half listening to it, it was in awareness but most of her attention was on the fat sensation. *Coding: F, Inner Speech, SA bodily, Preoccupation, PA*

**3.4:** Reading in her head the message from a fortune cookie "the clouds will rain success unto you" reading in her head, in words, one after the other, exactly as if she were reading it out loud, and noticing the dryness and mild sweetness of the cookie, noticing the sensation of mild sweetness and dryness. *Coding: Inner Speech, SA bodily*

**3.5:** Writing a live online journal article arguing that fat really is a feeling, she was saying in her head and typing the words "sharp objects" and remembering a girl in the 5<sup>th</sup> grade who attacked her with a stapler. Had an image of the girls face, it flashed in her head,



describing the feeling of fatness as a mean pest, vicious, that's the connection with the girl, image was of the girl's face, saw dark hair, not a clear image but she knew it was the girl, image of the head but couldn't see her face, image was straight on, image was not clear or detailed, writing "sharp objects" and also saying "sharp objects" to herself in her head, the same as if she said it out loud, arguing fat is a feeling, experienced as an awareness of what the feeling of feeling fat feels like, a mental idea of what fat feels like to her but wasn't feeling the sensation of it right at the moment of the beep, aware of the mental representation of the feeling of feeling fat that she was trying to articulate, experienced as a mess in her head, trying to make a point and was thinking about the girl as a mean pest, and trying to articulate the feeling as a mean pest, idea of mean pest was a way of articulating the feeling of feeling fat, mental representation, experience of the pesteringness of the feeling as opposed to the sensation of feeling it, thinking of how the feeling gets to her, feeling fat as some thing that pesters her, thinking of how it affects her. *Coding: F, Image, Inner Speech, Thought/Feeling, Preoccupation*

**3.6:** Looking at photos of a recent sunset and aware of different colors, feeling dreamy and pondering the heavens, looking at several photos of a sunset lined up, aware of colors: just noticing the colors and focusing on them, feeling dreamy and pondering the heavens. Feeling dreamy experienced as sort of like a feeling in her body as well as a mental thing, experienced bodily deep inside, a mild warmth or something radiating from deep inside of her upper body, going in all directions, experienced as mild in strength. Pondering the heavens experienced as like a thought process, no words, looking at the pictures but in her head she was expanding them, and looking up at the heavens, as if she were actually looking up, seeing in her minds eye as if her eyes were turned up to the heavens, looking at the heavens in her image, image seemed as if she were looking at the real heavens, seems more vivid than the actual picture she was looking at, image also at sunset, as if she were looking at the physical sky but there is also an element of spirituality, in the image there were more clouds and she was closer to the clouds, looking at them from closer than on the ground, pondering the heavens was most in awareness, then the feeling, then the awareness of the colors. *Coding: F, SA bodily, Image, Feeling, MBS*

**4.1:** Moonlight Sonata was playing in her head, just the single piano, and she saw someone dancing to it, thought it was herself, everything was black except for the dancer wearing pinkish tights leotard and skirt, doing pas deux baurait, she was dancing en pointe like she was on stage, music experienced as if it was being heard out loud, hearing it clearly in her head, image was clear, the stage floor is black, everything else is black, she knew there was a stage floor but didn't know if she saw it, experienced as being in a large theatre like the size of Ham Hall, image had been going on for some time, hearing of the music and watching of the dancer seem like one experience, seeing the dancer straight on as though she's dancing on stage facing her as if she were an audience member. *Coding: Image*

**4.2:** She was cooking and felt hot on her whole body but mostly on her face, felt sweaty, felt hot both on the surface of her body and below the surface, face felt hotter than the rest of her body, but the heat of whole body was in awareness, aware of body feeling hot. *Coding: SA bodily*

**4.3:** Looking at a picture of a black cat in an elaborate garden and an image of herself meditating in a forest full of ivy, eyes closed, sitting in full lotus and wearing white, image flashed through her mind, 2 visual experienced, picture of black cat and image of self, image more predominant, saw herself from the front, with forest surrounding her, wearing white pants/white shirt in the image, clear image, no borders around the image, like looking at herself in the forest, feeling of calmness may have been in her awareness but it's hard for me to grasp, just looking at cat and seeing of the image of self. *Coding: F, Image, PA, SA bodily*

**4.4:** Whole body felt hot but face felt like it was burning, laughing as she patted her boyfriends tummy, laughing and was in a silly mood, as she was laughing she was aware of a deep, constant aching pain sensation in her back and kidney area, heat experienced as a bodily sensation of feeling hot, aware of bodily sensation of laughing. *Coding: F, SA bodily*

**4.5:** Katja was laying down next to her boyfriend with her cat purring and laying down on her belly, she felt warm, loved, relaxed, safe, peaceful, aware of warmth and physicality of cat and boyfriend, aware of vibration of cat's purring. Feeling warm, loved, relaxed, safe, peaceful experienced as a bodily sensation of warmth radiating from her center, not sure how to explain it, a physical location around the lower part of her chest, lower and wider than her heart, warmth radiating out in all directions, but it's also something else that's more than sensory and not spiritual but can't describe what. *Coding: F, SA bodily and external*

**4.6:** Song was playing in her head and she smelled vinegar that her boyfriend was using to clean the floor, was looking at pictures on Yahoo and felt comforted, song heard same as if she were listening to it out loud, looking at pictures of landscape at night, the looking was only somewhat in awareness. Feeling comforted experienced as like something outside of her was comforting her, felt surrounded by an external force that was comforting her, comforting feeling is difficult for her to describe but she is confident it was there, she just isn't able to put it in words other than to say it's a bodily feeling, over her whole body except for her head, a bodily feeling of warmth, feathery, light and soft, but it's not a physical sensation, but I don't know how to describe it other than to say it's a soulful sensation. *Coding: F, Inner Hearing, SA external, PA, MBS*

**5.1:** "All is full of love" were the words in her head, it was playing on the CD player, was aware of the words and was dropping clothes into the hamper, words in her head, like she was singing along in her head to the CD playing, same as if she were singing it out loud. Dropping clothes into the hamper, she was just doing it. *Coding: F, Inner Speech, Doing*

**5.2:** Just doing homework, thinks she was writing down an equation, but just doing it, not aware of anything else. *Coding: Doing*

**5.3:** Writing about a really intense experience that happened minutes before, felt like a balloon with a hole in it, slowly coming down and feeling relief, writing was just happening, what she was writing was just coming out, wasn't aware of the writing but was aware of the process of calming down, feeling was a reduction of pressure,

experienced in every part of her, not just her body but including her body, experienced in body, mind and spirit, bodily part experienced as a sensation of tension in her body releasing all over her body, also experienced as calming down emotionally but that seems hard for her to describe, experienced as a bunch of feelings all at once so it became one feeling in itself (anxiety, frustration, tension, pressure) lesser, at the moment of the beep it was more than halfway calmed down from where it was, bodily but difficult to describe, emotional part lessening, feels connected to mind, body and spirit, physical and emotional feel more salient to her than the spiritual, physically there was less tension but it didn't feel separate from the mind or bodily aspects of the experience, there was a physical/emotional/ spiritual climax to all of this before the beep and now it's decreasing. She didn't know how she recognized the spiritual aspect but she's confident and experienced it as clearly as she did the physical and emotional aspects, hard for her to explain, but it's sort of like the combination of all things (body/mind/soul) but then something else, it could be like an image, a thought...she didn't know how to say it, it's just all of it combined but "something else" that transcends the thought, body, etc. Spiritual part: Hard to explain, but it's a combination of all senses but then something else that could be an image, a thought, all of that combined and then something else that transcends all of that, she comprehends it clearly but it's not possible to put it into words. Many things going on at once, all together, pressure/heat/spinning/tension all part of what's going on. While she was writing she described it as a really athletic vigorous dance that was going on in her mind/body/spirit that wanted to get out (metaphor), they're all connected, not really separate, it's all part of the same thing. *Coding: F, Happening of writing, Feeling, MBS, SA bodily*

**5.4:** Underlying awareness of feeling hungry experienced as a physical sensation of hunger, concentrating on homework, reading an equation and typing it on the computer, may have been saying it in her head in the process of typing it, but didn't remember exactly what the equation was, speaking the equation to herself in her head. *Coding: F, SA bodily, Inner Speech, Preoccupation*

**5.5:** Felt tired, drained, exhausted, weak, out of it, unwell, looking at packages of salad for the freshest one and her boyfriend was asking her if they had salad at home. Feeling was mostly physical but was also emotional, felt emotionally drained, aware of the feeling and aware of it being physical/emotional and spiritual, equally all 3 but was slightly more aware of the physical sensations, experienced as one sensation that is somehow incorporating all of these things, felt through all body but particularly so in her head, felt dizzy, ill, but it was difficult for her to explain this. The looking at packages of salad was experienced as a looking for the date, going through packages of salad, looking for the freshest date, seeing the dates and understanding that she's looking for the freshest one, no words or images. Boyfriend asking if they have salad at home experienced as listening and understanding what he's saying, there's a bit of annoyance associated w/ what he's saying, experienced as a mild annoyance that was difficult for her to describe, didn't think it's very physical, it's mental, just slightly annoyed. *Coding: F, Preoccupation, MBS, Feeling*

**5.6:** Talking to her boyfriend, conversation was just flowing, wasn't thinking it was just happening, at the moment of the beep I was making some sort of comment about how the

shopping center we were driving in was run down compared to everything else around it, not really paying attention to the conversation, just talking. *Coding: Happening of speaking*

**6.1:** Watching the news, paying attention to the news story, nothing else. *Coding: Doing*

**6.2:** Watching a movie, paying attention to the movie, nothing else. *Coding: Doing*

**6.3:** Watching a movie, paying attention to the movie, and also aware of drinking tomato juice. She was aware of both the taste of the tomato juice and the bodily process of ingesting the tomato juice. *Coding: F, Doing, SA bodily*

**6.4:** Unwrapping a sandwich and was seeing the clear saran wrap and colors of the vegetables. Her attention was on the sandwich and while the colors of the sandwich appeared vibrant to her, she her attention was on seeing the sandwich as a whole rather than on the specific vegetables or colors of the sandwich. *Coding: Doing, SA external*

**6.5:** Thinking about what she needed to pack, thinking was not in words or visual images, merely an awareness that she was thinking this. She also had an unclear image in her awareness of the word shower. It appeared typed, but was unclearly specified and may have been a moving image but this appeared somewhat less certain. *Coding: F, U, Image*

**6.6:** Sensory awareness of being uncomfortable, too full, and like she was about to explode, apprehended as having interconnected but separate physical, affective, and spiritual components. Physical sensation of her stomach feeling distended, apprehended as a sensation of pressure and slight pain experienced all over her body, but especially in the stomach region, which she described as distended and big, using the metaphor of “like a pregnant woman”. She also experienced a sensation of being physically sick, with a combination of sensations including being sick, hot, dizzy, nauseous, and primarily overwhelmed. This overwhelmed sensation also had physical, affective, and spiritual aspects, which she summarized as a sensation of “too much” physically, emotionally, and spiritually. Affectively, Katja appeared to have somewhat more difficulty, stating “I don’t know, there’s too much going on on all levels”, but going on to describe multiple feelings that are experienced as a frenzied swirl of different emotions that she is unable to identify as either negative or positive. Spiritually, Katja explained that she experienced these awarenesses as interconnected more than separate, that the spiritual encompassed the physical and affective aspects, but also seemed to be something beyond these experiences that she had difficulty articulating specifically, but summarized as both a withinness and beyondness. Katja further summarized that the physical aspects of this experience were sensed within the inside of her body, the affective “frenzied swirl” was perceived as both inside and outside of the body, and spiritual aspects were outside or beyond the body. *Coding: F, SA bodily, Feeling, Preoccupation*

**7.1:** Doing homework and felt a little weak and out of breath, involved in doing math homework, focused on that and on sensation of weak/out of breath just mildly in awareness, she thought that she was doing a matrix reasoning problem (she thinks it was matrix reasoning), just doing the problem and not thinking about it very much, just doing

it, not much thought processing going on in awareness, the feeling of being a little weak & out of breath is in awareness but just mildly there, an undertone in awareness experienced in chest, the out of breath & weakness feeling were apprehended as one sensation, not separate, and there was also little awareness of the math homework, not much going on in awareness. *Coding: F, Happening of thinking, SA bodily in background*

**7.2:** Singing along to a Maroon 5 CD and reading a friend's journal entries online, skimming through online entries, looking at the words and gathering the meanings, reading with no inner speech or images, getting the "big picture of what's being said, paying attention to the singing, mindfully singing along out loud. *Coding: F, Doing*

**7.3:** Yawning and wondering what homework she should do next, there was a rhythm of spoken words in her head, but only the word French was clear, the rest were cloudy or missing, the wondering and the rhythm of spoken words were one thing, not separate. Yawning was apprehended as just doing it and being aware of doing it, not particularly paying attention to any one aspect of the yawn. Rhythm of spoken words apprehended as saying it to herself, in her own voice, as if it was said out loud, only the word French is clear yet it was apprehended as speaking it to herself, she knew the whole thought but only the word French was clear, all the other words are not clearly there but there were spaces for them in the rhythm, something of the words was there but just not fully articulated, experience was if she were saying it out loud. *Coding: F, Partially worded inner speech; Yawning but she can't really say what she was aware of, even to the point that it's hard to know whether it is sensory awareness or not so not coded as such*

**7.4:** Proof reading a response she wrote to a friend, apprehended as scanning over what she had just written, checking for errors, experienced as scanning with the intent to look for errors, aware of feeling hungry apprehended as a sensation of physical hunger in her stomach, sensation of gnawing in her stomach, softball-sized area, sensation is strong but an undertone/muted feeling, she didn't know how to describe it exactly but strong yet muted was accurate. *Coding: F, Doing, SA bodily, Preoccupation*

**7.5:** Reading a description of alternative medicines as something that is excluded from her insurance coverage and thinking "they suck" which was apprehended in words as if she was saying it out loud, in her voice just as if I had said it, the "they" is insurance companies period, also apprehended as a feeling of something slightly less harsh than disgust but close to disgust, she didn't know where she was experiencing that feeling, it wasn't specifically articulated in awareness, she just knew it's going on, can't say if it's a bodily feeling or a mental feeling, it's just there. *Coding: F, Inner Speech, Feeling, Happening of Reading*

**7.6:** Singing along to a CD and reading more of her friend's journal entries online, the singing along was apprehended as singing along out loud mindfully, reading apprehended as more mindful than when she was skimming, paying more attention to it. *Coding: F, Doing*

## Katja Coding Summary

Multiplicity/Fragmentation: 24/42=57% (1.1, 1.3, 1.6, 3.1, 3.3, 3.5, 3.6, 4.3, 4.4, 4.5, 4.6, 5.1, 5.3, 5.4, 5.5, 6.3, 6.5, 6.6, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6)  
Sensory Awareness: 21/42=50% (1.1, 1.2, 1.3, 2.5, 2.6, 3.3, 3.4, 3.6, 4.2, 4.3, 4.4, 4.5, 5.3, 5.4, 6.3, 6.6, 7.1, 7.4) bodily (4.5, 4.6, 6.4) external  
Images: 7/42=17% (2.4, 2.6, 3.5, 3.6, 4.1, 4.3, 6.5)  
Perceptual Awareness: 5/42=12% (3.1, 3.2, 3.3, 4.3, 4.6)  
Feelings: 8/42=19% (1.5, 1.6, 2.4, 3.6, 5.3, 5.5, 6.6, 7.5)  
Negative Feelings: (1.6, 5.3, 5.5, 6.6, 7.5) 5/42=12%  
Positive Feelings: (1.5, 2.4, 3.6) 3/42= 7%  
Thought/Feeling: 1/42=2% (3.5)  
Feeling Fact of Body: 1/42= 2% (2.3)  
Preoccupation: 12/42=28.57=29% (1.2, 1.3, 2.5, 3.3, 3.4, 3.5, 5.4, 5.5, 6.3, 6.4, 6.6, 7.4)  
Doing: 13/42=31% (1.3, 1.4, 2.2, 2.3, 5.1, 5.2, 6.1, 6.2, 6.3, 6.4, 7.2, 7.4, 7.6)  
Inner Speech: 10/42 = 24% (1.1, 1.6, 3.2, 3.3, 3.4, 3.5, 5.1, 5.4, 7.3, 7.5)  
Unsymbolized Thinking: 4/42= 9.52 = 9% (2.1, 2.5, 3.1, 6.5)  
Spiritual: 8/42 = 19% (1.1, 1.2, 2.5, 2.6, 3.6, 4.6, 5.3, 5.5)  
Happening Of: 4/42=9% (5.3, 5.6, 7.1, 7.5)

### David Samples (See Chapter 6)

**1.1:** Looked at the caller ID on his cell phone right before the beep, choose not to answer it, at the moment of the beep realized who's calling, thinking should he call her back later, what should he do, just ignore it, kind of sympathy, was that messed up not calling her back, thinking about whether he should call her back or not, kind of a guilt trip, thinking about the call, thinking process of should he call her back. (Hard for him to define if this is a thought process in his head or body, mixture of a thought and a feeling, then decided not really a feeling more of a thought process, thinking if he should call her back and feeling bad for not answering the phone, more in his head, not saying it out loud, not in words, seems very hard for him to say how he's thinking this in his head, lots of qualifiers, knew what he was thinking but there were no words, took a long time to define, felt guilt about not answering the phone, but not really a feeling of having done something wrong more experienced as an ongoing thought. *Coding: F, Thought/Feeling*

**1.2:** Making a salad, thinking of eating a chocolate fudge sundae, thinking he wanted something else (not the salad), had been thinking about random sweets before the beep but at the moment of the beep he was craving the sundae which was apprehended as a sensation of wanting the taste of a sundae that was hard for him to put into words but was like a taste buds sensation, a craving of wanting the taste that he can't fully put into words, can't taste it but he want to, like his mind is wanting it, seems to be hard to pin down despite repeated efforts to understand the experience, goes on to talk about cravings in general rather than this specific beep, he doesn't think it's head, wants to say it's body, but doesn't know. *Coding: F, Preoccupation, trying to have a SA but very undifferentiated, craving in general, thinking/feeling/doing SA, not typical sensory awareness more like a sensory stew*

**1.3:** Taking a Glutamine supplement that is processed powder and drinking water, at the moment of the beep awareness of chalky, nasty taste in mouth and drinking water to get rid of the chalk flavor, paying attention to getting rid of it all in his mouth but doesn't know if it's a thought more than a feeling. There was an awareness in his head that the powder was nasty but unclear if this is in words or if it is a thought process or a sensation.  
*Coding: SA with somewhat cognitive but undifferentiated element*

**2.1:** Driving to school and saw a cop car behind him, wondering what he was doing wrong or if the cop was going after him but this was not in awareness right at the moment of the beep, at the moment of the beep David was aware of checking his speedometer.  
*Coding: F, doing of looking at the speedometer but had great difficulty getting to the moment of the beep, experienced as a stew between thinking, doing, and sensory awareness with only the doing seeming somewhat more differentiated in awareness at the moment of the beep*

**2.2:** Walking in Thomas & Mack parking lot, looking at the time on his cell phone, confirming that he was going to be late, not a thought process just a general recognition that I'm late, saying "Oh I'm late" out loud, feeling of rushing, aware of loud sound of plane overhead. *Coding: F, Speech, SA external (sound of plane), undifferentiated confirming that he's going to be late, lots going on that is hard to define and undifferentiated*

**2.3:** Talking about censorship and abortion issue, and had a memory of when he was in Florida at 10 years old, apprehended as seeing graphic pictures of anti-abortion group, pictures of gross premature babies, disturbing to him, lots going on all at once, aware of multiple visual images of group of 10-15 people, had signs with large pictures. Focused on pictures of babies on sign, deformed babies, clear images of signs, in black and white but had precise shape, also thinking about abortion, having an argument in his head about abortion, dark blackened babies, seeing pictures of babies, not really seeing the sign, just the babies, going through his head, seemed to be 3-5 separate visual images, like a slide show, one comes by then another one, in succession, seems more aware of argument, debating what side he would choose, thinking about how someone could choose that, what if someone was raped, etc. All these different thoughts going through his head, lots of things happening simultaneous, debating in his head, visual images of signs, seeing the pictures from the signs, seeing different pictures of deformed babies, clear images, black and white images but had precise shape, deformed fetuses, darkened/blackened babies, concentrating on pictures going through his head, not seeing the sign in the image just seeing the babies, seeing 2-5 separate visual images, like a slide show, one goes by then a different angle of the next one, go by in succession. Debating which side he would choose happened before the beep when he was talking about freedom of speech in class, he didn't know how he got thinking about abortion, debating with himself, how could anyone want to kill a little innocent, the life it could be given, but like if a 13 year old girl gets pregnant maybe it's best because the baby wouldn't have a good life, if a girl gets raped why on earth would she keep it, different thoughts running through his head, multiple thoughts going through his awareness, thinking in his head, thinks it was in words, like talking to himself, like he is listening to the argument he's making, going so fast the ideas are overlapping, inner speech, like he's talking to herself, apprehended as

like there's so many things to consider like being 13, rape...it was a form of speaking, as if saying one thought another thought is coming to mind, thinking of why someone would do it, feeling of remorse towards people who would have to make that decision.

*Coding: F, Images, Inner Speech, Feeling (in head) of what would they be going through to have to make a decision like that, stewy images, hard to determine if they're at the MOB, not easily apprehended images*

**2.4:** Walking to get something to eat in MSU, feeling jealous and upset, his friend swooped in and picked up a girl he was interested in the night before and he was feeling upset because it's like they were in a competition and he lost, felt he should have won, thinking of how things might have been different, he was pissed, thinking that he was with that girl that night, feeling pissed/jealous/failure were all put into one little ball, all parts of one emotion, seems difficult for him to describe the experience of the thought or emotion, thinks mostly feeling pissed with jealousy/failure slightly before the beep, thought/feeling in his head, later says feels like the same thing with all of these parts jealous/pissed/failure/low self-esteem all parts of the same thing, like a cloud of this mood but hard for him to describe the characteristics of the mood in detail. *Coding: F, Thought/Feeling (in head of pissed/jealous/failure)*

**3.1:** Working on his English paper and was on the beginning phrase "have to give up" it was his thesis sentence, thinking of what was a better word than "have to give up" so thinking "sacrifice", but it was like there was air in his head, process of trying to think of a word but nothing's coming to his head, trying to think of what else equals "have to give up", still trying to think of a word to put there but nothing's coming up, not in words, just knows that's what he's thinking about. *Coding: Undifferentiated U, trying to think (process of trying to think about what would be the right word, not in words, just knows that's what he's trying to think of)*

**3.2:** Revising his paper, talking about Bush submitting The Patriot Act, cost of limits to our freedoms, thinking about how The Patriot Act is benefiting us but also restraining us a little bit, thinking about The Patriot Act but can't really explain how he was thinking about it in his head, all one thought about analyzing pros and cons of the act, thinking of both pros and cons, no words, just ideas about relinquishing rights for the benefit of the nation, doesn't seem to be in words specifically, just thinking not in words, just knows that's what he's thinking about. *Coding: U (thinking about Patriot Act)*

**3.3:** SKIPPED Dozed off in class, nothing going on in awareness, woken up by the beep.

**3.4:** Studying for a psychology exam, trying to remember factors of PTSD, thinking about people who have been tortured apprehended as a clear, separate simultaneous images of prisoners in Abu Gareb, several, simultaneous images apprehended as being seen on the right hand side (looking up to the right), 2 images, one of a Holocaust concentration camp and one of Abu Gareb, the image of Abu Gareb is in color of a group of people stacked on top if one another, the concentration camp image is in black and white, apprehended as like seeing a slide show coming from the back and then pause on the right hand side and then he sees them, at the moment of the beep he was seeing these



images and also had a separate understanding of why people would have PTSD, I could understand why they would have flashbacks, not in words but as a thought/feeling of sorrow but that's not experienced until after the beep. *Coding: F, Image (2 simultaneous separate images)*

**3.5:** Reading but at the MOB his mind was blank, mind was like a white sheet, he was looking at the paper and seeing blank, trying to express experience of blankness, no image, no words, like air rushing through head, like a sea shell, used several metaphors, very hard to pin down what the experience was, seems like after he read something nothing stayed in his head, feels like information is coming through head from right to left, hard to decide if this is metaphoric or if the experience is of information going through from one side to another, sea shell and whiteness are metaphors to describe blank mind, a thought process of panic that he's supposed to be cramming for a test, not a feeling, aware of studying, reading a book, blank mind with a thought of panic about having a test, not in words. This was more than blank but less than anything he has to say that's beyond blank, can't make sense out of it when something IS going on with him, much harder when there's something not going on, so he has to resort to metaphor. *Coding: F*

#### David Coding Summary

Multiplicity/Fragmentation: 9/11=82% (1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 3.4, 3.5)

Images: 2/11=18% (2.3, 3.4)

Feelings: 1/11=9% (2.3)

Thought/Feelings: 2/11=18% (1.1, 2.4)

Sensory Awareness: 2/11=18% (1.3) bodily (2.2) external

Preoccupation: 1/11 = 9% (1.2)

Doing: 1/11=9% (2.1)

Inner Speech: 1/11=9% (2.3)

Unsymbolized Thinking: 1/11=9% (3.1)

#### Vanina Samples (See Chapter 7)

**1.1:** Was at the airport looking at a guy that was on a cell phone who seemed sad, experienced as a feeling that he was lonely, not really a thought process, not in words, just a feeling she had that was experienced as probably a sad, weird, bodily feeling in her stomach and forearms that she experienced as feeling bad for this man. *Coding: F, undifferentiated*

**1.2:** Wondering why her mom always gives her friend and her friend's daughter things she got for free, because she travels all the time and she gets these like free wine, and like free food and stuff in her room and she'll bring it back for her friend and her friend's daughter because they're like really struggling but I always wonder like why she gives them, because it's always candy and wine and her mom's an alcoholic, and her daughter's addicted to sugar so I'm like why does she always do that? And that's what I was thinking right when the beep happened. Experienced as wondering about the whole situation, experienced as a clear image of her Mom's right hand putting a wine bottle on the table, the rest of her body is blurred, image is in motion, there is other stuff on the

table as well, there are also overlapping less clear images that make up the swirl of ideas she expresses as wondering why her Mother would give these things to these particular people who have a problem with sugar and alcohol. *Coding: F, undifferentiated image, undifferentiated potential feelings or thought/feelings*

**1.3:** On a website and remembered she needed to do something, but couldn't remember what it was and so she was thinking what else she needed to do on this particular website, experienced as a feeling that she had forgotten to do something, apprehended as a bodily sensation in her chest but with her mind also working, experienced as a voice deep in her chest, it's a voice that's not really speaking, apprehended the voice as herself as a little girl or as her little girl, it's her voice when she was a little girl, voice isn't saying particular words, her current voice is also involved in trying to remember what needed to be done, there is an undifferentiated, rapid movement between these two voices. *Coding: F, undifferentiated*

**1.4:** On the UNLV website to find out what multicultural credits were, like what would be a multicultural credit and was feeling frustrated because the links weren't working, frustration experienced as a feeling of being blocked in her head and in her ability to do what she wanted to do, experienced as a thought/feeling in both her head and her body with her head racing through the options, one possibility after the other, idea rapidly followed by another idea, to figure out how she can get around it, and with her bodily having a sensation of helplessness in her legs and arms, sensation of tension experienced as helplessness. *Coding: F, SA bodily, Thought/Feeling*

**1.5:** Put a CD in (before the beep) and was thinking I hope this CD doesn't skip, thought process was not in words. *Coding: U*

**2.1:** Vanina had a nervous feeling in her stomach about her sister overhearing her talk to a friend on the phone about Bulimia and judging her, and resenting her sister about it. Nervous feeling experienced as a sharp, slightly nauseated feeling deep inside her stomach, small area like a line, diffuse at the edges, going inwards. Also experienced thoughts, thinking resentful thoughts about her sister, like "does she think she's helping by judging me", not in words but like a *familiar* chunk of an idea, refers to a "code thought", one chunk of ideas, not in words, knew what the thought was about without having to say it, uses metaphor of Chinese character, she knows what she's thinking but isn't thinking it specifically in words or images, she's thinking it and knows she's thinking it, seems hard for her to explain, goes on to say experience is a small area feeling of resentment in her solar plexus, also experienced a feeling of nervous, so feeling of nervousness and resentment are simultaneous and combined but separate. Also felt bothered in the back of her brain, experienced as a sensation in her brain or the very top of her vertebrae at the base of her skull, experienced as alarming, feeling bothered and alarmed at the same time. *Coding: F, SA bodily, Thought/Feeling, Preoccupation*

**2.2:** Looking at her Mom eating a salad slouched over with Ranch dressing on her lips, thinking she looked disgusting, experienced as a thought process, questioning why her Mom is so sloppy and why she lets herself live in darkness, experienced as more of a *familiar* code thought, "why" seemed clearly in words and the rest of the thought was a

familiar feeling. Thought “why” is clearly articulated, then what comes next has to do with sloppiness and darkness, darkness/sloppiness are experienced as parts of a whole rather than separate things, was cognitive but also a feeling. *Coding: Thought/Feeling*

**2.3:** Listening to her sister say “Mom probably took a cab, she’s not walking”, sister was saying that out loud, Vanina was listening and understanding what was being said.

*Coding: Doing*

**2.4:** SKIPPED as it referred to telling her sister about Beep 2.2

**2.5:** Vanina was figuring out what music she wanted to play while meditating, experienced as a feeling that she has from certain music, feeling of sensation she would have from particular music, apprehended as happening very fast bodily & mentally, experienced different types of music (Rachmaninov, Mozart, Running Water, Chakra Therapy) mind trying to pinpoint, music experienced in front of chest and mind looking down at them, music moving in it’s own rotational orbit and mind looking down at it. Music choices are both inside and outside the chest in a rotating pattern, choosing the type of music experienced as mind being a little unfocused/scattered, trying to figure out which type would have the desired effect. When mind is trying to pinpoint: tune or word will pop into her head in quick succession, one of the words was cranial but music from Faure’ also was in her head. *Coding: BDM*

**3.1:** Thought going through her head was “Oh shit I hope the beeper didn’t break”, the “oh shit” part was in words, [the I hope the beeper didn’t break part was a thought in the background, not in words, and had a visual image of me (Sharon) may have been at the moment of the beep or slightly after (she was in process of picking up beeper & it beeped). The “oh shit” part was most vivid, and also had a feeling of being scared like she’d done something wrong, experienced as nervousness in first chakra apprehended as a bodily feeling of repetitive dull poking, going both in and out, all through front & back of body, but more strongly felt in the front, not moving to the sides. The thinking of I hope the beeper didn’t break, the image of Sharon, the that would suck because I couldn’t finish: may have been happening at the moment of the beep or slightly before or after, she guesses that it was experienced at the same time but the oh shit was the strongest experience. Oh shit: spoken in her head, in her voice, as if she were saying it out loud. Hope the beeper didn’t break: experienced as a hint of images and emotion, there were some thoughts but none that were clearly articulated, image of Sharon was clear, image of her face, from the front, looking a little disappointed, seemed like she was looking down at the beeper, this image was part of the I hope the beeper didn’t break/that would suck experience, also had a slight background, fleeting image of the cell phones she had broken and the feeling of breaking something small that she was carrying on her person that sucks to break. This feeling was exp as a tension at the side of her eyes, feeling of her eye sockets tensing and her eyes are really focused on the beeper, also exp as tension in middle of forehead, in one spot at center of forehead slightly above and between eyes. I hope the beeper didn’t break: There are thoughts in the image part but it’s not a complete sentence, interspersing words and images (that would suck followed by image if broken cell phone, disappointment followed by her image), experienced as a swirl of ideas that are fragments of words and images, that are going around in a chaotic pattern.

*Coding: F, Inner Speech, SA bodily, Feeling*

**3.2:** Vanina was thinking “is it from the DMV”, looking at a letter, wondering who the letter could be for, experienced a ping of Oh crap I might have opened something I wasn’t supposed to, wondering who the letter could be for, wondering if it was from the DMV apprehended as looking at DMV on letter from the back, not in words, but as seeing the word DMV and wondering if it’s from the DMV, Oh crap experienced as a sensation of a small portion of her heart racing a little bit, no words, she knows that the heart racing and feeling is associated with doing something wrong without needing to put it into words. *Coding: F, U, Feeling*

**3.3:** Vanina was wondering what does high honor roll mean, seeing words like reading them, saw a paper earlier in the day that said her name and high honor roll, was separated from any other names on the page, she could see that and then in the background could see the living room, clear image of the paper, was focused on the part that says high honor roll and was wondering what that’s about, no words, just the image, sees the image as if the paper was there, image of the document different than the actual image, all of the names were gone, can see just the snippet she’s focused on, edges are blurred into the background, she was laying sideways on the couch and was looking at it with more emphasis on her left eye, left eye focusing on it more than right eye. She was laying on the couch but the letters were still straight up and down, seeing it at a 90 degree angle, seemed like wondering was metaphorically in the back of her mind, like she was trying to remember back to high school and what it meant, trying to remember what happened to make her get high honor roll, seeing it more with her left eye, like her left eye is looking at it and her right eye is just there, the left eye itself seems brighter.

*Coding: F, Image, bodily manifestation of image making, U, SA bodily*

**3.4:** Vanina was hungry and went to the fridge, was looking for fruit, was looking at different kinds of fruit, there was a grapefruit, then reached to grab an apple, and thought “no an apple sounds good”, the word “no” was spoken in her head, the other words weren’t there but the meaning was, meant no to all the fruits except the apple, the “no an apple sounds good”, experienced as her mouth watering a bit at the thought of the apple, no thinking process about the apple, just a bodily reaction to the apple. *Coding: F, BDM*

**3.5:** Was explaining to her sister how she knew that the cut on her finger was bad when she saw the cut went into her nail, saying “It went into her nail” out loud and looking at her finger, felt sensation of it being cut again, experienced as a sensation in her finger just like it felt when she cut it. *Coding: Speaking aloud, PA, SA bodily*

**4.1:** Saying “now you try” to her Mom, and at the same time feeling annoyed, saying now you try out loud to her Mom, annoyed feeling experienced as a feeling right in the middle lower part of her forehead about the size of a quarter, apprehended as a sense of pressure in her forehead, her stomach was having a feeling of wanting her to try, sense of urgency in her stomach, stomach muscles felt tense in a spot around her belly button. *Coding: F, Speaking aloud, Feeling*

**4.2:** Looking at the computer screen, at the words “lateral antagonism”, looking straight

at the words, mostly the word antagonism in her awareness, and had a very blurry image of the antagonistic character from Don Quixote, seeing a vague of the character's head, his features aren't clear, he has on a conquistador hat, look on his face of slyness, seeing the image at an angle in profile of the right side of his head, there was also a horse in the background with him sitting on it with a stick in the ground but that image is very blurry, can't make out his face, two images, one on top of the other, seeing both at the same time, the face image is a bit transparent, then the horse image is in the background, horse in image is less blurry than the face, both images coming in and out of transparency, at the moment of the beep face is more transparent than the horse. *Coding: F, Reading, Image*

**4.3:** Was asking her Mom about Don Quixote, thinking about the same image in her mind, was saying "Hey, you know..." and was trying to focus in on the image to remember what he looked like and what he stood for, how he was the antagonist in the book. This thinking was apprehended as seeing the same image but really trying to focus in on the face, trying to think about what he stood for, no words, just ideas about the story, remembering Don Quixote, more a thought of all of those things clumped into one. Thought experienced as a feeling that went up from her stomach, moving up to her brain, feeling experienced as frustration because she couldn't figure out why the other guy was an antagonist, this feeling was ongoing at the moment of the beep, still feeling pressure in her head, like her head was hurting across her forehead, spreading out across her forehead. *Coding: F, Image, SA bodily, BDM*

**4.4:** Standing in the bathroom, with her left side turned to the mirror, had pulled her shirt up a little bit and was thinking "wow her stomach looks small" compared to how much she ate today, all of that was in her awareness, had a feeling of surprise experienced in her head as a mild feeling of surprise, thinking "wow her stomach looks small compared to how much she ate today", experienced as an idea, recapping how she felt about how much she ate that day, [something she does all of the time], recap experienced as a feeling in her stomach, it is literally like her mind looking at her stomach, looking at everything in there, thinking about how much she ate and weighing it out, her mind is looking at everything in her stomach, had an image of the shape of her stomach with all of the food, mix of the food, an amount blurred together with brown, light brown and green representing different colors of food she had eaten kind of meshed up. Seeing stomach in mirror, seeing interior stomach with food, seeing an image of herself. Also an awareness of comparatively how small her waist looks compared to how it looked before, experienced as an image of herself behind her a bit, focused on her waist and how it feels thicker now compared to how it felt before, experienced as an image in the back of her head projecting out, both image in the mirror and image in the back of her head projecting out, can see her whole body in the image but she's focused on her stomach, it's an image that's just there but she's not particularly focused on it. *Coding: F, Images, Thought/Feeling, Preoccupation, SA bodily*

**4.5:** Vanina was dancing and was feeling a little uncoordinated but felt good /silly. There was music in the background, it was Coldplay but she can't remember exactly what song but it's a song that she really likes. Her Mom and Sarah were there, she was doing a really offbeat dance but it felt good, felt silly. She had a feeling in her stomach of how

funny it was that I was dancing offbeat or something. The feeling uncoordinated was experienced as a feeling of guilt in the side of her head, a round area with edges, not an exact circle but a circular area with edges in the front side of her head. The music was experienced as being aware of feeling the music in her body, mostly the main beat of the music felt in her body, not paying attention to the words, felt in her whole body, deep down in the body, experienced as kind of like waves in the body, moving through different body parts. She was aware of her Mom and Sarah watching her and feeling stupid because she was doing an uncoordinated thing with her arms, she could see an image of them and where they're sitting in the room, she was looking at the floor, but in her mind had an image of them looking at her and where they're sitting on the couch, they are sitting on the couch in reality, but also have an image of looking at them as if she was actually looking at them, looking at an angle to both of them, image is clear but not really intense, same as if she was looking at them on the couch. Silly feeling experienced as a feeling of like wanting to laugh, feeling a laugh but not laughing, all around stomach, deep down. Feeling Good was experienced as a feeling of happiness in the back of her arms and on the back and sides of her neck, feels happy to be there, feels good, but doesn't know how else to explain it, feels like a big burst, experienced as bursting out.

*Coding: Image, Feeling, SA bodily*

**5.1:** Vanina was looking in a drawer and also had a visual image of a cabinet with a box of saran wrap in it. The image was somewhat blurry as if she was looking through a tinted window at it. The contents of the cabinet and the cabinet door, open to the right, are visible in the image but not distinct, the center of the image is the box of saran wrap, and she was aware of the rectangular shape and colors of the box in the image also had a physical sensation of the cabinet being behind her, which she described as a feeling on the side of her neck, and down her side, as if she was getting ready to turn towards the cabinet. In her awareness, the image is most present, then the looking through the drawer, and then the bodily sensation. *Coding: F, Image, SA bodily and external*

**5.2:** Vanina was holding papers in her right hand, on top of the papers was a long, hand-written, bent up receipt, with the corners turned up. She was looking at the receipt at an angle and was focused on the word Reynolds and was trying to determine where the receipt was from, no words associated with this process of trying to determine where the receipt was from. She was also aware of the feeling of the receipt on her fingertips and aware of the angle she was looking at it from. She described the process of trying to determine where the receipt was from as a sense of anticipation manifested by a physical sensation of a ¼ inch thick strip on the inner surface of her stomach that begins approximately at the solar plexus and moves up and comes out of the body at the mid-chest. At the moment of the beep, this sensation is in the process of moving up but has not yet come out. She later described a simultaneous same motion of moving up and out which she associated with an attempt to decide if the receipt should be thrown away or not. Cynthia ordered these multiple awareness as follows, central in her awareness was the word Reynolds, then the feeling of the receipt on her hand, then the colors of the receipt and the angle at which she is looking at the receipt. She also reported a physical sensation of a disc on the right side of her temple, moving counterclockwise, which she associated with an attempt to determine if the receipt should be thrown away or not.

*Coding: F, U, BDM*

**5.3:** Standing in her mother's kitchen and reported seeing an image of her mother's cat Romeo standing in the kitchen, looking up at her and meowing, she did not hear the meowing but understood him to be meowing from his appearance in the image. She also could actually see her mother's other cat in the doorway in her peripheral vision. In the center of her awareness was a physical sensation related to trying to recall how long the cat in the image would normally take to come into the kitchen in this situation. She was also listening for the cat in the image. She describes this sensation as a feeling in her solar plexus about the size of a baseball, half inside the body and half outside the body.  
*Coding: F, Image, SA bodily, BDM*

**5.4:** Vanina was walking outside and was aware of herself looking at someone's house, and aware of the shadows around the house she was looking at. She was listening for her mother's cat, and looking into the shadows for any movement. The shadows are more in her awareness than the house, and she also has a sense of the energy of the moon behind her, which she describes as a sensation of it being "with her" and sensed as an energy that is coming out of her and going towards the moon. *Coding: SA bodily*

**5.5:** Cutting a perogi in half and wondering how to tell if it was cooked all the way through, wondering was not in words, but was described as a process of thinking about what someone else would do in this situation. This wondering was manifested as a thinking of what would somebody else do, and this someone else is not specific but is associated with her old roommate's energy. This thinking is not vivid, but is a non-visual, non-worded wondering what someone else would do, with a sense of her old roommate's energy rather than of her as a person particularly. Vanina reported this experience as a feeling of trying to pull her old roommate's energy up from her body to her head to determine what she should do, and perceived this experience as being somehow in her ears but she expresses some confusion about this, and difficulty communicating at this point in the interview. Vanina also reported an experience of impatience, which she experienced as a sensation of being impatient to eat, but then went on to describe this sensation as being "like this monster with sharp teeth and a big mouth" that "is pretty impatient and wants to eat everything", she described this as both a metaphor for gnawing hunger, and as an actual monster rather than a metaphorical monster than she perceives as being inside of her stomach, but then ends by saying that this monster is what the hunger feels like for her. *Coding: F, SA bodily, Feeling, BDM, Preoccupation*

**6.1:** Looking at a piece of paper, focused on the numbers 10 through 12, lot of little words on a piece of paper and was feeling impatient in her gut. Looking at paper experienced as being really impatient, barely absorbing what she was reading, could understand what it said but couldn't focus, just looking at it. Impatience experienced as a feeling in her gut, general area across the middle of her stomach, round, flat, about the size of a grapefruit, felt kind of sharp but just around the edges, like a cookie cutter, constant feeling not pulsing, sharp around the edges, well defined edges, and another sensation like a line straight across her belly button, two separate sensations, the circle is pretty constant, the line is not constant but is sporadic but was there at the moment of the beep, feeling is associated w/ impatience, feels like an impatient adrenaline, like a "come on come on" feeling in her gut, her eyes feel a little strained and not really focused, she's not really aware of the feeling in her eyes but it's there. *Coding: F, Feeling, SA bodily*

**6.2:** Typing a word and remembered she was typing the exact letters “al”, but couldn’t remember the whole word she was typing, aware of her fingers typing on the keyboard, felt anxious. Awareness of “al” experienced as looking at the monitor and looking at words as she was typing them, looking at the full word, but can’t remember what the full word was, just remember the “al”. Awareness of fingers experienced as a sensation of her fingers moving, her fingers felt taut and she was using them, not particularly aware of which finger is doing what, more aware of the tautness. Feeling anxious experienced as feeling in a hurry to type this letter I was writing, apprehended as an anxious feeling in her fingers, feeling anxious because she wanted to hurry, her body was anxious but it was not directly in her awareness other than in her fingers, feeling rushed all over but the impatience feeling in previous beep was more localized in her gut, with the anxious feeling all over. *Coding: PA, SA bodily, Feeling*

**6.3:** Talking to her Grandma on the phone and was saying the word “paying”, had an idea in her head of her finances but it was a really blurry idea, focused more on the words I was saying, apprehended as more outputting words than internalizing thoughts, was aware of the word one at a time, the words were coming out, with each word as the sentences grew as she was thinking of the ideas behind them, was saying them and was aware of the ideas behind them but the ideas were also in her mind and she was creating them. Blurry idea of finances not really a thought, more of an overall feeling of where she knew her finances stand and where they should be in the next couple of months, somewhere between a thought and a feeling, not an image, more of a feeling than a thought, like she’s trying to translate her feeling into words that she can understand, it’s a feeling like an understanding of where she wants her finances to be, it’s vague, not an emotional feeling, doesn’t feel cognitive, not thinking it, it’s a bodily feeling of where she wants to feel like she is financially, not intuition but could be explained in the same way as intuition. *Coding: BDM*

**6.4:** Vanina was in her Mom’s bathroom and was aware of her skirt, had the beeper in her hand and was clipping it on to her skirt, aware of the part of her skirt she was clipping the beeper onto, aware of the top of her skirt, had a sensation of the cotton on her fingers, cottony sensation, and also aware of clipping the beeper on to it, was also anxious, like a hurried feeling because she was running late, aware of feeling rushed, like she needed to hurry, experienced as a bodily feeling, her arms were feeling really strong, aware of her arms trying to hurry and do stuff, more aware of the hurrying than about anything specific in her arms, an awareness of the arms feeling strong, hurrying rather than an awareness of the arms themselves, feeling anxious because she wanted the beeper to beep, apprehended as a wishing that it would happen, wishing feeling experienced in her stomach, difficult to describe, experienced as a general feeling across her stomach, diffuse not defined edges, understanding feeling in her stomach means that she wants it to beep, thought process is in her stomach not in her head. *Coding: F, PA, SA bodily, BDM*

**6.5:** The beeper had just hit her foot, and she was thinking in her head “shit”, had pain in her foot and was aware that she was bending over. Saying “shit” to herself, in her head, as though she had said it out loud. Feeling sensation of pain in her foot, mostly pain on the top of her foot, radiating towards her big toe. *Coding: Inner Speech, SA bodily, kinesthetic awareness of body being bent over*



**7.1:** Looking at her ID and a receipt inside the little tube from the bank, didn't remember thinking anything in particular, reaching for the card in the tube, seeing card and receipt, aware of the ID, reaching for it, seeing her card and grabbing it. *Coding: Doing, PA*

**7.2:** Had a bite of sandwich in her mouth, was chewing, was aware of the food in her mouth, was thinking how she felt about it, "I was debating whether I thought it was good or bad food in her head," trying to analyze the food to figure out if it's good or bad, process of being aware of what the food was: tunafish, bread and veganayse, and intuiting how she felt about these things that she's eating, takes the thought and process it, like a wash of possibilities, she's processing the three things through both thinking and feeling, and at the end of it she'll figure out how she feels about it. *Coding: BDM*

**7.3:** Vanina was driving and about to turn right, was looking on the sidewalk next to the car, and was very aware of two yellow lines next to her on the sidewalk, was thinking in her head about the idea of observing dance class and not dancing, just observing the class. Yellow lines in the side of her view, looking at the two yellow lines, aware of the yellowness of them, not thinking of the meaning of the lines, just aware of the yellowness. Thought/Feeling of observing dance class apprehended as thinking about the whole idea of observing class instead of dancing, hard to explain, no words, there is an image of the ballet teacher dancing around but the image is not directly in awareness at the moment of the beep. Thought/feeling seeming like a big tangled up ball of complexity, too tangled up to say how it comes to her, lots of things going on that she had a hard time putting it into words, lot of things that are implied but not specifically stated. *Coding: F, SA external, Thought/Feeling*

**7.4:** Vanina was really irritated at her Mom and right at the moment of the beep was saying "I'm not" out loud to her Mom. She was feeling irritated, apprehended as a pain in her forehead and her whole head was cloudy, seemed like a thunderstorm, felt irritated with her, cloudy/thunderstorm was a way of describing how her head felt, her head was hurting physically, cloudy process was both mental and physical. Saying "I'm not" out loud and aware of saying it, felt like she was fighting to get the words out, trying to make herself focus, getting anything out was a struggle, struggling to feel normal for a minute to get the words out, struggle both a bodily and mental process. *Coding: Thought/Feeling*

**7.5:** Looking down at a salad and looking specifically at a mushroom, not thinking anything, just eating. Looking at the mushroom and seeing it as something to eat. *Coding: PA*

**7.6:** Vanina was singing in her head "just a spoonful of sugar helps the medicine go down", same as if she were singing it out loud, just the singing, and aware that she's enjoying the singing, enjoyment experienced as a freeing, happy feeling in her heart and whole body, in her head it's Mary Poppins singing, it's Mary Poppins, it's her being Mary Poppins, she's singing, but she's Mary Poppins as she's singing. *Coding: Inner Speech, Feeling*

**8.1:** Vanina was feeling the cord from the beeper to see if it was in, feeling to see if the cord was in, trying to sense if it was in, uses the feeling-around-in-the-dark metaphor, in

awareness her hand is on the cord, the trying to figure out not in awareness. *Coding: Non-cognitive awareness of cord*

**8.2:** Looking at driver's license number, focusing on first 4 digits 4100 and about to type it into computer, thinking the number in her head, 4-1-0-0 thought sequentially in head, numbers come to her separately, not spoken, not heard, no images, goes on to say that she guesses she was talking to herself but this seems to refer to the interview reporting muddling the actual experience. *Coding: Worded thinking*

**8.3:** Had a feeling of yuck, looking at traffic school website but that wasn't focused in awareness (she had the words in her mind but was more focused on the dread), ongoing comprehension of chapter outlines in her awareness in a minor way, had a feeling of dreading having to put time into it experienced as dread of having something that she doesn't want to do, something boring, mostly a feeling in her head, just a feeling in her head, no sensation with it, feeling of yuck was the same as the feeling of dread. *Coding: Undifferentiated, hard to describe feeling in head, ongoing comprehension of reading*

**8.4:** Sitting on floor doing ground warm-ups but that is not in awareness at the moment of the beep, looking at her Mom's cat Romeo and "thinking" he loves me right now, the way he was looking at her was like he loves her, no words, just looking at his eyes and feeling love, apprehended as a hopeful fire or something in her chest, deep inside her chest, going inwards, not giving out but taking in love, hopeful fire described as warm not like fire but as a metaphoric hot breath, aware of the feeling of the warmth of it, but it seems hard to put it into words. Looking at eyes "he was sending me love through his eyes", aware of the shape and way his eyes were moving, the color were all in awareness but meaning seemed to be the central or uniting aspect. *Coding: SA bodily*

**8.5:** Vanina saw 55 miles per hour in the background (she says not sure if it's in awareness she may have just been looking at it) and was "thinking" about getting a Martha Graham book online, imagining a blurry image of what the book would look like, what would be in the book, what the book would teach her in terms of specific exercises, image includes an image of Martha Graham on the cover in a pose that she is known for, image is of a rectangular book. Idea and feelings of wanting the book, wanting to know what's in the book, the information that's in the book, feeling of wanting a book that will give her a lot of good information, stuff she needs/wants to know right now, experienced as an excited feeling in her stomach, like motivation, deep in her stomach (she thinks that that's what she was doing at the MOB 98% sure but not positive). Hunger for knowledge experienced as a familiar feeling of wanting to know/have knowledge, not similar to eating hunger, says the eating is not a good thing, but w/ reading it's a healthy want, the want portion is not the same, eating compared to a bad kid wanting to do something he shouldn't, wanting to knowledge is the good kid. 55 miles per hour on website on online traffic school questions, she was semi-reading it but was off on the Martha Graham so it wasn't fully in awareness. *Coding: Image, PA, BDM of bodily wanting/hunger for knowledge*

**8.6:** Humming out loud "thinking" about the tone of what she was doing and if it sounded like what she wanted it to sound like. Humming and comparing it to a Bjork song, trying

to match her sound to hers, Bjork song in head and also hearing her own hum, inner hearing just like the song on the CD, sensation is that she's singing along with Bjork and comparing her hum to Bjork's, comparing process in awareness, experienced as trying to figure out how to create the sound, kept humming repetitively and trying to match her hum to Bjork's, not thinking about matching, just trying to do it, trying to match. *Coding: Inner Hearing, she refers to this humming as thinking and comparing, but it is not a cognitive or analytical process—it's a trying to bodily/ auditory matching*

#### Vanina Coding Summary

Fragmentation: 21/41=51% (1.1, 1.2, 1.3, 1.4, 2.1, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.5, 5.1, 5.2, 5.3, 5.5, 6.1, 6.4, 7.3)  
 Sensory Awareness: 19/41=46% (1.4, 2.1, 3.1, 3.3, 3.5, 4.3, 4.4, 4.5, 5.1, 5.3, 5.4, 5.5, 6.1, 6.2, 6.4, 6.5, 8.4) bodily, (5.1, 7.3) external  
 Images: 9/41=22% (3.1, 3.3, 4.2, 4.3, 4.4, 4.5, 5.1, 5.3, 8.5)  
 Perceptual Awareness: 6/41=14% (3.5, 6.2, 6.4, 7.1, 7.5, 8.5)  
 Feelings: 8/41=19% (3.1, 3.2, 4.1, 4.5, 5.5, 6.1, 6.2, 7.6)  
 Negative Feelings: (3.1, 3.2, 4.1, 5.5, 6.1, 6.2) = 6/41=14% negative  
 Positive Feelings: (4.5, 7.6) = 2/41=5% positive  
 Thought/Feelings: 6/41=14% (1.4, 2.1, 2.2, 4.4, 7.3, 7.4)  
 Bodily Decision-Making: 10/41=24% (2.5, 3.4, 4.3, 5.2, 5.3, 5.5, 6.3, 6.4, 7.2, 8.5)  
 Preoccupation 3/41=7% (2.1, 4.4, 5.5)  
 Doing: 2/41=5% (2.3, 7.1)  
 Inner Speech: 3/41=7% (3.1, 6.5, 7.6)  
 Unsymbolized Thinking: 4/41=9% (1.5, 3.2, 3.3, 5.2)

#### Margo Samples (See Chapter 8)

**1.1:** Margo is a vegetarian and bought a meat sandwich, threw it out, at the moment of the beep discovering there was meat on the sandwich, looked at it, realized there was meat on it, aware of saying "fuck" out loud, beep went off right in the middle of saying "fuck", also in awareness disappointment that there was meat on the sandwich, disappointment experienced as a physical sensation in the pit of her stomach, strong sensation of feeling disappointment, deep in the lower part of her stomach, about the size of a tennis ball. *Coding: Speaking aloud, Feeling, Preoccupation, Thought/Sensory Awareness*

**1.2:** Watching a show In Living Color, on the opening part and was singing a song and was very happy, showing the actors, paying attention to the show, smoking a cigarette (not in awareness), paying attention to the show, excited to see the show, seeing the actor Tommy Davidson, looking at the show, feeling excited in her head, both a thought process and a feeling, thinking oh good and feeling excited, like knowing oh good she likes him, also singing the theme song out loud, aware of singing the song, awareness of being happy, mental feeling of happiness to be watching the show. *Coding: F, Music, Thought/Feeling*

**1.3:** Watching an In Living Color episode, thinking about the show, character is wearing

a clown costume and she's thinking she used to have a wig like that that she'd wear for Halloween, had an earlier image of the costume, listening to a CD as she was watching the show. *Coding: Doing*

**1.4:** Singing the song Marvin Gaye What's Going On but that's not in awareness at the moment of the beep, aware of looking at her hair in the mirror. *Coding: PA*

**1.5:** SKIPPED-Sleeping at moment of the beep.

**1.6:** On the phone with her sister, she was telling her about school so she was picturing her school, aware of what she's saying, and had an image, can see the playground area, with people on the playground, can see part of the school, in color, seen from inside the school, like a quadrangle, with the playground surrounding her, feeling of sadness experienced as missing her sister, in her body and head, sadness is a heaviness in body but seems hard to describe further than that. *Coding: F, Image, Feeling*

**2.1:** Was eating and waiting for the website to start running, looking through a list of what songs to play, aware of the song, looking through all of the songs, at moment of the beep looking at the Mariah Carey song Open Arms, aware of looking at the song selection, waiting for the website to load up, ongoing awareness of being annoyed but that wasn't in awareness. *Coding: F, PA, FB*

**2.2:** Margo was loading paper in her printer, in the process of moving it around, thinking about the project she's doing, aware of putting paper into the printer, and thinking she picked a good topic experienced as a feeling of happiness –thinking about and feeling happy, had an image of the title, in the image sees the title black font, white background, feeling happy relief that she was doing that topic, it's a nice feeling both in body and head, seems hard to describe the feeling of happiness, but it's more in her head, sense that she's happy but it's hard to say how, maybe more in her head than in her body but probably both, hard to describe, jiggling the paper to get it into the printer, more aware of loading the printer. *Coding: F, Image, Thought/Feeling*

**2.3:** Typing up one of the questions she was asked, thinking about how she should word it, thinking about the website and seeing the word processing program, thinking about what she should choose to put in the in tray, looking back on the website, wondering how she should word it, going through different scenarios, aware that she was about to type the wording she had selected, thinking about the sentence with the name, know what the name is that she's going to type, still in awareness without being symbolized. *Coding: U*

**2.4:** I was chewing and doing her homework, put a bite of food into her mouth, had just started to chew, printer going off, was looking down on the printer to make sure it was going, read the phrase "dozens of drugs", repeating the phrase "dozens of drugs" to herself, words were not voiced, unvoiced, also a thought process that there was something weird sounding about those words, what she was chewing was disgusting, her reaction to the food was central in her awareness, experienced as a wondering what they had done differently because she eats there all the time and the food was gross, both a reaction to the disgusting food and a thinking about what they did differently, thoughtful

consideration of what they had done differently, tasting the grossness. *Coding: F, Thought/Sensory Awareness, Preoccupation, PA*

**2.5:** Thinking about going to get a Kleenex (after the beep), stomach hurt, was singing, felt her stomach hurting, experienced as a slightly nauseous, constant pain deep in her lower abdomen, in a long 3-inch strip, rumbling painful sensation, with the rumbling concentrated at the top of this strip, mental awareness that the pain must have something to do with the food, aware of list of the songs on the computer, singing but not really in awareness, and was also singing. *Coding: F, Thought/Sensory Awareness, U, PA, Music*

**2.6:** Was just picking up her phone to call her Dad and screen popped up on her phone saying she got a text, at the moment of the beep reading the text message, in her voice in her head, exactly as if she had said it out loud, also excited experienced as a sensation in her body of being energized, thinking of calling her Dad back before a certain time, apprehended as a thought process that she needs to call him back, image of the hotel, she was in the hotel room they stayed in last year and was looking out the window of the hotel room, clear image, that's what he wanted me to call him about. *Coding: F, Inner Speech, Feeling, Image*

**3.1:** Margo was laughing and the person she was with said they called me earlier. She had a mental image of her phone, looking at the calls to see if she could remember. Aware of laughing, knows she's laughing, aware that it doesn't sound real, not like she normally laughs, aware that it's not real, knowing she's laugh to make him feel better, slightly forced laugh, not a thought process, just knows that she's laughing a phony laugh and the image of the phone saw the phone open and her right hand on the phone, sitting in her room in the image, and also sitting in her room in reality, looking down and to the right in the image, looking down at the phone, phone is in center of the image as if she's looking down and to the right, same as if she were looking at her hand holding the phone in reality, and can see the missed calls on the phone screen. *Coding: Thought/Sensory Awareness, Image*

**3.2:** Margo was throwing away trash, and could feel something wet on her hand, experienced as a sensation of cold wetness on the side of her hand, yucky feeling on hand, sensation has a wet, cold and ew part all together, not a thought process. *Coding: SA external*

**3.3:** Was still doing the trash, tying it, had an image of herself walking to the dumpsters, was tying the bag tight, aware of trying to pull it tight, experienced as a bodily sensation of trying to tie it tight, experienced as a sensation of strain and pulling on her forearm muscles as she's trying to pull bag tight, image experienced as her walking on the north side of the dorm, sees herself from the back as though she were behind herself, saw part of the dorms and rocks on the side of the path, saw herself carrying trash in both hands, and saw herself wearing gray UNLV shorts and a purple shirt. She doesn't have a purple shirt in reality and her hair was curly but she rarely wear her hair curly (shirt and hair different from her usual appearance in reality, unusual in its detail of hair/shirt). *Coding: Image, SA external, doing*

**3.4:** Margo was at her computer and was pressing down on her mouse, was frustrated because pop ups kept coming up, was frustrated and thinking about what program to download to get rid of them, aware of the icons of the program to download and clicking on the mouse. Aware of looking at the x on the screen to get out of the pop-ups, looking at a spyware program on the right side of the screen and clicking the x on the pop ups that she's trying to close, aware of pressing down hard on the mouse, coordinated movement portion (pressing on mouse) and visual portion (looking at x), ongoing frustrated feeling experienced in her head as well as a perceptual awareness of the spyware program on the right side of the screen. *Coding: PA, Thought/Sensory Awareness, FB*

**3.5:** SKIPPED Personal skipped

**3.6:** Margo was just going to turn the beeper off and it beeped, image and aware of touching the beeper with her hand, about to turn off the beeper, aware of having her hand on the beeper, knew her hand was on the beeper, carefully touching it, not a thought process, touching it to turn it off, had an image of the video camera in the DES interviewing room, image of the video camera was 2-3 times larger than normal, seen from the perspective of looking at the camera as though she's being interviewed, camera looked more boxy, larger, like the one she has at home but the image camera was larger than the home one, could see the sides of the room but focused more on the large camera, the largeness of the camera in the image seemed natural in the image but she didn't know if it was really big or she was just up close to it in the image. *Coding: F, Image, Doing*

**4.1:** Margo was on the computer doing a paper, was scrolling down, and was finishing a sentence that said "religious leaders and pro-choice views", because she was writing a paper about abortion, picturing Bill O'Reilly. Aware of seeing the bolded words "religious leaders and pro-choice views" on the computer screen, aware of looking at the pro-choice part and thinking about how these words don't go together, sense of confusion, thought process, thinking these words don't go together, feeling confused and thinking these words don't go together, more of a thought process, but also a feeling of being confused, thought/feeling of that's not right, those words don't go together, also had an image of Bill O'Reilly sitting behind the news desk, didn't see the actual TV in the image, just an image of him, like she's watching TV but not seeing the TV, just seeing him. *Coding: F, PA, Image, Thought/Feeling*

**4.2:** Listening to music and still doing the paper, reading part of the paper, on the phrase "attendant duties" and was reading those words back because she didn't understand so she was reading those words back to herself, and was listening to some music her sister used to play. Had an image of her sister's CD player she used to have, seeing her black CD player in the image, as though looking at it in reality, knew it to be her sister's CD player. Margo was also listening to music of a singer her sister likes, apprehended as a feeling of happiness experienced as a lightness in her body, saying to herself "attendant duties", same as if I had said it out loud. *Coding: F, Image, Feeling, Inner Speech, Music*

**4.3:** Margo's friend was in her room and crying, she was at the computer but facing her friend's direction and was taking a deep breath. Aware of seeing her friend's face, her eyes were puffy, and had a really bad feeling, like she was heartbroken, bad feeling

experienced as a feeling bad for her friend, experienced as a sensation in her gut, bodily feeling in her lower abdomen, recognizes that she's taking a deep breath, aware of her looking at her friend's face and feeling the sad, gut sinking sensation. *Coding: PA, Feeling*

**4.4:** Writing a paper and her leg was shaking, was thinking she had too many cokes, kept getting the sentence confused, words "to" and "do", kept typing them and getting them confused, aware of her leg shaking and the words "to do", aware of looking at her leg. *Coding: F, unable to determine if this was a perceptual awareness of her leg or image of her leg, confusion and questioning may have passed point of credibility so that she said it was an image but this isn't entirely clear*

**4.5:** Had an image of this guy she had just seen when she went to get her laundry and was thinking about what time she had to go back and get laundry, image of a combination of the laundry room and the guy that was walking by the laundry room when she was in there, knowing she had to go back for her laundry, thought process of the laundry and knowing she had to go back for it but that was after the beep. At the moment of the beep aware of seeing an image of the washing machine with the timer saying how many minutes were left and seeing the guy, also in the same image saw the guy who earlier had been in the laundry room, not a separate thought process beyond the image, image more focused on the timer. *Coding: Image*

**4.6:** Listening to music and dancing in front of the mirror but dancing was not in her awareness, was thinking about the scene from the movie Ghost World associated with the song she was listening to, image was of the actual picture from the movie of a woman dancing, aware of seeing the actress in the movie, listening to Muddy Waters song, seeing the woman dancing in the movie. In Awareness: Listening to the music and had a moving image of the actress from the movie dancing as though I was watching that scene in the movie. *Coding: Image, Music*

**5.1:** Sitting by the computer and someone else was on the computer, was making a to do list and was writing what she wanted to buy, was in the middle of writing the word "diet" and couldn't decide if she wanted to buy diet coke or diet pepsi, listening to music, had a fleeting image of a diet pepsi bottle, couldn't see the writing but could recognize it as a bottle of diet pepsi, image symbolized the process of deciding whether she wanted pepsi or coke, a vague thought process beyond the image, also listening to music without any particular awareness, can also see her friend. *Coding: F, Image, PA, U, Doing, Music*

**5.2:** Margo was sitting on her bed, listening to music and was in the middle of saying the word different, had an image of the Kazaa music download program, pictured what she wanted as it came up on the screen, image also included Eric Clapton doing the MTV Unplugged show, could see the dark room with him sitting there, seeing him from the chest up, in the middle of saying the word "different", in the context of saying she wanted a different song, was having a hard time getting the word different out, aware of wanting to say it and having a hard time saying it experienced as a wanting and trying to get it out, aware of not liking the song that was playing – went along with wanting a different song. Aware of image with the Kazaa list on the left and Eric Clapton on the right, saying the

word “different” and trying to get the word out, saying the word different is central in awareness, aware of wanting a different song. *Coding: F, Image, Thought/Feeling, Music*

**5.3:** Walking toward her bed and had just put her arms on the bed, had been trying to think of who was on the CD, at the moment of the beep it came to her that it was Bo Diddley, had an image with the name/letters Bo Diddley, image of the letters quickly flashed, lighter letters on a dark background, image was not very clear, could see it enough to know what it was but it wasn't clear, a quick visual representation of Bo Diddley, felt cold on her arms. *Coding: F, Image, SA bodily*

**5.4:** Margo was trying to pull off her bracelet and was really frustrated, it was pressed against her wrist so it was not feeling good, was thinking about a conversation she had about this movie and was thinking of the actor who starred in the movie and the conversation made her upset, trying to pull off the bracelet, yanking it, had just finished saying something and was frustrated at this person's response. Aware of pulling the bracelet, bracelet digging into wrist, seeing the guy she's talking to and feeling frustrated about the conversation she's having, also had an image of the actor Don Cheadle's face. Aware of looking at the guy she's talking to, feeling frustrated, remembering a conversation with the guy at work and the guy she was talking to, separate frustration of trying to get her bracelet off, frustration about the guy at work and guy she's talking to is experienced in her head as a wanting to say shut up, feeling annoyed and want him to stop talking. Frustrations with guy at work and guy she's talking to combined into one experience of frustration/annoyance in her head, want to shake the guy and wanting the guy to shut up, separate frustration about getting her bracelet off (sensation of frustration in her body), both feelings of frustration hard to describe, she knows that she is annoyed but it's difficult to describe. *Coding: F, Image, Feeling, SA bodily, PA*

**5.5:** Margo was reading a book, had just read the name of a group her Mom really likes and read back over their name and was smiling about it, the name of the group was The OJ's, aware of smiling, aware of looking down on the name and had a happy feeling all over and was smiling and knew she was smiling, happy feeling of being comforted thinking about her Mom, experienced a happy bodily feeling of comfortableness and feeling herself smile, knew she was smiling big, awareness of smiling extra big the intention was to show her friend that she was smiling, she didn't want him to think she was angry with him, smiling with the intent to show him that she was smiling, aware of smiling on purpose. *Coding: PA, Feeling, Thought/Sensory Awareness*

**5.6:** She was counting money, was going to go downstairs to get something so was in the middle of counting her money but that wasn't in awareness at the moment of the beep. She was playing Reggae music and thinking about a concert she went to in Jamaica, had an image of the same concert with the same people around her in the audience, same band on stage, as if she were there again, and was also hearing the word Jamaica again to herself exactly as she had heard it in the music, had an echo of that word from the song in her head. *Coding: Image, Inner hearing*

**6.1:** Margo was reading a paper that was online, was reading the words “the practice of” and was thinking that the writing was too big, her thumb was hurting, could feel her heart



beat in it. Aware of thinking the writing is too big, experienced as looking at it and knowing it's really big, writing didn't fit, sense of confusion in head about the writing, felt thumb hurting, could feel the heart beat, throbbing sensation in her thumb. *Coding: F, Thought/Sensory Awareness, PA, SA bodily*

**6.2:** Margo was walking to her window and pulling up the shade, thinking it's really bright with the shade up, brightness hurt her eyes, was looking at her friend's window directly across and was wondering if they could see into her window. Had an image of her friends who live across from her, image was of her friends in their room, they are both smiling, seen through her eyes, looking at them head on, as if she was in their room talking to them, wondering if they could see in, experienced as a curious wondering in her head of wondering if they could see in, eyes hurting from the brightness, and could hear the shower running in the bathroom. *Coding: F, Image, SA bodily, PA, U*

**6.3:** Margo was reading a text message from a person who was helping her with an essay and was text messaging her back at the moment of the beep, had an image of the essay in an open purple folder, typed out and sitting in the folder, just about to text message her back, thinking about and know what she's going to say without in being symbolized in words, ongoing feeling of happiness, seeing the lines on the screen on the phone. *Coding: Image, U, PA, FB*

**6.4:** Looking at the computer, just got a My Space account, her friend had responded to her message and she was looking at the word blog and thinking it was a weird word, listening to music and rapping to it, thinking how weird the word blog is experienced as a process of repeating it back to herself, as if she had said it out loud, in her head, in her voice. Aware of looking at word blog and thought/feeling how odd it is experienced as an apprehension of the word as something between a thought and a feeling but more of a thought, aware of rapping to the song. *Coding: Thought/Feeling, Music*

**6.5:** Margo was just about to put her eye drops in because her eyes were hurting, was listening to a song and rapping the words again, was remembering earlier about this guy she saw wearing glasses. Had an image of this guy sitting on a bench in the courtyard, seeing him from the back, same perspective as she had seen him from earlier, aware of eyes stinging about to put in eye drops, steeling herself to put the drops in, feeling anxious to get in over with, not a thought process but a preparation sensation. *Coding: Image, SA bodily, Doing, Music*

**6.6:** Margo was watching a DVD movie on her laptop and was really excited about it, she really likes tap dancing and was watching Gregory Hines tap dancing in the movie, was watching his feet, looking down at his feet and feeling excited. Excited feeling in her body and head, felt light all over her body and knew she was feeling happy, seeing his feet and happy. *Coding: PA, Feeling*

**7.1:** SKIPPED - Personal activity

**7.2:** Margo was listening to music and singing and her friend was on the computer, she was staring at his wrist because he had a rubber band on it and she thought it was hers.

Aware of singing out loud, excited about the music but that's not in awareness, was looking at her friend's face and at the rubber band on his wrist, thinking that he's really tanned, not in words, just noticed that he's tanned. Thought the rubber band is hers apprehended as an image of a stack of rubber bands all of the same bright green color by her sink, in the image she saw the sink and the mirror, and the container beside the sink, not interested in the sensory aspect of the green but as a way of identifying it as her rubber band. *Coding: Image, U, PA, Music*

**7.3:** Margo was typing and had a virus on her computer, they gave her a code with a lot of long numbers, was typing it and had paused to think of what the rest of the numbers were, had an image of the numbers black numbers on a white background. Aware of singing along to the music, seeing the computer screen, image of the numbers as a way of trying to think of what the numbers were, image was of numbers printed in screen font on a white background, the image is the way of trying to remember the numbers. *Coding: F, Image, PA, Music*

**7.4:** Margo was cleaning her sink and was using this spray, it says there's no alcohol in it so she thought it wouldn't stink but it did so she was itching her nose and it was making her feel like she had to sneeze, she was thinking about the time, had the bottle in her hand and could see the "no alcohol" part with little asterisk's around it, holding real bottle but not looking at it, had a separate image of the bottle. Had an image of the bottle with the label saying "no alcohol" in maroon font, image looked the same as the bottle, thinking about the time, curious what time it was, not symbolized in words just thinking about the time. *Coding: Image, U, SA bodily*

**7.5:** Sitting in class, looking at a girl in front of me with a big yellow chunk in her hair, and had an image of her sister's friend way back when who had her hair dyed in the same way. Aware of seeing yellow chunk in this girl's dark hair, image of her sister's friend, just a head shot of her from the front standing at the junior high that both her sister and she went to, could see the playground in the background. *Coding: Image, PA*

**7.6:** Margo was taking a final and was reading the question, looking at the question number, it was # 23 was asking about Bob Marley and what group he was with, she knew the answer was The Wailers but was looking back over the answer options, looking at option B which was "The Ganga Band" and option C that was "The Wailers, aware of B and C, C as being the right answer and B as being a stupid answer, and thinking that's really dumb, the day she learned about Bob Marley they had a substitute, she was rolling her eyes thinking option B was really dumb and knew that option C was the right one. Aware that she's taking the test, and aware of option B and C, with B being stupid, experienced as a rolling of her eyes and knowing that it's a dumb answer, also remembering the substitute teacher that talked about Bob Marley (not symbolized), also aware that of taking a test, experienced as needing to focus, trying to concentrate experienced as a head thing, wanting to focus on the test, not a thought process but an attempt to concentrate, a doing of the concentration. *Coding: F, PA, U, Doing*

## Margo Coding Summary

Multiplicity/Fragmentation: 22/39=56% (1.2, 1.6, 2.1, 2.2, 2.4, 2.5, 2.6, 3.6, 4.1, 4.2, 2.3, 4.4, 5.1, 5.2, 5.3, 5.4, 6.1, 6.2, 7.3, 7.6)  
Sensory Awareness= 9/39=23% (3.5, 5.3, 5.4, 6.1, 6.2, 6.5, 7.4) bodily (3.2, 3.3) external  
Images: 22/39=56% (1.6, 2.2, 2.6, 3.1, 3.3, 3.4, 3.6, 4.1, 4.2, 4.5, 4.6, 5.1, 5.2, 5.3, 5.6, 6.2, 6.3, 6.5, 7.2, 7.3, 7.4, 7.5)  
Perceptual Awareness: 19/39=49% (1.4, 2.1, 2.2, 2.4, 2.5, 4.1, 4.3, 5.1, 5.4, 5.5, 6.1, 6.2, 6.3, 6.6, 7.2, 7.3, 7.5, 7.6)  
Feelings: 8/39= 20% (1.1, 1.6, 2.6, 4.2, 4.3, 5.4, 5.5, 6.6)  
Negative Feelings: 4/39 = 10% (1.1, 1.6, 4.3, 5.4)  
Feeling Good: 4/39 = 10% (2.6, 4.2, 5.5, 6.6)  
Thought/Feelings: 5/39=13% (1.2, 2.2, 4.1, 5.2, 6.4)  
Thought/SA: 7/39=18% (1.1, 2.4, 2.5, 3.1, 3.4, 5.5, 6.1)  
Feeling Fact of Body: 3/39=8% (2.1, 3.4, 6.3)  
Preoccupation 2/39 = 5% (1.1, 2.4)  
Doing: 6/39=15% (1.3, 3.3, 3.6, 5.1, 6.5, 7.6)  
Inner Speech: 3/39=8% (2.6, 4.2, 6.4)  
Unsymbolized Thinking: 8/39=20% (2.3, 2.5, 5.1, 6.2, 6.3, 7.2, 7.4, 7.6)  
Music: 10/30 = 26% (1.2, 2.5, 4.2, 4.6, 5.1, 5.2, 6.4, 6.5, 7.2, 7.3)

## Stella Samples (See Chapter 9)

**1.1:** Stella was out in the courtyard, they were setting up booths for unity day, waiting for her boyfriend, at moment of the beep she was watching girls walk past, thinking about drawing assignment, staring at one girl with a flag in her back pocket, looking at the flag and observing her shape. In awareness she was seeing the girl and feeling envious, experienced as a feeling in her body, a bodily sinking feeling in her chest, deep down, empty, sad, sunken feeling, hard for her to explain details of the feeling. *Coding: Feeling, PA, Preoccupation*

**1.2:** Stella was watching drummers in Pida Plaza, was hungry but that's not really in awareness at the moment of the beep. Aware of watching the one female drummer, watching her cylindrical stick hitting the surface of the drum, very organic looking drum with animal skin, just noticing the texture and cylindrical shape of the drum. *Coding: SA external*

**1.3:** Stella had an argument with her boyfriend, was angry and confused in body and head, want a physical relationship, she's not physical, she's talking, feeling like the tail of a thought, prediction feeling, feeling what she was going to feel, premonition of a feeling. *Coding: F, Feeling, Happening of talking*

**1.4:** Stella was drinking a blueberry/banana smoothie, sensation/feeling of it calming her down, complex undifferentiated calculation of the carbohydrates and feeling if it's good for her. *Coding: F, SA bodily, Feeling, Preoccupation*

**1.5:** Stella was in the mall, waiting for glasses, was seeing sign, zeroed in on yellow sign, and paying attention to the color, was frustrated/annoyed/aggravated but not paying attention to it, don't really feel it. *Coding: F, SA external, FB*

**1.6:** Stella was driving, looking at light, feeling anxious/nervous/dread, driving to her friend's house. *Coding: F, SA external, Feeling*

**2.1:** Stella was at work and was arranging some pink roses, was looking at the veins through the petals, not paying attention to the task of arranging them, just noticing the veins, had an ongoing, underlying sense of worry, knowledge that I have to deal with something. Aware of veins on the petals of the pink roses she was arranging, ongoing feeling of worry in the back of her head, apprehended as a feeling of worry in her chest, mostly in her chest, on the surface of her chest, feels like her heart is really close to the surface of her chest, perceived as a sensation of her heart fluttering, there is a particular problem that leads to the worry, but that is not specifically in awareness, rather it is the feeling of the worry in her awareness, initially describes this worry as at the back of her head, but then says this is a metaphor, that the ongoing experience if put into words would be "Oh her gosh what am I doing? What am I doing?" at the moment of the beep it is experienced more in her chest, not a thought process but a physical feeling of worry in her chest, topic that she is worried about is not in awareness at the moment of the beep, knows she has the problem but actual problem itself not in awareness, the "what am I doing?" is not in awareness, she knows the problem exists but wasn't thinking about the problem at the moment of the beep, just feeling the sensation of worry. *Coding: F, Sensed Unsymbolized Thinking of ongoing worry, SA external*

**2.2:** Putting ointment on her cold sore and was looking at the clusters thinking about how long it would take for them to go away, looking in the mirror, putting ointment on her face. Aware of looking in the mirror and seeing her cold sore, thinking about how long it would take to go away, not in words, thinking in an annoyed way, thinking experienced as being annoyed/bothered, feeling angry and frustrated, bothered and annoyed in her head, the wondering and being annoyed are two things twisting together, thought/feeling, not a separate thought and feeling process, aware of a tingling feeling on her lip, apprehended as a thought/feeling of wondering how long it's going to take with anger. *Coding: PA, Thought/Feeling, SA bodily*

**2.3:** Stella was driving home, feeling relieved, left work early because it was slow, had a feeling of relief in her awareness, was looking at the road and thinking about going to see her friend, staring at the pavement, relief experienced as body feeling a little lighter. Aware of seeing the pavement experienced as an awareness of how the materials are pressed together, aware of how the tar and gravel are pressed together, couldn't really see the specifics of it but was looking at it, couldn't see it (the details of how the pavement materials are pressed together) but was aware of it, was going too fast to see the details but somehow was aware of the details, generalized image of gravel, seeing the real gravel but she's seeing it better than how she can actually see it, seeing the gravel with more detail than she can, elaborating the gravel. Bodily feeling of relief, felt less tense and relaxed throughout her body, thought of going to see her friend, part of the light feeling of less tension, the thought of seeing her friend, the thought also makes her feel better,

the whole light feeling was part of leaving early and going to see her friend, thought process experienced as a non-specific knowledge that she's on her way to her friend's house, in the back of her head she knows they'll discuss what's been happening and she will feel better, knows that things will feel better, not thinking what they're going to talk about, just a general, thoughtful/cognitive understanding that they're going to talk and she'll feel better, knowing of what the thought process is going to be, presentiment of the thought process, hint of the thought process. *Coding: F, SA external, Feeling, Sensed Unsymbolized Thinking*

**2.4:** Stella was watching the movie Shawshank Redemption, the screen had a scene of one of the characters Red staring out from his cell, she was aware of how he was focusing his eyes, he was looking with an awed look, very big wide open eyes, not thinking about it, just noticing his eyes, noticing the genuine expression in his eyes, also had an ongoing dull feeling of worry. *Coding: F, SA external, FB*

**2.5:** Stella was washing dishes and pouring dish soap into the water, just noticing the bubbles coming up in the water, watching the bubbles develop, little and foamy, looking but not paying attention to that, just paying attention to if there's enough soap, not paying attention to the bubbles themselves, pressure of feet on the floor, but that's not in awareness at the moment of the beep. *Coding: PA*

**3.1:** Stella was at work and was sweeping, focused on the thin trail of dirt, trying to sweep it into another pile. Was looking at the thin trail of dirt, focused on the dusty brown color and the shape of the line that the dustpan leaves. *Coding: SA external*

**3.2:** Stella was at work and was washing her hands and lathering the soap, feeling the slippery texture of the soap between her hands. *Coding: SA bodily*

**3.3:** Stella was eating lunch and had a fork in her mouth, could feel the metal and slight curve of the fork between her teeth, also had a feeling of dissatisfaction, apprehended as an ongoing awareness in the background, not particularly focused on it but knew it was there, it's in the background but she knows it's still there, feeling is in her head, also a bodily feeling of tension associated with this dissatisfaction but that's not in awareness at the moment of the beep. *Coding: F, SA bodily, FB, Preoccupation*

**3.4:** Stella was doing inventory and was pulling a box off the shelf, aware of the dry, dusty, papery feeling of the box, and of feeling the inner rigid texture of the corrugated layer through the surface of the box, also noticed the color of the box and the label on the box. *Coding: SA bodily*

**3.5:** Stella was in with her supervisor and could see her supervisor, her supervisor was talking but she wasn't really listening, was observing her supervisor's hair with the knowledge it was fluffy, noting the rusty color and fluffy texture of her hair. *Coding: SA external/avoidant*

**3.6:** Stella was on the phone with her father and was aware of the volume of his voice on the phone, could feel the buzzing vibration of the speaker on her ear. Aware of the

buzzing ½ an inch in front of her ear, aware of the physical vibration, both hearing it and feeling the vibration, ongoing apprehension of feeling frustrated, volume of voice, she's not paying attention to the content of what he's yelling about just noticing the sensory affect of the volume of his voice. *Coding: SA bodily/avoidant, FB*

**4.1:** Stella was crying and feeling sad, she had a new manager and he's creeping her out, she was crying and sitting down, had her eyes closed. Focused on being sad, knows that she's sad but emotion seems hard to explain, heavy burden of sadness in head and body, apprehended as a heavy feeling deep in her chest and a mental knowledge that she's sad, ongoing awareness that this is another stressor, another things she has to deal with, awareness of this as one more thing rather than of this as a stressor. *Coding: Sensed Feeling, Sensed Unsymbolized Thinking of common knowledge of another-ness of it, ongoing mental awareness that this sadness is another thing – this is not clear for her, in someone else it would be a clearly articulated thought.*

**4.2:** Stella was shrink wrapping a part to place it on a truck, analyzing everything as a whole and was focused more on a general idea of rejection, know that it's something that's bothering her, just an ongoing sadness, knowing what's happening, like a little ball of experience that is not specific, not differentiated but is associated with rejection and sadness, apprehended as a ball in her head. Aware of lot of things that are involved in this ball, at the moment of the beep she's aware that it bothers her and aware of it in a whole, all of these events put together lead to one conclusion, but she's not thinking of the conclusion, aware of all the stuff contributing to this ball, but at the moment of the beep not aware of any of these events specifically, just aware of the whole big problem, symbolized as a ball of rejection in her head. *Coding: F, Thought/Feeling, Doing*

**4.3:** Stella was unloading carts off the truck at work, was pulling a cart, wasn't really focused on what she was looking at, just watching the pattern on the floor tiles, not really thinking of anything, just looking at the tile, her mind felt still, feeling of mind being stopped. Aware of the aqua color of the tiles, also aware of a sensation of still tiredness in her head, that her mind is stopped, no thought process going on just looking at the tile and know that her mind is stuck/still, recognizing that her mind is not peaceful, not thinking about something. *Coding: F, SA external, undifferentiated non-thinking of mind being stopped/stuck.*

**4.4:** Stella was in the lunchroom and was sitting at a table drinking some water, was looking down in her cup and could see all of the people around her, was listening to the noise of people all together not specifically differentiated, cacophony of voices. Aware of looking into her water cup, aware of seeing the water droplets, watching the water droplets, cacophony of noise, apprehended as a big tangle of undifferentiated noise. *Coding: SA external*

**4.5:** Driving home from work, was thinking of what she was going to wear to a friend's party, was looking forward to doing something, a relief to know that she wasn't sitting and thinking about other things. Thinking about what she was going to wear was apprehended as two different mental processes, thinking of what she was going to wear and feeling a sense of relief, something new to put her attention toward, refreshing thing

to look forward to, in the process of deciding what to wear and feeling relieved that she didn't have to focus on stressors, hard to explain, thought of what she should wear apprehended as an image of mentally picking things out in her closet, at the moment of the beep had an image of a black t-shirt suspended in a white background, striped black on black, clear just as though she were looking at the actual shirt, had images of other clothes previously but at the moment of the beep but was now focused on the image of the black t-shirt, image is apprehended as the totality of wondering what she should wear, not a separate thought process, image is created to answer the question of what she should wear, feeling of the thought process that this is better than what she would have been doing, apprehended physically, non-directly realized that she felt better, slightly more of a feeling than a thought, feeling of relief and lightness all over her body. *Coding: F, Image, Thought/Feeling*

**5.1:** Stella was at work and was cutting flowers, aware of the green stems and the squishy crack of the stem as she was cutting. Aware of noise that tulips were making as they were being cut. *Coding: SA external*

**5.2:** Stella was waiting for her lunch break and was feeling anxious, was looking at the clock, thought/feeling of anxious/inpatient, knew she was hungry, mostly feeling in her head thought that this day is taking forever and she wanted to go to lunch, not in words, used the term thinking and feeling, felt antsy in her head not in her body and was looking at the clock. *Coding: PA, Thought/Feeling*

**5.3:** Stella was eating her lunch, chewing her food and vegging out, aware of the feeling of the food between her teeth, it was bread and squishy, could feel the consistency of the bread between her teeth, looking at silver wall may have been slightly in awareness. *Coding: F, SA bodily, PA, Preoccupation*

**5.4:** Stella was feeling angry, there was battery acid in her trunk and she was cleaning stuff out of her trunk, didn't want to get battery acid on her hands. Anger experienced as a physical sensation of tightness around her head, like a hat band around her head, apprehended as a tightness moving inward in an area like a hat band on the front of her head from ear to ear but not in the back, experienced activity of trying to get things out of the trunk quickly so she didn't get battery acid on her hands, not a thought process just a doing of the activity. *Coding: Feeling, Doing*

**5.5:** Stella was walking around and looking for something to do, was looking in the trashcan to see if it needed to be changed, and felt bored. Feeling bored in her head, don't know how to describe it, like an aimless feeling, looking in the trashcan, saw it from an angle, just looking at it. *Coding: F, Feeling, PA*

**5.6:** Stella was sitting in her car on the freeway, was frustrated and as a result of the frustration was trying to veg out, was staring out over the wheel, trying to be calm, channeled her frustration into trying to veg out, not genuine relaxation, but channeling that energy into trying to relax, grumpily vegging out, everything over the top of the steering wheel looked fuzzy blue. Aware of trying to veg out, focused on the steering wheel, aware of the blueness peeking through, steering wheel framing the blueness, act of

trying to relax, ongoing frustration. *Coding: SA bodily/external/avoidant*

**6.1:** Stella was laying in bed and looking up at the ceiling fan, sheet felt light and cool, noticing the fake wood grain of the ceiling fan. Aware of the light, cool, good sensation fan blade. *Coding: SA bodily*

**6.2:** Stella was eating cereal, was chewing and looking into the bowl and feeling displeased, chewing not really in awareness that's just what's going on. Aware of thought/feeling of being pissed off that she ate the food, experienced in her head, hard for her to describe it, she is confident that she is pissed off in her head but can't describe being pissed off, not a physical feeling, just a general thought/feeling process of being pissed off without any physical referents. *Coding: Thought/Feeling, SA external, Preoccupation*

**6.3:** Stella was laying in bed and playing with the tips of her hair, thinking how hair reminded her of the feeling of salt. Aware of playing with hair, noting how the texture of the tips of her hair, feeling of the grainy texture of the hair on her fingers feels like salt. *Coding: SA bodily*

**6.4:** Stella was watching the news but not paying attention to that, was feeling a cold sensation, and was looking at the shirt collar of the news anchorwoman, looking at the coral color of her shirt collar. Aware of feeling cold, observing the coral color of her shirt collar, felt cold over her whole body, deep down. *Coding: SA bodily and external*

**6.5:** On the computer and searching through her e-mail, looking at her inbox and thinking about her friend Bob, not thinking about him just anticipating an e-mail from him, looking at the computer screen, anticipating an e-mail, aware of a physical feeling of being antsy, hopeful, lifted in upper part of body, antsy/lifted/hopeful all part of one feeling with bodily characteristics, bodily sensation of feeling uplifted/hopeful/antsy, looking at computer screen. *Coding: Feeling, PA*

**6.6:** Stella was washing her hands, turning the faucet knob off, noted the texture of the knob, plastic but cut like a crystal knob, edgy. Aware of the texture of knob, noting edges of it, sensory awareness of edges. *Coding: SA external*

**7.1:** Stella was talking to her boss John and looking at his face, feeling uncomfortable, physically she was trying to lean back from him as he was talking. Focusing on herself leaning back, aware of herself arching back, was leaning back because she was uncomfortable, was aware that she was uncomfortable but more aware of the top half (back) of her body leaning back, she was slightly leaning back in reality, looking at his face was just a fact of what was going on (not in awareness at the moment of the beep), also aware that she's uncomfortable, was bothered by the fact that he was talking into me that much, aware that she's uncomfortable, but uncomfortable part seems difficult for her to explain, uncomfortable both her body and her head, leaning back is the bodily portion of the uncomfortable-ness and in her head she knows that she is uncomfortable, she didn't like the way he made her feel but it's more her reaction that's in awareness, what he's doing isn't in awareness at the moment of the beep. *Coding: SA bodily/avoidant*



**7.2:** Stella was in the lunch room and was looking at her lunch plate, was feeling frustrated, wanting to stop worrying about how much or what she's eating, was looking at her plate, focused on the red sauce, frustrated and wanting to stop worrying both simultaneously in awareness, the wanting to stop worrying was experienced as being hungry, wanting to eat a bigger portion, hard to describe, wanted to eat more and was frustrated, frustrated experienced as a physical sensation across the eyes on the front and sides of her head, down deep, from ear to ear like a band around the front of her head but not in the back. Was aware of wanting to eat and the frustration experienced as a band of tightness, aware of the redness of the red sauce on her plate. *Coding: SA external/avoidant, Thought/Feeling, Preoccupation*

**7.3:** Stella was standing at the floral table (just a fact of what was happening, not in awareness at moment of the beep), physically feeling uncomfortable from lunch, sensation of pressure of waistband on stomach. Aware of the sensation of pressure of the waistband, felt uncomfortable from the feeling of the waistband, sensation of waistband pulling in on her. *Coding: SA bodily, Preoccupation*

**7.4:** Changing in the bathroom and was looking at the floor, noting the tiny blue aqua tiles, noticing the color and physically feeling the pressure of the floor on the bottom of her feet. Aware of color of tile and feel of cold pressure from the floor on the balls of her feet. *Coding: SA bodily and external*

**7.5:** Stella was taking a break and was eating again, was trying to veg out, sense of trying to think or feel nothing, was eating her food and trying to just eat, trying not to think or feel anything, feeling heavy in her eyebrows is part of the trying to veg out and trying not to think, contrived feeling of trying not to think of anything, she didn't want to go through the thought process of worrying about what she was eating, trying to avoid that thought process, feeling upset but not allowing herself to go through the thought process or feeling process, upset feeling wanted to come and she was trying to stop it and the worrying thought process was trying to come and was trying to stop that, sense of both of those things being ongoing but only slightly in awareness because she's successfully trying to stop it. *Coding: SA bodily/avoidant, Thought/Feeling, Preoccupation*

**7.6:** Stella was putting chair covers on, was stretching the spandex chair cover over a chair and was looking at the shiny sheen of it and was squatting and aware of the pressure on top of her calves, felt rushed (just a fact of what was going on, not in awareness at moment of the beep). Aware of sparkly, glossy sheen of the chair cover, uncomfortable warm almost burning, sensation of pressure deep down in a ball area on top of her calves, sitting on her calf muscles, caused by pressure rather than stretching. *Coding: SA bodily*

#### Stella Coding Summary

Fragmentation 13/40 = 32% (samples: 1.3, 1.4, 1.5, 1.6, 2.1, 2.3, 2.4, 3.3, 4.2, 4.3, 4.5, 5.3, 5.5)

Sensory Awareness: 31/40=78% (1.4, 2.2, 3.2, 3.3, 3.4, 3.6, 5.3, 5.6, 6.1, 6.3, 6.4, 7.1, 7.3, 7.4, 7.5, 7.6) bodily, (1.2, 1.5, 1.6, 2.1, 2.3, 2.4, 3.1, 3.5, 4.3, 4.4, 5.1, 6.2, 6.4, 6.6, 7.2) external, (3.5, 3.6, 5.6, 7.1, 7.2, 7.5) avoidant

Images 1/40=2% (4.5)  
Perceptual Awareness: 7/40=17% (1.1, 2.2, 2.5, 5.2, 5.3, 5.5, 6.5)  
Feelings: 8/40 = 20% (1.1, 1.3, 1.4, 1.6, 2.3, 5.4, 5.5, 6.5)  
Negative Feelings: 4/40=10% (1.1, 1.3, 1.6, 5.4)  
Positive Feelings: 4/40=10% (1.4, 2.3, 5.5, 6.5)  
Thought/Feeling 8/40=20% (1.3, 2.2, 4.2, 4.5, 5.2, 6.2, 7.2, 7.5)  
Feeling Fact of Body: 4/40=10% (1.5, 2.4, 3.3, 3.6)  
Preoccupation: 8/40=20% (1.1, 1.4, 3.3, 5.3, 6.2, 7.2, 7.3, 7.5)  
Doing: 2/40=5% (4.2, 5.4)  
Sensed Unsymbolized Thinking: 3/40=7% (2.1, 2.3, 4.1)  
Happening Of: 1/40=2% (1.3)

## APPENDIX B

### TABLES OF ASSESSMENT RESULTS

Table B.1

Eating Attitudes Test (EAT-26) Results

Participant	Raw	Cut-Off	Percentile	Symptoms
Katja	34	20	99	B/P/L
David	29	20	98	B/L
Vanina	39	20	99	B/P/L
Margo	36	20	99	B/L/T
Stella	50	20	99	B/P/L

Note. Raw = Raw Score; Cut-Off = Clinical Cut-Off; Symptoms = Bulimic Symptoms

Endorsed, B = Binge; P = Purge; L = Laxatives, diet pills or diuretics consumed to control weight or shape; T = Treatment (past or current) for eating disorder

Table B.2

Eating Disorder Examination (EDE) Subscale Results

Participant	EDE-R		EDE-EC		EDE-SC		EDE-WC	
	Raw	%ile	Raw	%ile	Raw	%ile	Raw	%ile
Katja	1.4	73	0.6	78	3.1	97	3.6	99
David	2.0	89	2.2	99	2.8	95	4.8	99
Vanina	4.4	99	2.8	99	4.5	99	4.6	99
Margo	3.4	99	2.2	99	4.1	99	4.0	99
Stella	5.2	99	4.4	99	4.7	99	4.8	99

Note. EDE-R = Restraint; EDE-EC = Eating Concern; EDE SC = Shape Concern; EDE-WC = Weight Concern; Raw = Raw Score; %ile = Percentile

Table B.3

Eating Disorder Inventory –2 (EDI-2) Results for Subscales 1 to 6

PT	DT		B		BD		I		P		ID	
	Raw	%ile	Raw	%ile	Raw	%ile	Raw	%ile	Raw	%ile	Raw	%ile
Katja	5	64	2	77	26	98	5	89	11	91	2	66
David	15	99	7	98	4	67	4	92	6	58	3	66
Vanina	16	96	7	94	21	90	5	89	13	96	4	82
Margo	15	94	9	96	21	90	8	94	7	71	2	66
Stella	21	99	17	99	24	95	22	99	0	8	14	99

Note. DT = Drive for Thinness; B = Bulimia; BD = Body Dissatisfaction;

I = Ineffectiveness; P = Perfectionism; ID = Interpersonal Distrust; Raw = Raw Score;

%ile = Percentile

Table B.4

## Eating Disorder Inventory –2 (EDI-2) Results for Subscales 7 to 11.

Participant	IA		MF		A		IR		SI	
	Raw	%ile	Raw	%ile	Raw	%ile	Raw	%ile	Raw	%ile
Katja	2	70	3	79	2	39	0	41	5	81
David	1	75	4	87	9	98	2	69	3	62
Vanina	5	87	11	99	6	88	7	91	8	92
Margo	6	91	2	65	6	88	14	98	2	51
Stella	20	99	9	98	15	99	13	97	15	99

Note: IA = Interoceptive Awareness; MF = Maturity Fears; A = Asceticism;

IR = Impulse Regulation; SI = Social Insecurity; Raw = Raw Score; %ile = Percentile

Table B.5

## Beck Depression Inventory –II (BDI-II) Results

Participant	Raw	Rating	Percentile
Katja	11	Minimal	44
David	17	Mild	67
Vanina	28	Moderate	93
Margo	16	Mild	64
Stella	47	Severe	99

Note. Raw = Raw Score; Rating = Severity Rating

Table B.6

Beck Anxiety Inventory (BAI) Results

Participant	Raw	Rating	Percentile
Katja	16	Moderate	70
David	8	Minimal	37
Vanina	15	Mild	66
Margo	18	Moderate	77
Stella	41	Severe	99

Note. Raw = Raw Score; Rating = Severity Rating

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