CHAPTER 1

The Phenomenology and Conceptualization of Anorexia Nervosa from an ACT Perspective

Motivational states (e.g., hunger, pain) direct and organize behavior in a way that ensures survival. Human beings are the only animals that override these signals and starve themselves to death. The reasons for this are rich and complex but are driven in part by the meaning human beings assign to self-imposed restraint.

The notion that overcoming human motivational states is somehow virtuous is deeply embedded in the human psyche. In early accounts of self-starvation, women who denied themselves food were viewed as pure, divine, and as possessing a special gift from God. As society began to view phenomena more secularly, these women were no longer deified in a literal sense, but continued to be held in extremely high regard: They were "miraculous maids" receiving money and fame. Self-starvation was medicalized in 1689 and AN was identified as a syndrome in the late 1800s. However, the notion that overriding biological drives or needs (particularly in the context of abundance) is virtuous is an element of modern human life.

Appreciating this fact is essential in understanding the phenomenology of AN. Extreme dietary restraint, while destructive in many ways, also evokes strong feelings of effectiveness, mastery, and pride. This stands in stark contrast to most other mental health conditions in which characteristic behaviors may provide relief but do not make the individual feel particularly good about herself. Consider the example of social phobia. Individuals who experience extreme anxiety in social situations experience relief when they avoid interactions, but they do not feel particularly good about it. More likely, they feel ineffective and shameful about their inability to interact with others. The ability to override hunger is also highly visible, and thus it serves social functions, solidifying the individual's status, or otherwise affecting the behavior of other people. Individuals with AN often describe receiving compliments, attention, caretaking, and other social benefits. Thus, they feel like a good or better person and their behavior is reinforced by other people. Together, these more

immediate and emotionally charged contingencies are often far more compelling than the delayed negative consequences of low weight (e.g., decreased bone density).

Although AN might be driven initially by psychological factors, it may persist because of the incredible impact of starvation on the brain and the body. In the famous case of Saint Catherine (one of the earliest well-documented cases of self-starvation), the church became concerned about her safety and urged an end to her fast, stating that it was inconsistent with biblical tenets. However, she continued to withhold food and eventually died. Like a ball rolling downhill, starvation begets starvation as undernourishment impairs the individual's ability to change course. Individuals who are nutritionally depleted evidence structural brain abnormalities (e.g., enlarged ventricles) and have difficulty reasoning, shifting attention flexibly, and adapting behavior to changing contingencies, with increased rigidity and obsessionality often beyond premorbid levels. Biological adaptations to starvation further perpetuate the problem. Attention narrows to food and the individual experiences less interest and pleasure in social interactions or other activities. Thus, the world becomes increasingly centered on the next meal (as a biological imperative) and there is limited contact with competing reinforcers. Menses cease, body temperature drops, and metabolism and heart rate slow. Hunger cues and the somatic constituents of emotions, initially intensified by restricted food intake, mute. While individuals with AN may welcome the newfound quietness of their bodies, these signals provide essential information to make decisions. Thus, it becomes *more difficult* for the individual to know and respond to her physical and emotional needs. The mind also makes sense of the individual's experience: The quietness of the body is interpreted as having "more control." The drive toward food and the ease of weight gain is viewed as evidence that they need to be restrained. Thus, the initial factors that contributed to the onset of AN behaviors are joined by biological and psychological changes that further entrench the individual in AN (see Figure 1.1).

Prevalence and Age of Onset of AN

AN is relatively rare. The National Comorbidity Study reported a lifetime AN prevalence rate of 0.6% (Hudson et al., 2007) based on the diagnostic criteria of the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV). The fifth edition of the DSM (DSM-5) casts a wider net for AN, no longer requiring the cessation of menses or the

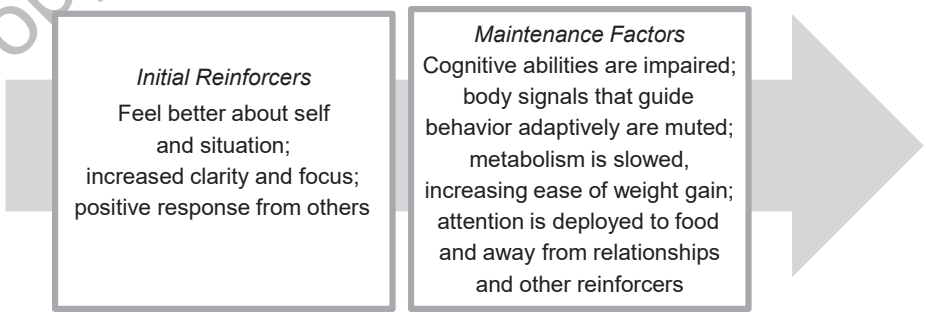

FIGURE 1.1. Initial reinforcers and maintenance factors of AN.

direct endorsement of fear of weight gain (American Psychiatric Association, 2013). In one study, this resulted in a 60% increase in incidence of AN, although cases identified using the new criteria were characterized by a higher BMI, shorter duration of AN, and higher rate of improvement (Mustelin et al., 2016). They also had a slightly later average age of onset (18.8 years compared to 16.5 years) (Mustelin et al., 2016).

Risk for AN is higher among women and girls (0.9%), about three times that of their male counterparts (Hudson et al., 2007), although other studies indicate that estimates are higher in some male subgroups, such as gay men (e.g., Feldman & Meyer, 2007). AN typically emerges in adolescence and young adulthood, and a first episode of AN rarely occurs after age 25 (Hudson et al., 2007).

Prognosis, Mortality, and Morbidity of AN

Intervention within short duration of AN onset is associated with a better prognosis (Steinhausen, 2002). Factors such as lowest BMI, obsessionality, and expressed emotion in families predict worse outcomes (Berkman, Lohr, & Bulik, 2007). Individuals with a more chronic course are more likely to be seeking treatment for a problem other than eating (e.g., depression) (e.g., Hall, 1982; Noordenbos, Oldenhave, Muschter, & Terpstra, 2002).

Researchers estimate that 50% of individuals with AN fully recover, 30% partially recover, and the rest suffer with chronic difficulties or premature death (Steinhausen, 2002). In one study of 84 individuals who were hospitalized for AN, 21 years later (average age = 42.0, *SD* = 6.5), 51% were fully recovered, 21% were partially recovered, 10% still met full diagnostic criteria for AN, and 16% had died due to causes related to AN or suicide (Löwe et al., 2001). AN has the highest mortality rate of any psychiatric condition (excluding opioid, amphetamine, and cocaine use) (Chesney, Goodwin, & Fazel, 2014). Mortality in AN is twice as high as that in other mental health conditions in women and 12 times the number of deaths expected for women ages 15–24 (Sullivan, 1995). In a meta-analysis of 36 studies conducted by Arcelus, Mitchell, Wales, and Nielsen (2011), suicide was the reported cause of death for 20% of individuals with AN.

AN is also associated with significant morbidity related to (1) psychiatric comorbidities (e.g., depression, anxiety) (Halmi et al., 1991; O'Brien & Vincent, 2003), (2) avoidance of situations that involve eating (or would challenge eating or exercise routines, or reveal low weight), and (3) the physical sequelae of starvation (Katzman, 2005; Mitchell & Crow, 2006; Pomeroy & Mitchell, 2002; Sharp & Freeman, 1993). The physical sequelae of starvation are vast and include changes or damage to the nervous system (e.g., enlarged brain ventricles); circulatory and respiratory systems (e.g., heart damage, low blood pressure, slowed breathing and pulse); integumentary system (e.g., brittle hair and nails, dry and yellowish skin, *lanugo* [growth of fine hair on the body] to conserve body heat); gastrointestinal system (e.g., constipation, delayed gastric emptying); skeletal system (e.g., osteopenia or osteoporosis); muscular system (e.g., muscle wasting and weakness); endocrine and reproductive systems (e.g., hypogonadism, infertility); and urinary system (e.g., chronic kidney disease) (Katzman, 2005; Mitchell & Crow, 2006; Pomeroy & Mitchell, 2002; Sharp & Freeman, 1993).

Subtypes and Comorbidity

There are two subtypes of AN: restricting and binge-eating/purging subtypes. For individuals with the restricting subtype, primary behaviors are restrictive eating and excessive exercise. Individuals with the restricting subtype tend to be anxious, inhibited, and obsessional (Lock, Garrett, Beenhakker, & Reiss, 2011; Pollice, Kaye, Greeno, & Weltzin, 1997; Rommel et al., 2015; Strober, 1980). The binge-eating/purging subtype is characterized by the presence of breaks in restrained eating and/or purging behaviors, including self-induced vomiting and the misuse of laxatives, diuretics, and weight-impacting medications (e.g., thyroid hormone or insulin among individuals with type 1 diabetes). Individuals with the binge-eating/purging subtype may have similar temperament features as individuals with the restricting subtype, but with more labile affect and greater impulsivity (Hoffman et al., 2012; Strober, 1980). Recent studies suggest that diagnostic crossover from AN–restricting subtype to AN–binge/purge subtype is high (Eddy et al., 2002, 2008) and that some individuals with AN cross over to bulimia nervosa, although the reverse is rare (Bulik, Sullivan, Fear, & Pickering, 1997; Eddy et al., 2008).

Anxiety is common among individuals with AN and often far predates onset of the eating disorder (Deep, Nagy, Weltzin, Rao, & Kaye, 1995; Godart, Flament, Lecrubier, & Jeammet, 2000; Kaye, Bulik, Thornton, Barbarich, & Masters, 2004; Toner, Garfinkel, & Garner, 1989). This includes general trait anxiety, as well as generalized anxiety disorder, obsessive–compulsive disorder, and social phobia. Depression is also common and may predate eating concerns or emerge after AN onset (as the individual becomes increasingly starved, experiences low energy, and disengages from activities that would be rewarding or vital) (Deep et al., 1995; Halmi et al., 1991; Ivarsson, Råstam, Wentz, Gillberg, & Gillberg, 2000; Toner et al., 1989). Individuals with AN (particularly binge/purge subtype) might also evidence personality disorder features or have issues with substance use or self-harm or have a history of trauma (Carter, Bewell, Blackmore, & Woodside, 2006; Pawlowska & Masiak, 2007).

Treatment Options

Second-Wave CBT and Family-Based Treatment

Treatment development has been slower for AN than for other mental health issues, particularly for adults over the age of 18 (Agras et al., 2004; Le Grange & Lock, 2005). A recent review of treatment options for adults with AN concluded that there is no appreciable empirical evidence for any particular treatment option (Brockmeyer, Friederich, & Schmidt, 2018). High dropout rates are also a significant problem for adults with AN, commonly ranging between 33 and 50% for outpatient treatment (Della Grave, El Ghoch, Sartirana, & Calugi, 2016; Galsworthy-Francis & Allan, 2014).

Second-wave cognitive-behavioral therapy (CBT) is less effective for adults with AN than for individuals with bulimia nervosa or binge-eating disorder (Brown & Keel, 2012), although outcomes for AN are better with "enhanced CBT" (CBT-E; Fairburn, Cooper, & Shafran, 2008; Fairburn et al., 2013). Studies of CBT-E that include low-weight individuals are 40 sessions; in these studies, about 60% of individuals complete treatment, and 60% of

treatment completers show improvement (Murphy, Straebler, Cooper, & Fairburn, 2010). A few studies have examined exposure and response prevention to decrease food-related anxiety and increase caloric intake during meals among adults with AN (Boutelle, 1998; Steinglass et al., 2012, 2014). ExRp seems to be effective for this narrowly defined goal, but it has only been tested with a couple dozen participants across three studies. Cognitive remediation therapy has also been explored, based on studies that suggest individuals with AN have neurocognitive deficits including weak central coherence (i.e., extreme attention to detail to the neglect of context) and impaired cognitive flexibility (Lindvall Dahlgren & Rø, 2014; Tchanturia, Lounes, & Holttum, 2014). Cognitive remediation seems to improve central coherence and cognitive flexibility among individuals with AN, but it does not appear to have a major impact on eating-related outcomes and is considered a preintervention or adjunct to ongoing intervention (Lindvall Dahlgren & Rø, 2014; Pitt, Lewis, Morgan, & Woodward, 2010; Tchanturia, Giombini, Leppanen, & Kinnaird, 2017; Tchanturia, Lloyd, & Lang, 2013; Tchanturia et al., 2014). More recently, a cognitive-interpersonal treatment has been tested, with effects comparable to CBT-E (Byrne et al., 2017).

There has been relatively more progress in the treatment of adolescents with AN with the emergence of family-based treatment (FBT). This was a slow development and a brief history may be useful in appreciating its significance. Until fairly recently, parents and caregivers were purposefully excluded in the treatment of adolescent AN. Exclusion was based on early formulations that AN was due to parental overregulation of the child's behavior or parent–child enmeshment that resulted in a failure of the child to develop a sense of herself as an individual, including her opinions, beliefs, or emotional experience (Bruch, 1962, 1982). Control over eating was hypothesized to represent a unique display of autonomy on the part of the child, and was therefore a concrete attempt to separate and individuate from parental influence. It was feared that parent involvement in treatment would stymie this process. This conceptualization lacked empirical evidence. Furthermore, while parental overcontrol, parent–child enmeshment, or other unhelpful family dynamics were sometimes observed clinically, this formulation failed to appreciate the potential transactional process between the child's temperament and parent behavior (e.g., a highly anxious child might elicit greater parental involvement) and that some of the observed patterns might be the result of having a child who is struggling rather than the impetus for AN.

The shift to include parents in treatment was initially driven by necessity. At least in the United States, changes in mental health care reimbursement forced inclusion of families in the treatment of adolescent AN. In 1984, the length of stay in long-term inpatient treatment facilities for eating disorders was 149.5 days (Wiseman, Sunday, Klapper, Harris, & Halmi, 2001). This was long enough to restore a child to a healthy weight before returning home. By 1998, the average stay was 23.7 days (Wiseman et al., 2001). This dramatic decrease in inpatient stay meant children were being returned to their parents while still at a dangerously low body weight (Wiseman et al., 2001).

In the late 1980s, a series of clinical trials tested FBT developed at the Maudsley Hospital in London (Lock, Le Grange, Agras, & Dare, 2001). This model integrated parents into treatment by centering intervention on present-day symptom management and deemphasizing AN etiology. FBT focused almost exclusively on supporting parents assuming temporary control over mealtimes until their child was able to resume eating on her

own. Little to no attention was given to contributing factors, and it was assumed that once restriction remitted, adolescents would return to their normal developmental trajectory. FBT outperformed individual adolescent therapy and was particularly good at reversing starvation (Le Grange, 2005; Lock, 2011; Lock et al., 2010). Including parents and family became a standard of care for adolescent AN. While the majority of adolescents treated with FBT (as manualized by Lock & Le Grange, 2015; Lock et al., 2001) benefit, studies show that greater than 45% achieve suboptimal outcomes (Lock, 2015; Lock et al., 2010). Factors that limit FBT effectiveness include adolescent rigidity or obsessionality and familial expressed emotion (i.e., emotional overinvolvement and critical communication, although data are mixed, and at least one study suggests that parental warmth may be a better indicator) (Le Grange, Eisler, Dare, & Hodes, 1992; Le Grange, Hoste, Lock, & Bryson, 2011; Le Grange et al., 2012).

Several studies have examined strategies to enhance the effectiveness of FBT for adolescents who show improvement and reach those who do not. For example, researchers have varied FBT intervention parameters, changing the length of treatment or treatment format (separated vs. combined family sessions), and increased parental education and support (Eisler et al., 2000; Lock, Agras, Bryson, & Kraemer, 2005; Rhodes, Baillee, Brown, & Madden, 2008; Rhodes, Brown, & Madden, 2009). Others, hypothesizing that FBT may work through parent-facilitated food exposure, have suggested broadened adolescent exposure to fear, worry, and disgust associated with interoceptive cues (e.g., fullness), weight and shape, and social evaluation (Hildebrandt, Bacow, Markella, & Loeb, 2012). Some individual treatments are also being tested as an alternative to family-based intervention for adolescents with AN, including CBT-E (Della Grave, Calugi, Doll, & Fairburn, 2013).

Third-Wave CBT and ACT for AN

Over the last decade, contemporary (or third-wave) CBTs have emerged, with good supportive evidence for a variety of presenting issues (Powers, Zum Vörde Sive Vörding, & Emmelkamp, 2009; Thoma, Pilecki, & McKay, 2015). This includes not only ACT but also dialectical behavior therapy (DBT) and mindfulness-based cognitive therapy (MBCT), among others. These therapies, while diverse, share an emphasis on acceptance and mindfulness, functional formulations, and second-order change (i.e., changing how individuals relate or respond to their thoughts and feelings). They also tend to engage strategies typical of humanistic or existential approaches, as well as more frequent exposure (Brown, Gaudiano, & Miller, 2011). Of the third-wave therapies, ACT is the most researched for AN. Seven studies have examined ACT for AN, including four case studies (Berman et al., 2009; Heffner et al., 2002; Merwin et al., 2013; Wildes & Marcus, 2011), two open trials (Timko et al., 2015; Wildes et al., 2014), and one randomized controlled trial (Parling et al., 2016); see Table I.1 in the Introduction. Studies of ACT for AN have examined both adolescents ($n = 54$) and adults ($n = 75$), and all have occurred in an outpatient setting (for a total of 129 participants). DBT has also recently been adapted to address constricted affect and piloted with individuals with AN (Chen et al., 2015; Lynch et al., 2013; Robertson, Alford, Wallis, & Miskovic-Wheatley, 2015; Salbach, Klinkowski, Pfeiffer, Lehmkuhl, & Korte, 2007).

While the empirical evidence of ACT for AN is still in its infancy, outcomes are positive. Studies show improvements in BMI and reduction in AN behaviors among individuals completing treatment (Berman et al., 2009; Heffner et al., 2002; Merwin, Zucker, et al., 2013; Parling et al., 2016; Timko et al., 2015; Wildes & Marcus, 2011; Wildes et al., 2014).

Conceptually, the ACT model is well suited to address the emotional avoidance and overregulation that characterizes AN. ACT focuses on acceptance or willingness to have unwanted thoughts, feelings, or body sensations. This goes to the heart of the struggle of individuals with AN who have difficulty allowing feelings or drives that feel out of their control and tolerating variation in experience and their body and internal states. By increasing acceptance of unwanted internal experiences, it might be possible for individuals with AN to meet their physical and emotional needs and pursue elements of life that are vital and meaningful, even if not predictable or well controlled.

ACT's functional-contextualistic approach to cognition might also be advantageous for treating individuals with AN. Rather than aim to change the form (or the *content*) of thoughts/feelings, ACT aims to decrease the extent to which they exert undue influence over behavior. Thus, unlike more traditional CBT, there is no need for eating disorder thoughts to change in order for behavior to change. Given that cognitions in AN tend to be highly intractable (and individuals with AN tend to exhibit high cognitive rigidity, premorbidly and after onset of starvation), this might be a more efficient way to achieve behavior change. It might also be better matched to the client's experience. Rather than having the expectation that AN thoughts will resolve, clients might expect that these thoughts will be present indefinitely, and particularly at times of stress. Furthermore, because clients learn to view cognitions in AN functionally (as a signal of emotional distress), and have learned to behave differently in their presence, they might have a lower risk of relapse (which is extremely high in AN) (Carter, Blackmore, Sutandar-Pinnock, & Woodside, 2004).

ACT's functional approach might also broadly improve client adaptability by targeting behaviors that are functionally equivalent to AN (or serve a similar purpose). These behaviors, while not life threatening, limit life vitality. This includes, for example, excessive devotion to work or people pleasing (to the neglect of one's own needs).

The ACT model also centers on personal values as a guide for behavioral choices. This could be extremely helpful for individuals with AN who tend to be low in self-directedness and make decisions based on external systems of control (e.g., rules). By clarifying personal values, individuals with AN might come to know themselves more deeply and choose actions that enhance their lives (rather than doing what they think is good, right, or expected of them). Values might also serve an adaptive organizing function for individuals with AN who may be overwhelmed by a lack of structure. Values may replace rigid rules, providing flexible guidelines from which to choose actions.

Personal values may also be a powerful motivator of behavior change and more effective than identifying the "cons" of restrictive eating and low weight, which tend to be more logic based (e.g., "Being cold all the time") or focused on future goals ("It might affect my ability to have children").

Finally, ACT specifically addresses issues of self-awareness and flexible perspective taking. Thus, it may be well suited to help individuals with AN establish a sense of self

beyond outward appearance, achievements, and goals and develop a greater capacity for a compassionate (rather than judgmental) approach to themselves and their experiences.

An Alternative Framework: AN as Maladaptive Self-Regulation

AN is typically formulated as pathological weight regulation, driven by a distorted view of the body. Below, we offer an alternative framework of AN as *verbally mediated punitive self-regulation*, which may facilitate application of the ACT model.

From the broader vantage point of self-regulation, it may be less likely that the therapist will be hooked by the particularly evocative topography of self-starvation and maintain a functional view. This framework might also clarify the continuum and severity of AN behavior and the goal of intervention, which is to move individuals from rigid, rule-based self-regulation to more flexible responding to their physical and emotional needs.

Importantly, this formulation is grounded in pragmatic truth rather than the assumptions of scientific realism; that is, it is only "true" inasmuch as it guides the therapist and the clinical encounter in an effective manner to produce meaningful behavior change.

When we are very young, other people have a major role in meeting our basic physical and emotional needs. To do this, our parents (or caregivers) observe our behavior and elements of the situation and infer our private experience. For example, they may observe us crying and rubbing our eyes, note that we have been awake for hours, and infer that we tired. They might even say to us, "Are you tired? You look tired." If the situation is suitable for it, they might create conditions for us to sleep. Similarly, they may observe signals that we are hungry and provide food, or that we are scared or sad, and comfort us. As we get older, we take on the responsibility of caring for ourselves. It becomes our job to notice how we are feeling and take actions to meet our needs. Ideally, we establish a respectful, reciprocal relationship between signals originating from our body and our actions. For example, when our stomachs rumble, we recognize this feeling as the need for food and respond accordingly. As we do so, we come to know ourselves and our signals and establish a sense of safety and self-trust. We may even come to have warm feelings for ourselves as the caretaker and the one being taken care of.

Rather than warmth and reciprocity, individuals with AN have adopted a rigid, punitive approach to managing themselves and their needs. They behave like an *authoritarian* parent, imposing rigid rules and demanding obedience, without regard for their own feelings or extenuating circumstances. Rules prioritize work and performance to the neglect of the individual. While emergencies may call for such driven behavior, as a lifestyle, it takes a toll. Individuals with AN exist in a profound state of physical and emotional deprivation. They are not fed when they are hungry or comforted when they are sad. For some individuals with AN, the situation is worse, and they not only ignore their needs, but also berate themselves for having them, calling themselves *weak*, *lazy,* or *pathetic* for being tired, hungry, or upset. Although rigid rules might be most poignant in the areas of eating and exercise, they typically occur across life domains (e.g., relationships) and disregard the individual based on rules of what is "good" or "right" or what will make them a good or better person (see Figure 1.2 on p. 18).

From a client with AN binge/purge subtype:

"Do not sleep tonight and do not eat that grape. 566 sit-ups, not 565. If it burns, it's not good enough, it needs to kill. Go until you can feel no more and then you can go even harder. Push it, come on, run another mile. No wait, run 3 more. Do some stairs. Don't eat that. Damn it, she's in the bathroom. Hurry up. OK, OK, go throw up. There's some left, you're not throwing up pure bile yet. Throw up more. More. More. What, your throat hurts? No it doesn't. Shove your fingers deeper. Ignore the tingling, it will go away. You're not puffy from puking, no your face is just fat. Why did you have to eat that banana? Get it out, NOW. Why are you sleeping, you lazy bastard. Get up and jump on the trampoline. Look at you, you're so fat. They don't know what they're talking about, you're not sick, they're just trying to stop you from being good. This isn't hurting me. I can't die from this. Look, I can go run 5 miles and you want to tell me I'm sick? Your clothes aren't getting baggy; no you're so fat that you're stretching them out."

Another important element of this approach to (self-)parenting is that no performance is ever really *good enough*. As individuals with AN meet their self-imposed demands, rules for behavior become more extreme, with greater mandates on the individual despite increasing personal costs (e.g., less food or rest is allowed and more work is demanded). In the domain of academics, if an A is achieved, an A+ is expected next time. In the domain of eating, less than 500 calories becomes less than 400, and then 300.

Inflexibility in outcome also occurs alongside inflexibility in approach. Rather than experiment with different strategies to meet their increasing demands of themselves with less sacrifice, individuals with AN simply do more to achieve more. Thus, if studying all night for an exam resulted in an A, the next time they will stay up two or three nights. From this perspective, low weight *is but one outcome* of this verbally mediated, punitive system of self-regulation.

Punitive overcontrol and self-sacrifice are seductive because they work well for conventional measures of success. Individuals with AN excel in almost everything they do: They are valedictorian; they have the fastest running times or the first chair in the orchestra, and they achieve the thin-ideal. They may even seem to excel socially, at least when social activities have a clear structure that outlines how to succeed (e.g., club president). However, it is not a kind way to live or to treat oneself, and it comes with a significant cost to their health and well-being. Over time, relentlessly pursuing difficult-to-attain goals using a "push harder" approach depletes the individual, and it results in a lack of personal meaning or vitality. Life becomes a list of tasks to accomplish. Individuals with AN have limited free time to develop personal interests, and they avoid activities that they would enjoy because they feel frivolous or self-indulgent.

The Continuum of Self-Regulation

Thus far, we have only outlined one end of the spectrum of self-regulation that we think differentiates AN from other problems of living. It also points to the overlap between AN and high-functioning autism, obsessive–compulsive personality disorder (OCPD), obsessive–compulsive disorder (OCD), or other conditions characterized by rule-governed rigidity.

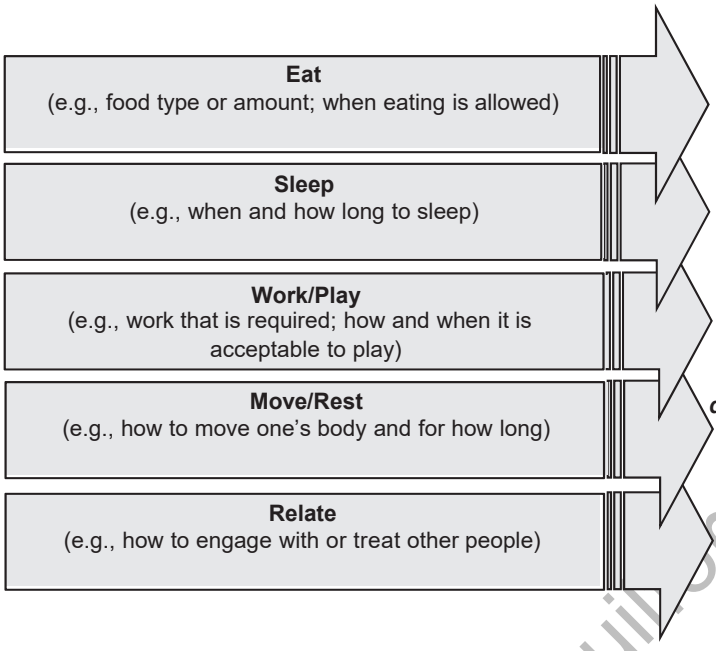

FIGURE 1.2. AN as a functional class of behavior of imposing rules to maintain emotional and behavioral control and be a good or better person. Moving from left to right, behavior becomes increasingly dictated by harshly imposed rules that disregard the individual and her needs. This continuum reflects the progression of AN over time and its severity. The clinician targets rigid self-regulation and, in doing so, impacts the larger functional class in which restrictive eating is one element.

However, expanding our perspective, we extend this continuum in both directions (see Figure 1.2). On one end of the continuum is the rigid, rule-based regulation that we have outlined thus far. On the other end is self-regulation determined only by one's feelings in the moment, disregarding rules or the consequences of more immediate impulses ("mood-dependent" behavior).

Extending the self-regulation continuum in both directions has two distinct benefits. First, it allows us to situate clients at different stages of recovery or with different clinical presentations. This might include, for example, an individual with AN who is typically restrained but abandons all self-control, eating indiscriminately and vomiting, or the individual with AN who vacillates between driven rigid perfectionism and boundless procrastination. These individuals may be described as moving rapidly from opposite ends of the continuum. Second, extending the continuum in both directions, we can also see more clearly that optimal regulation is positioned in the middle, with somatic–affective signals integrated flexibly with other sources of information to determine behavior (see Figure 1.3).

Factors That Contribute to Rigid Self-Regulation

A significant body of literature has identified individual differences (e.g., temperament) that are reliably associated with AN. These individual differences may function as establishing

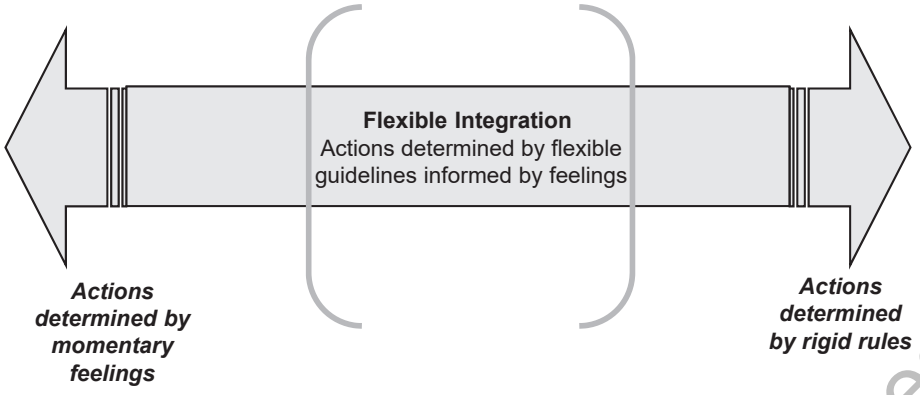

FIGURE 1.3. Continuum of self-regulation. On one end is rigid regulation by rules to the neglect of feeling or extenuating circumstances. At the other end, behavior based only in momentary feelings, without regard for verbally articulated values or long-term goals.

operations for rule following and/or make it difficult to deviate from rules when conditions change.

Temperament

Decades of research indicate that individuals with AN are harm avoidant and perfectionistic (Bardone-Cone et al., 2007; Cassin & von Ranson, 2005; Farstad, McGeown, & von Ranson, 2016). Thus, they tend to be inhibited, obsessional individuals that are afraid of making mistakes. They also tend to be interpersonally sensitive (Schmidt & Treasure, 2006). As such, they are often hyperaware of how others perceive them and specifically sensitive to signals that they have not met the expectations of other people. For individuals with this temperament, societal messages about the importance of self-discipline/self-control and rule following may be powerful determinants of behavior. These messages may be further reinforced by an individual's immediate social environment (i.e., families and communities), which may differ in their expectations for behavior.

The temperament of individuals with AN might also increase rejection of somatic-effective cues and reliance on rules to make self-care decisions. Felt states are amorphous and fluctuate, sometimes in unpredictable ways. For example, on any given day, our energy needs vary due to factors that we do not determine and cannot fully know (e.g., subthreshold disease processes, temperature regulation, the stage of one's menstrual cycle). Thus, a meal that was completely sufficient on Monday may on Tuesday be followed by hunger pangs only an hour later. For individuals with a more cautious temperament, afraid of being wrong, this is extremely unsettling. There is no objective measure on which to base how we feel ("Am I really hungry?") or the appropriate response to these feelings ("Should I eat?"). Making decisions based on feelings is overwhelming and risky. Uncertain or unsure, individuals with AN may impose rules and cautiously err on the side of eating (much) less and doing (much) more, rather than risk momentary decisions that may be "wrong."

Interoceptive Awareness

Individual differences in interoceptive awareness might further interfere with the use of feelings to inform action. In the earliest psychological accounts of AN, individuals were described as having difficulties in the ability to sense body signals (e.g., the face turning hot) and to decipher their meaning (e.g., discriminate emotions) (Bruch, 1962, 1982). While researchers have consistently observed difficulties in deciphering feelings (e.g., poor interoceptive awareness, alexithymia) in individuals with AN, the data on the ability to sense body signals (i.e., somatic sensitivity) are mixed. Some studies suggest hyposensitivity, while others suggest that individuals with AN may be hypersensitive prior to eating disorder onset. For example, Pollatos and colleagues (2008) found that individuals with AN are less able to detect their own heartbeat than are healthy controls, and that this deficit is associated with BMI, suggesting that it may be an outcome of low weight. Other researchers have found that individuals with AN who are weight-restored have superior heartbeat detection and report greater sensory and emotional sensitivity (e.g., having an exaggerated startle response to both positively and negatively valenced stimuli despite limited display of facial affect) (Davies, Schmidt, & Tchanturia, 2013; Erdur, Weber, Zimmermann-Viehoff, Rose, & Deter, 2017; Merwin, Moskovich, et al., 2013).

A significant body of literature also indicates that individuals with AN have fear and disdain for emotions and believe that there are negative consequences for expressing feelings (e.g., viewing emotion as a personal failing) (e.g., Davies, Schmidt, Stahl, & Tchanturia, 2011; Fox, 2009; Harrison, Sullivan, Tchanturia, & Treasure, 2009; Lavender et al., 2015; Schmidt & Treasure, 2006; Wildes, Ringham, & Marcus, 2010). Both hypersensitivity to somatic-affective cues and nonacceptance of emotions may motivate imposing rules and structure to constrain affect. It might also increase the reinforcement value of starvation, which directly mutes signals arising from the body. Hyposensitivity (or similar issues, e.g., alexithymia) might require individuals to find alternative sources of information to guide actions (i.e., rules).

Neurocognition

Some data suggest that individuals with AN have neurocognitive differences that might make it difficult for individuals with AN to deviate from rules based on feedback and/or see the "bigger picture." For example, researchers have reported that individuals with AN have difficulty shifting cognitive or behavioral sets and moving flexibly from one task or strategy to another when the immediate contingencies no longer support the action (Danner et al., 2012; Roberts, Tchanturia, Stahl, Southgate, & Treasure, 2007; Roberts, Tchanturia, & Treasure, 2010; Tchanturia et al., 2012). This difference is observed not only in individuals who are underweight, but also in individuals with AN who are at a healthy weight (Roberts et al., 2007, 2010; Tchanturia et al., 2012) and their nonaffected sisters (Roberts et al., 2010). Individuals with AN have also been found to have weak central coherence, demonstrating a local processing bias (Danner et al., 2012; Lopez et al., 2008). This difference does not appear to be as pronounced in younger individuals with AN (Lang, Stahl, Espie, Treasure, & Tchanturia, 2014), which suggests that it might be a consequence of AN and indicative

of a longer duration of underweight. A local processing bias might maintain AN by encouraging a narrow focus on details (e.g., calorie counts or small changes in body experience) without appreciation for the broader context. Recent years have seen an uptick of interest in other neurobiological differences among individuals with AN that might be relevant to the value placed on stimuli (e.g., reward processing) or the integration of information about the state of the body (Kaye, Wierenga, Bailer, Simmons, & Bischoff-Grethe, 2013; Nunn, Frampton, Gordon, & Lask, 2008).

Development

AN typically emerges at key developmental periods, such as when entering puberty or young adulthood. During these times, there are not only physical changes (e.g., hormonal shifts) but also psychological changes. Individuals are developing self-awareness, and there is a change in responsibility or expectations. In this context, rules may offer an organizing frame amid the chaos and restore predictability and control (including control over the experience of the body and its impulses; Crisp, 2006).

Impact of Rigid Self-Regulation on Valued Living: Limiting Self-Knowledge and Social Connection

When decisions are based on rigid rules, they are, by definition, insensitive to day-to-day (or moment-to-moment) variation. As a result, there is a mismatch between one's actions and the needs or demands of a situation. If rules are punitive (self-depriving) or extreme, they can produce severe nutritional deficits that are life threatening or other problems in functioning or adaptability. However, using rigid rules to determine action also has broad implications for valued living.

Learning who we are, our preferences and opinions (i.e., self-knowledge), requires paying attention to our internal experience and experimenting to discover what we like or dislike. Following rigid rules based on what is "good" or "right" or what meets conventional standards of success interferes with knowing oneself and pursing activities that are personally meaningful. Among individuals with AN, even big life decisions (e.g., career choice) may be based on the perceived expectations of other people or of society, rather than on personal preference. As a result, individuals with AN may experience a lack of vitality (or chronic dissatisfaction) at the same time that they believe they "should" be happy or fulfilled.

Social connection might also be negatively impacted by an overreliance on rules. Social situations are dynamic and nuanced. The "right" way to behave is also often unclear, and it may be impossible to employ rigid rules. Social interactions are also not advanced by self-discipline. In fact, they are advanced by the opposite: contact with feeling and the willingness to express these feelings and be vulnerable, present, and spontaneous. Individuals with AN often avoid unstructured social interactions or require that social exchanges occur in a highly predictable manner (e.g., rejecting unexpected invitations, avoiding chit-chat). Using rules rather than empathetic attunement, they may also find it impossible to understand the feelings and actions of other people or relate to another person in a meaningful way. Thus,

individuals with AN may appear cold and aloof and lack intimate connections with other people.

How ACT Addresses Rigid Self-Regulation

ACT helps individuals with AN reverse life-threatening restriction and build a valued, vital life via increasing *psychological flexibility* or the ability to contact the present moment fully and without defense and cease or persist in behaviors that would be effective given the individual's values and what the environment affords. Clients learn to respond flexibly and effectively to situations (using their experience rather than rigid rules as their guide). Treatment begins by determining the contingencies maintaining AN, and specifically how imposing rigid rules (or punitive overcontrol) allows the individual to avoid or escape momentary discomfort (e.g., uncertainty). The context is set for the individual to contact the ultimate unworkability of current behavior patterns and the costs for valued living. The ACT processes of Acceptance, Defusion, Present-Moment Awareness, Self-As-Context, Values, and Committed Action are then engaged to create an open, curious stance to one's feelings and increase willingness to experiment with new behaviors to meet one's physical and emotional needs. Committed actions linked to values enhance life meaning and create patterns of activity incompatible with AN.

Looking Ahead

In Chapter 2, we provide a more in-depth overview of ACT-based treatment for individuals with AN. We also discuss orienting clients to an ACT approach and forming a therapeutic alliance. Alliance building might be more challenging with individuals with AN (relative to other populations), due to their beliefs about the implications of expressing feelings and the desire to maintain restriction and low weight.

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