Implications of Attachment Theory and Neuroscience for the Psychotherapeutic Treatment of Obesity and Overeating

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This article offers a new approach to the psychotherapeutic treatment of patients who are chronically overweight, show signs and symptoms of dysregulated eating, and are refractory to usual weight-loss interventions. Clinical observations garnered from psychotherapy and supported by research in the interrelated domains of infant development, attachment theory, and neuroscience suggest that these patients experience the sequelae of early attachment insecurity, which results in a compromised self-regulatory system, including dysregulated eating. This article examines difficulties in self-regulation, with a particular focus on overweight or obese patients with dysregulated eating behaviors and their associated underlying psychological sequelae and proposes how a psychotherapy approach informed by classical and modern attachment theory and neuroscience can effectively address these structural deficits.

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This article introduces a psychotherapeutic approach that focuses on deficits in self-regulatory capacities that are typically found in patients who manifest obesity in conjunction with persistent overeating (1). The thesis offered here is that misattuned experiences of the infant in relation to the primary caregiver give rise to insecure attachment patterns that, in turn, impair both psychological and neurophysiological developmental trajectories. These deficits are implicated in dysregulated eating, regarded as a compensatory and defensive process, and an effective psychotherapeutic treatment must necessarily address these deep structural deficits.

CLINICAL OBSERVATIONS

Many patients in my practice have overeating pathology (usually diagnosed as having binge eating disorder or the more inclusive but also more nondescript feeding and eating not otherwise classified) and present with rather similar symptom clusters, most prominently dysregulated eating, and similar narratives reflecting themes of early misattunement and extensive problematic attachment styles in their adult interpersonal relationships. Their lives are driven by incessant, tormenting preoccupations with weight, body image, and food. Before entering psychotherapy, some have managed to lose a significant amount of weight through various weight-loss programs but have quickly resumed overeating and regained the weight they lost. Those who have managed to maintain weight loss struggle to adjust to a thinner body psychologically. Some are mourning because the sought-for weight loss did not yield the sense of well-being, security, or emotional stability they had anticipated. Their body size and shape changed, but not their psychological world. Also, their main activity—attending to all of the components of a weight-loss program—is now gone, and it has not been replaced by other pursuits that are as central to and all-encompassing in their lives.

Among these patients' salient psychological characteristics is their unique relationship to body experience. The intricate connection of self to body acquired in normal development (2) is missing. The body these patients experience and refer to does not feel like their own; there is an alienated, detached quality. Language to articulate somatic experience is lacking, and the capacity to discern bodily cues as signals of emotional states is only partially developed. "I don't feel my body unless I overeat and only then can I feel—the pain of being overstuffed." Moreover, constancy of body image has not been achieved; body image can fluctuate wildly and significantly with state of mind and with changes in mood and affect: "In my head, my body size changes depending on who I am with and what I think they think about me."

These patients tend to have a marked passivity in their orientations to the world, manifested initially with regard to their weight: "I wish I could do something about it." They insist that they want to lose the weight, but they take no effortful steps to move in that direction. There is an essential

disconnection between effective wanting and self-initiated, sustained, and realistic goal-directed action.

This passivity is also manifested in their approach to psychotherapy, which entails a disavowal of any interest in or conviction regarding the usefulness of psychological exploration, a stance that becomes a prominent resistance to the work. They feel mandated to enter therapy: "My physician said I had to come." Their obesity has led to very serious medical complications, and they find themselves asking helplessly, "Why can't I just get on board to save my own life?" This naiveté and victimization are signs of how deeply entrenched this dysregulation goes. They passively yearn for the magic pill or the latest surgical procedure. Agency is external; they have little sense of their own initiative or efficacy.

These patients typically operate within an enduring frame of negative perceptions of self, rooted in a negative body image—"I'm fat and ugly"—and extending to themes of low self-esteem and self-hatred—"I don't deserve," "I am defective and unlovable," "I am disgusting." What gradually emerges in psychotherapy is an ego-syntonic, almost intrinsic sense of self-loathing and shame, the shame associated with feeling unlovable and undeserving.

Negative percepts spread beyond the self to a dysphoric and pessimistic worldview. "Things just aren't going to work out—this I know." Often, just below the surface, there is an emotional "black hole," a deep and pervasive sense of emptiness, loss, or deadness, a futility in anticipating or realizing gratifying and comforting human connection.

Most pathognomonic of this clinical population are significant deficits in interpersonal relationships, especially in terms of intimacy and mature authentic relatedness. Self-other ties characteristically reveal insecure attachment patterns—dismissing, preoccupied, or disorganized. The dismissive style, manifest both in their social worlds and in therapy, is marked by a counterdependent stance as these patients defensively declare they need no one, just their food. They present with an invincibility and false self-reliance in the service of avoiding vulnerability in real, authentic, intimate relationships—a walling off of interpersonal hunger, which lurks underneath. To have an interpersonal want or need is to be seen as being weak and vulnerable, and so it is defended against via relatively primitive mechanisms of disavowal or dissociation. In the therapy setting, these patients' initial orientation to the therapist is one of guardedness and cynicism. "I don't really need you; I'm not sure why I am here." They recite monologues of self-sufficiency.

In contrast to the coolness and remoteness of those with dismissive styles, patients who present with an insecure pattern of preoccupied attachment are hypersensitive and hyperreactive, flooded or overwhelmed with feelings. They are continuously fearful of the anticipated loss of interpersonal connection, and they lack any deep conviction in the idea of permanence in interpersonal relations; of stable, mutually reciprocal, and rewarding relationships; and of resilience in relationships that can withstand ruptures. They experience intimate relationships as being fragile, not able to be sustained under even the slightest disagreement or argument. Food reassures and calms in its constancy and availability. These patients' initial interaction with the therapist reflects an undercurrent of anxiety and clinginess. Their stories are rambling and uncontained, implicitly asking to be reined in.

Overeaters who present with disorganized unresolved attachment patterns can present as high-functioning adults with seemingly tightly bounded emotions, both in real-world relationships and in the therapy office. This veneer is quickly stripped away, however, when the patient experiences a disruption in the here-and-now relationship prompted by the perception of the other as having a "detached expression" or "felt negative valence." They then spontaneously dive into a dysregulated feeling state, as if falling off a cliff. They report feeling overwhelmed with anxiety and anger, and sometimes turn to varying states of dissociation as a way of distancing themselves from the inner turmoil. This dysregulation catches them, and the therapist, by surprise and fills them with humiliation and confusion at the rapidity and completeness of the loss of their high-functioning self-state.

Although their attachment styles vary, patients with dysregulated eating have uniformly come to learn, in a deep sense, that food is the only "other" that can reliably and safely provide comfort and well-being. "I need nothing but my food." Food becomes a self-object, a significant other serving only the psychological well-being and stability of the self.

ATTACHMENT, DEVELOPMENT, AND DYSREGULATION

Over the past two decades, attachment theory has had a significant impact on the understanding not only of developmental psychopathology (3, 4) but also of the mechanisms of change in psychotherapy (5). On the basis of my own clinical observations as well as theoretical and empirical advances in the domains of infant psychological and brain development, increasingly shown to be interrelated, I offer as my central thesis that dysregulated eating originates in early attachment disjunctions, the kind of discontinuities and noncontingencies in nonverbal interactive communications between infant and mother so eloquently mapped by Beebe et al. (6). More specifically, I posit that the cumulative effect of chronic misattunements and asymmetries in interaction during early critical periods of development result in internalized insecure attachment templates or working models that, in turn, impair the acquisition of self-organizing and self-regulating capacities—most centrally, affect regulation. Affect regulation undergirds eating regulation and is understood as normally developing early within the infant-maternal interactive bond (7, 8). However, when the bond fails to provide requisite experiences of both containment and attunement, food and eating can become crucial self-objects and are quickly learned to be good-enough substitutes for the failed ties with the mother. The taking in of food

becomes a principal means of regulating the stress of attachment failures, calming and grounding hyperaroused affective states or enlivening hypoaroused affective states, and providing greater self-equilibrium.

Misattunements come in different forms, from subtle disconnects borne of the mother's deficits in intuition and empathy to more blatant nonresponsive, dismissing, or neglectful parenting, including overstimulating, understimulating, overintrusive, or inconsistent responses that reflect only the caregiver's and not the infant's needs (9) and full-blown physical, sexual, or verbal abuse. The narratives of adults with dysregulated eating in psychotherapy are replete with this array of disconnection (10–13). The typical story in psychotherapy reflects a cumulative or cascading series of fractured relationships from current adult life back to early childhood experience, as illustrated by the following vignette from a recent session.

> A married woman in her 40s complained of a recent dissociative state. She had found herself sitting alone in her living room, mindlessly eating a baguette, repetitively breaking off small pieces and eating without savoring them, puzzled about where she was. What happened to her? How did she get there? Slowly, we explored what preceded this, namely a conversation on family finances with her husband that left her feeling ignored and dismissed. In the course of our exploration, she associated to an early childhood scene with a similar theme. She vividly recalled a time when she was very young, suffering from a terrible stomachache. She had gone to her mother, crying, only to feel rebuffed, her mother telling her it was nothing, to stop crying, to not be a baby. In these memories and reveries, she came to understand that she had made a decision not to cry again, not to depend on anyone for succor.

All shades of misattunement can render the infant fearful and confused about the goodness and validation of both self and other, an internalized experience of "chronic shock," as Adams (14) referred to it, the result of failed dependency resulting in "the devastating ripple effects of early neglect and deprivation on the nervous system and patient's capacity to feel safe with others" (p. 138). Furthermore, "the child who has been failed by her mother takes the burden of the mother's badness upon herself" (15, p. 81), and this becomes the "[filter] through which the patient experiences her world" (p. 74).

In adulthood, patients with dysregulated eating turn or return to food to regulate volatile feeling states triggered by reactivated early frustrations and deprivations of attunement and connection. Eating dysregulation is regarded as one of many kinds of action systems (9) that serve a variety of psychological functions—as a distraction from or modulator of disturbing or disruptive thoughts and feelings, particularly the typical shameful feelings of being unlovable, an organizing and reparative function for a self that is fragmented or incomplete, an effort to satisfy object hunger and diminish the dread of emptiness. Dysregulated eating as a complement and accompaniment to dissociation serves as a primary adaptation to the stresses of relational disturbance. Dissociation coming before (in thinking about food and anticipating eating), during (as in overeating or binge eating), or after ingestion buffers the individual from the stresses and threats of relational loss. Patients describe this with different metaphors—overeating evokes a feeling of dullness, of entering into a fog, of being sequestered in a refuge, or of entering a strange space where they feel or think nothing.

The view of a causative link between early maladaptive patterns of attachment and dysregulated eating finds empirical support in a burgeoning empirical database that consistently shows associations between attachment styles and overeating and obesity in childhood, adolescence, and adulthood (16–26). In the most recent meta-analysis of the research to date, Diener et al. (27) reported a significant association between attachment quality and the prediction of later obesity. Taken together, these studies underscore the role of attachment security or insecurity in the development of regulatory processes, such as eating behavior.

ATTACHMENT AND NEUROBIOLOGICAL DEVELOPMENT

The body of findings amassed from neuroscience is consistent with these clinical formulations and observations in their demonstration that pervasive maternal misattunements and interactive mismatches adversely affect the early brain development needed for self-regulatory functioning during critical periods or windows of opportunity (7, 28–33). As Hart (34) concluded, "Brain development is driven by environmental influences, and this implies that a lack of relevant experiences may have lasting influence on brain development" (p. 53). The crucial neural pathways that occur in these early periods lay the foundation that determines whether and how adequately the infant will be able to cope with the effects of stress and relational disturbance.

The picture emerging from neuroscience portrays the neonate as ill equipped to cope on its own with the variations and excitations of its new environment. It is a subcortical organism in danger of going into shock through overstimulation by powerful or unexpected stimuli because it lacks sufficient means for modulation of behavior, which is made possible by the development of cortical control. The role of the higher structures is initially played by the mother, in effect the infant's auxiliary cortex (35, p. 305). As Schore (29) concluded, "Mother serves as a hidden regulator of the infant's endocrine and nervous systems" (p. 17). Not only is the mother the child's psychobiological anchor, but she is the child's only buffer against neuropsychological derailment (7, 29). Taken together, the empirical findings emerging from neuroscience suggest that secure attachments are requisite for normal brain development and the acquisition of self-regulatory capacities.

Critical periods in brain development, as significant as they are, are no longer seen as windows that slam shut. Hart (34) elaborated on the idea that development not advanced in critical periods can be modified via later psychosocial

experiences: "If the organism depends on certain stimulation at a certain time, the function is lost if later stimulation fails to make up for the missed opportunity" (p. 66). That is, the developing brain remains plastic beyond the sensitive or critical periods, and it can benefit from new and reparative experiences but slows over time. Structures can still be influenced and partially changed with the right, well-timed psychosocial intervention even after the window has closed.

INTERACTIVE REPAIR

Infant studies focusing on the development of affect regulation within secure attachment bonds, on identifying the underpinnings of pathological variants of secure attachment, and on the processes of interactive repair via nonverbal or implicit communication have important implications for the psychotherapy of adults who have dysregulated self-systems. In particular, the empirical work of Gianino and Tronick (36), Tronick (37), Beebe et al. (6), Beebe and Lachmann (38, 39), and Stern (40) has explored how interactive repair within mother-infant interactions gone awry through mismatches, misattunements, dissynchronies, and miscoordinations can support the development of secure attachment, felt security, and resiliency of the infant.

ATTACHMENT-BASED PSYCHOTHERAPY

Similar to other developing conceptualizations of therapeutic change mechanisms that focus on the role of early relational patterns in adult emotional regulation and dysregulated eating (41, 42), I posit that patients with dysregulated eating may benefit from psychotherapeutic approaches that address the underlying regulatory issues that are preverbally embedded in somatic experience and in the implicit relational world of attachment misattunements to facilitate the repair of the developmentally impaired capacity of self-regulatory functioning. The therapeutic aim involves helping patients to regulate impulses, fill the deep emotional void, and move away from the primal call of food to enable the development of more adaptive self-regulatory mechanisms, specifically more self-soothing processes, greater self-efficacy, a more integrated sense of self, enhanced tolerance for intimacy, and a healthier authentic relatedness. I contend that these skills are best built through the here-and-now relational dynamics that entail the sensitive responsiveness of the therapist or group—focusing on and being attuned to the implicit communications occurring in the here-and-now self-other interactions, exquisitely and empathically attending to the patient's somatic experience, and attempting reparative interactions that will widen the patient's window of affective tolerance. Key here in promoting therapeutic change is the concept of implicit relational knowing (43) in which the experience of being met and understood occurs chiefly through sensitive and empathic nonverbal interaction. For the kind of dysregulated patients I have been describing, the action of turning to food has become an automatic default position to avoid, to dull strong affect, and to dissociate. Introducing a corrective emotional-relational dynamic that is attuned to the implicit, embodied, or somatic realm allows for the missing psychological structures to develop and to ultimately integrate more fully with a sense of self.

In therapy, when I touch on those special reparative moments of patients feeling felt, seen, or heard, I direct them to notice where in their body they experience this acknowledgment of self:

> How does your body tell you that you feel felt? Let's study that—move into a mindful place, let yourself be in that "feeling felt" sensation in your body. Where is that sensation located? Stay with that sensation. Perhaps you would like to wrap your arms around yourself and hold on to that experience.

This attuned interactive exploration educates patients about felt moments. Ultimately, the goal is to help patients develop enough emotional resiliency to be able to move from dyadic regulation with a therapist toward self-regulation—to be able to stay present in the moment and not have to move to overeating or dissociation as a coping mechanism.

In the here-and-now of the therapy situation, reenactments of early interactive ruptures and the resultant stress of insecurity will come forth, and the nascent process of exploring—and verbalizing—these somatically based experiences can begin to be appreciated. An eclectic array of somatically focused techniques can be used to help to slow down the automatic movement to food and calm hyperaroused emotional states. Among these techniques are mindful awareness practices (33) and mindfulness skill training (44), which encourage patients to closely track what they are experiencing in the moment: "Let's notice what is happening in your body." With dysregulated eaters, treatment takes them a step further. "Let's study what happened before you found yourself moving towards food. Let's go back there, and stay with that feeling—notice what comes up." Of particular value is Siegel's (45) Wheel of Awareness exercise, which helps patients come to understand that they have choices about where to direct attention at any time; such techniques can help patients shift intentionally from disruptive or disturbing experiences to calming images or thoughts. Other techniques, adopted from trauma work, can help patients develop greater psychological sensitivity to somatic experiences when they are feeling hyperaroused. One such exercise, placing a hand on the heart, can be used to gain an experience of felt safety in quieting an aroused regulatory system: "Stand up, place your hand on your heart and pay attention to breathing. Start to count slowly. Explore what you are feeling in your body." Mindfulness meditation (45, 46), as in focusing on breathing, can bring dysregulated affect back to regulation. Similarly, sensorimotor work (47, 48) and somatic experiencing (49) can enable patients to attend step by step to the implicit realm of body experience. All of these techniques can help patients develop the ability to tolerate the somatically based experience of heightened or dampened affect, to stay present in the moment, and to

maintain behavioral self-regulation. Activities are designed to cultivate an enhanced capacity for conscious awareness of, tolerance for, and verbal articulation of one's emotional states without relying on the action system of eating.

An important area to address is patients' body-image perceptions, which are often distorted and split off from self-perception. In body image work, I often use a series of drawings (50) to assess how patients perceive themselves and how they think others, particularly significant others and parents, perceive them. I integrate relaxation techniques and guided imagery to guide patients' self-touch to develop a tactile-based image of themselves. "Feel yourself as if you were going to sculpt yourself from a piece of clay." I then ask them to draw just how they felt in terms of size and shape and supplement these exercises with sensorimotor techniques to develop the theme of each drawing. I ask patients to "drop into their body," to notice and sense what they experience as they review each drawing. What do they notice about their physical sensations? Is there an impulse, a movement, a gesture that is waiting to be expressed? What feeling, memory, or thought comes up?" As we develop the theme of bodily experiences, I may further experiment with what are conceptualized in sensorimotor approaches as probes: "Notice in your body what happens when I tell you. . . ." "Notice in your body what you experience when you hear. . . ." "What do you notice in your body when you hear someone say, 'You are a good person,' 'You are perfectly welcome here,' or 'Whatever you feel is okay'" (51, p. 92). The goal here is to supply new felt and then verbalized experiences to make up for what has been missed and to further articulate the relationship between body experience and self-experience.

Another important phenomenon to work with psychotherapeutically is dissociation. These patients often have a very difficult time staying present and embodied when their security is threatened. However, the initial moment of dissociation often becomes apparent to an engaged other who can help the patient learn to monitor this incipient phase. The goal in challenging defensive dissociation is to widen the window of affective tolerance and enhance patients' ability to stay present and safe, but not too safe (52). "What just happened here? Is it all right if we study what happened now?" In a collaborative spirit, I invite patients to develop a dual sense of consciousness, having a disturbing or threatening experience and reflecting on it. "What did you first notice in your body as your mind began to leave the room; where in the body did you notice this?" I might volunteer some of my own concomitant bodily experiences—what I intuit from patients' nonverbal bodily expression. "I noticed in my body that I began to feel tired. Perhaps something happened in our interaction that stimulated that. Did you notice that? Where in your body do you sense that? Did you leave the room? What do you think prompted that?"

In the therapeutic context of safety and constancy, I convey the message that here-and-now disruptions or misattunements with me or with other patients in the therapy group might occur and that such experiences are grist for the mill, that they can be safely examined and reflected on. The goal is to remain in the present moment, to rely on neither dissociation nor immediate action. In all this, I frequently return to the same basic query: "Is this one of the internal sensations you feel when you move toward food?"

Acknowledging an understanding that a rupture or disruption has occurred in the here-and-now is critical to therapeutic progress. I encourage patients to let me know when they feel that I haven't "gotten" them. In the therapeutic context, where rupture, containment, and repair are highly valued, patients become more comfortable with exploring how similar disruptions occur in their social worlds outside of treatment, and they are encouraged to contain these experiences by bringing them back to the safety of the therapy situation. When working in a therapy group, a modality particularly useful for this population, I encourage patients to explore similarities in their experiences of and responses to actual or anticipated relational disruption in their lives outside the group. Sharing these disruptive and disturbing experiences helps to reduce the sense of shame often attached to them and, by its creating a sense of universality, reduces the threat in exploring the underlying insecurities.

Often in the therapy group, patients manifest heightened sensitivity to experiences of rejection. I have developed a structured activity to widen the window of affective tolerance to such experiences. I use a large wooden bowl, the "rejection bowl," into which patients are asked to place their most salient fears about rejection by others. This process of sharing their fears and sensitivities to rejection and collectively and symbolically tossing them aside provides a sense of greater individual mastery of and decreased victimization by these interpersonal experiences.

Equally important to the work of exploring disruptions and ruptures in interpersonal relations is learning how to get a relationship back on track. Many patients with dysregulated eating report that the psychological work in verbalizing experiences of rupture and gaining an ability to repair are new discoveries. It is as though they have gone through life not knowing on some basic level that emotional mishaps can be fixed. Ultimately, the foundation for the hope of healing lies in the brain's ability to modify automatic responses through new learned experiences internally and with others. By gradually instilling a sense that more secure attachments can develop through the healing experience of current attuned interactions, trust in self and in self-other relationships can develop and, consequently, food as a primary source of safety and security can diminish in value.

CONCLUSIONS

This article has presented a new way of thinking about patients with obesity that the weight regulation field has not yet encompassed. My thesis is that patients in the dysregulated eating group who are severely overweight and obese, many of whom have spent years in unsuccessful weight-loss efforts

using traditional programs, have challenged regulatory capacities emanating from the early preverbal implicit realm. Such patients typically have a legacy of insecure and disordered attachment in their primary attachment relationship. It is this legacy that makes them vulnerable to the reliance on overeating as a means of self-soothing later in life. Their treatment must encompass specific therapeutic corrective experiences to attempt to bridge the resulting self-regulatory gap interpersonally, then internally, and ultimately neurobiologically.

Psychotherapeutic treatment for people with dysregulated eating is necessarily multifaceted. What separates these patients from others struggling to lose weight is the developmental legacy: There has been a lag in their development, or even a break, in terms of the coherence and integration of both the psychological self and the bodily self. The developmental legacy leaves these patients vulnerable to the development of action symptoms, such as turning to food as an interlocutor between self and other, between self and pain, between self and the black hole, and between reality and dissociation.

At their core, these patients have never internalized an authentic attuned interpersonal experience to return to as a secure base, nor have they acquired the experience to repair disrupted interactions. What seems requisite in an effective psychotherapy approach is a fine attunement to the world of the implicit in which the early derailing in self-other relations is stored. The potential of therapy to provide a transitional "earned secure attachment" experience can be actualized via somatically based and often nonverbal techniques that essentially offer opportunities for implicit relational knowing (37) or right-hemisphere-to-right-hemisphere communication (30, 32).

In both group and individual therapy, attention must be paid not only to the content of words, but also to the nonwords, to the unsaid, to the "music between the spaces." The therapist must tune in to the exquisite undeveloped, unknown, and unverbalized sense of self as embodied in posture, movement, and gesture. Techniques adopted from sensorimotor therapy and somatic experiencing work teach patients the nuances of attending to the somatic realm in an attempt to access the missing pieces in early development and work toward repair. Finally, however, it is the formation of a new kind of relationship that is essential, one in which the implicit can be explored and mutually acknowledged and understood. When the therapist and group can become adjunct neuropsychobiological regulators and help patients work toward earned secure attachment, patients are in an optimal position to learn to use regulation from the other and then eventually to move to greater self-regulation.

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