Improving Patient Treatment with Attachment Theory

A Guide for Primary Care Practitioners and Specialists

Jonathan Hunter
Robert Maunder
Editors

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Preface

In 2001, as consultation-liaison psychiatrists working 'in the trenches,' we were trying to understand why patients behave the way they do, and how we could help our colleagues in medicine, surgery, family practice, and all disciplines of health care with the struggles that ensued when their patients experienced their care to be unsatisfactory or threatening. We found attachment theory to be immensely useful in this challenge. A PUBMED search for new articles that year on 'Attachment and Medicine' would have turned up 23 articles. In 2013, the same PUBMED search generates 91 new articles in the preceding year. The field has built continuously over time, with increasing momentum, so that now it feels like we are at the cusp of general acceptance of the relevance of an attachment perspective. To capture the breadth of this activity, in *Improving Patient Treatment with Attachment Theory,* we have engaged leading researchers from North America, Europe, and Australia to apply this new perspective to the practical work of caring for patients.

In our work we have been generously supported by colleagues at Mount Sinai Hospital, both in the department of psychiatry and the hospital as a whole. Bill Lancee was crucial in supporting our early focus on attachment and collaborated on several studies. Molyn Leszcz as our Chief, colleague, and friend has been unwavering in his interest and pragmatic support. Consultation-liaison team members Ellen Margolese, Lesley Wiesenfeld, and Mary Preisman have been generous with their time and flexibility, and our colleagues Gary Newton, Susannah Mak, David Tannenbaum, Peter Ferguson, Hillary Steinhart, Gordon Greenberg, Mark Silverberg, and Janice Halpern welcomed us into their teams to do this work. In the wider scope of the University of Toronto, Gary Rodin and Susan Abbey encouraged this work with parallel work of their own on attachment and health. We cannot overstate the value of our students, who have, through their enthusiasm for this perspective, and incisive questioning, clearly contributed to the development of these concepts, and we are delighted to have had some part in supporting a next generation of attachment researchers, including Thao Lan Le, Christina Maar Andersen, and Andrea Lawson.

Lastly, in a book about the significance of relationships it would be an oversight not to emphasize the importance of those closest to us – Nancy, Lynn, and our kids – they have not only supported our efforts and tolerated the time away from family

spent on this task, but brought their own reflections, experiences, and queries to bear in a way that deepened our focus on the subjective experience of being ill and hospitalized, reminding us from close to home of the inevitable fears and challenges of being a patient.

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Part I

Foundations

Introduction

1

Jonathan Hunter and Robert Maunder

In 1952, James Robertson picked up a movie camera for the first time in his life and made a remarkable film. Robertson, a Quaker who had joined the Hampstead Wartime Nurseries in 1941 as a conscientious objector, became a social worker who contributed to the care of children who had lost family in the war. Working with John Bowlby, the founder of attachment theory, Robertson set out to demonstrate how separation from parents affects a young child. One of the easiest places to find children strained by separation was a hospital.

Robertson's camera followed Laura, a 2-year-old girl who required a minor operation that necessitated an 8-day stay. According to the hospital rules of the time, her mother was not allowed to stay with her and the nurses changed by shift, so Laura was obliged to try to manage incomprehensible and uncomfortable procedures, such as a rectal anesthetic, by herself. Eventually Laura settled and became quiet, docile, and compliant. However, when she left the hospital, Laura did not warm to her mother immediately – a bond had been damaged.

Robertson's film, *A Two-Year-Old Goes to Hospital*, had a huge impact, eventually changing how psychoanalysts, psychiatrists, doctors, nurses, and the public understood the experience of separation and loss for infants. Although the film met intense opposition from the medical establishment and the psychoanalytic community (Bretherton 1995), in the end its point was clear: when Laura settled into compliance, her docility was not a sign of a positive adjustment, but of despair. Laura was harmed by her separation. Partly as a result of Robertson's movie, the healthcare environment changed. Today, happily, parents typically stay with their infants when they need hospital care (and no one would have an 8-day stay for a minor procedure) (Fig. 1.1).

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Fig. 1.1 A mother looks through glass at her hospitalized child (Hospital Archives, The Hospital for Sick Children, Toronto, used with permission)

Modern health-care systems bear little resemblance to the hospitals of Robertson and Bowlby's time. We are challenged on many fronts. We are overwhelmed by the cost and burden of chronic diseases and struggle to maintain effective access to services. Barriers to providing high-quality care have created "a quality chasm" (Committee on the Quality of Health in America 2001). Furthermore, our understanding that chronic noncommunicable diseases are caused to a large extent by behaviors, particularly smoking, overeating, inactivity, and substance use (World Health Organization 2010), has had little impact on patient outcomes, largely because we are so often ineffective at facilitating and maintaining our patients' ability to make healthy choices.

Continuously rising costs lead to pressure to make medicine more efficient, and yet our efforts to do so often fragment care. Patients often see multiple practitioners, each embedded in a team of many people, which dilutes the effect of any one caregiver-patient relationship. In fact, for some patients, a continuous one-to-one relationship with a primary care provider is unavailable or has been supplanted by drop-in clinics, emergency rooms, and specialists who may have no consistent communication with the other doctors involved in a patient's care. Health professionals of all disciplines want to improve the quality of health care; how can we use current evidence to make a positive change?

It is the premise of this book that health-care professionals can benefit from returning to the lesson that Laura taught us. Although we now face different and greater challenges to providing excellent care, it remains true that health care fundamentally occurs between people; that suffering and the delivery of support and relief occur within human relationships. To the extent that we overlook the alliance that occurs at the core of provider-patient relationships, we diminish the impact of care. Our proposed strategy for understanding this premise is also derived from Laura; we use the perspective of attachment theory to understand illness and health care and to suggest new ways to meet the challenges of providing care. Because health care is inevitably and inescapably relational, understanding how relationships develop and how that development sets a precedent for later relationships, including those between a patient and a health-care professional, illuminates many of our health-care dilemmas and holds a promise of improving care.

In fact, the ways that people interact in close (attachment) relationships illuminate the challenges of chronic disease in two ways. The first is that patterns of security and insecurity in attachment relationships help us to understand what works and what goes wrong in provider-patient interactions. The second is that experiencing insecurity in relationships over a lifetime increases a person's risk of getting sick. This occurs in many ways, which are summarized by the model in Fig. 1.2 (first described by Maunder and Hunter (2001)). Patterns of relating to others that are associated with feeling insecure contribute to amplified physiological responses to stress, ineffective buffering of stress by social support, and to the use of mood-altering drugs or "comfort foods" to manage emotional discomfort, each of which increases the risk of chronic illness. Maladaptive health behaviors, such as excessive help-seeking (which leads providers to discount the validity of signs of illness) and nonadherence to treatment recommendations, are closely linked to insecure patterns of attachment and also contribute to poor health outcomes.

In this book, we focus on the work of specialist health-care providers and researchers who are expert in the interface between psychology or psychiatry and physical medicine. In several cases, these experts are consultation-liaison psychiatrists. That is the subspecialty of psychiatry that is dedicated to psychiatric aspects of medical and surgical illness. But expertise in this field is much broader than consultation-liaison psychiatry; it is a truly interdisciplinary field whose contributors include psychologists, nurses, occupational therapists, and professionals of other disciplines.

We organize the evidence for the role of attachment in understanding and improving patient care in the following way. Part I consists of an introduction to the

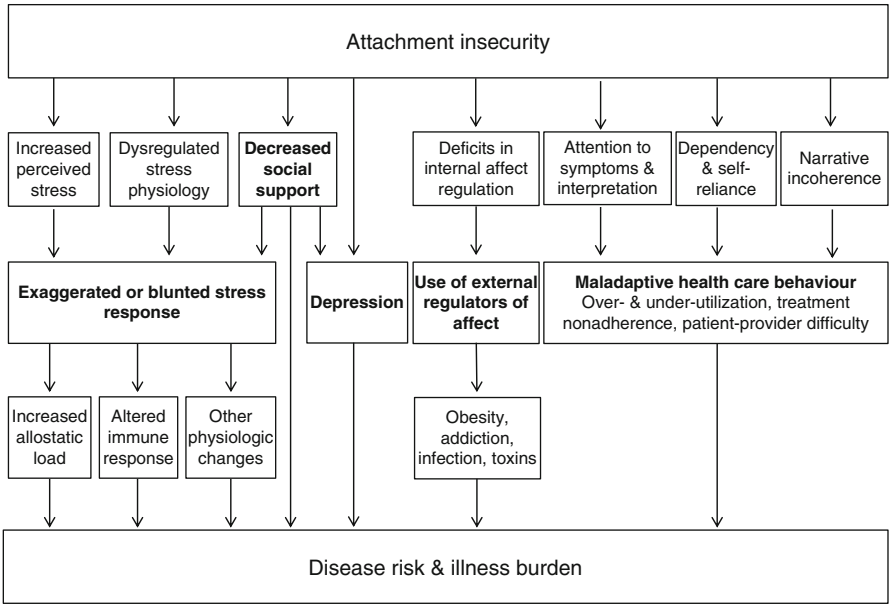

Fig. 1.2 Mechanisms by which insecure patterns of attachment may contribute to disease

fundamentals of attachment theory and clarification of some specific attachment concepts that are particularly valuable in health care: narrative coherence, affect regulation, and mentalizing. This is a crucial introduction for readers unfamiliar with attachment theory and provides context for each of the later chapters. There is more than one way to describe adult attachment, so Part I also sets out the terms that will be adopted in subsequent chapters. Finally, Part I provides an overview of the application of attachment theory in health care by Bernhard Strauss and Katja Brenk-Franz.

Part II demonstrates the broad applicability of attachment principles to an array of patient populations and the utility of an attachment perspective in understanding illness behavior in various contexts. We have selected specific populations of patients for whom there is established evidence for the role of attachment in understanding illness and its management with chapters by leaders in attachment research in each domain. The role of attachment in pain, especially in chronic pain, is discussed by Pamela Meredith. Chris Hinnen reviews the relevance of attachment to people with cancer, and Sarah Hales describes the impact of attachment at the end of life.

Part III explores how using attachment principles augments intervention. It opens with an introduction which provides a clinically and experientially pragmatically-based summary of the use of an attachment perspective on an active consultation-liaison psychiatry service in a general hospital. Then, Sanjeev Sockalingam and Raed Hawa describe the integration of attachment assessment and attachment-based intervention into a multidisciplinary clinic, using their experience

in a bariatric surgery program as a case example. Staying with an outpatient population focus, the chapter by Patrick Luyten and Peter Fonagy provides a novel and remarkably patient-centered account of attachment-based interventions for patients with functional somatic disorders.

Part IV looks toward the future. Tara Kidd describes the state of the art of physiological research concerning the relationship between attachment and stress and throws down a gauntlet regarding the further investigations that are required to make a robust case for attachment insecurity as a cause of allostatic load and chronic disease. We make a case for introducing attachment principles into medical education and then dedicate the final chapter to identifying gaps in our current understanding and goals for future research on attachment-informed health care.

Our hope is that this summary of an emerging field will stimulate you to reflect on the application of attachment theory to your own clinical setting and consider in what way you can join us in generating an understanding of the role of this fundamental human relational capacity in the regulation of health.

References

Bretherton I (1995) The origins of attachment theory: John Bowlby and Mary Ainsworth. In: Goldberg S, Muir R, Kerr J (eds) Attachment theory: social, developmental and clinical perspective. The Analytic Press, Hillsdale, pp 45–84

Committee on the Quality of Health in America, Institute of Medicine (2001) Crossing the quality chasm: a new health system for the 21st century. National Academies Press, Washington, DC

Maunder RG, Hunter JJ (2001) Attachment and psychosomatic medicine: developmental contributions to stress and disease. Psychosom Med 63(4):556–567

World Health Organization (2010) Global status report on noncommunicable diseases. URL: http://whqlibdoc.who.int/publications/2011/9789240686458_eng.pdf. Accessed on 23 June 2015

Fundamentals of Attachment Theory

2

Jonathan Hunter, Robert Maunder, and Thao Lan Le

The story of attachment is thought to start at the time when two particular evolutionary selection pressures came into conflict for our ancestors. First, reproductive success was favoured by standing on two legs rather than four. While there are various theories as to which advantages of bipedal locomotion were most important, selection for this trait may have been reinforced by making it easier to see predators and to travel long distances efficiently. Standing erect, however, demands strong bones, which created a conflict later in our evolution when our ancestors' brain size increased markedly. A pelvis that can support bipedal posture cannot tolerate being weakened by too large a hole in its centre (Wittman and Wall 2007). How could the enormous advantages of large brains be maintained while still standing on two legs? How could mothers give birth to a big head through a narrow pelvis?

The solution was a third evolutionary advance; infants were born 'premature,' before their heads and skulls grew too large (Narvaez et al. 2013). Human children are born almost helpless and then protected and cared for until they can survive independently. Naturally, bearing children who are incapable of defending and taking care of themselves creates yet another selective pressure—survival will favour infants and parents whose behaviour maximizes the odds that the parents will be present to protect and care for children during the long period when they are too immature to live independently. These behaviours and the signals that regulate them comprise the attachment system in infants and the complementary caregiving system in parents.

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The attachment system keeps an infant attuned to his or her mother, staying close by her for safety, retreating to her when scared, seeking solace when injured or ill, and exploring away from her when safe. Thus, a finely calibrated capacity to use our big brains to read social signals and modify social behaviours in order to balance our needs for both safety (proximity) and active exploration (independence) is fundamental to our species. Attachment to those who help us feel secure is hard-wired and obligatory. Each child has an exquisitely precise capacity to identify his or her mother (or whoever parents the child, known as an 'attachment figure') and is evolutionarily programmed to adapt to the interpersonal micro-environment co-created by the interaction of their individual characteristics.

2.1 Attachment Functions

An attachment relationship is qualitatively different from any other type of relationship. Specifically it differs because of four crucial functions that an attachment figure serves for an infant. Each of these functions serves the goals of allowing an infant to use his or her relationship with a parent to foster a sense of security, especially when challenged by an injury or a threat, and also to explore the environment independently when it is safe to do so. Confidant exploration provides experience that allows for mature and independent functioning to develop.

- The first attachment function is the *secure base*. An attachment figure serves as a foundation from which an infant can go out to explore the world.
- The second is *safe haven*. An attachment figure provides a safe and soothing presence to which an infant can return when exploration or separation becomes frightening. It is a common observation that young children are quite specific in their preferences for who they will seek out when they are scared.
- In order to take advantage of these two functions, an infant also has to have the ability to *seek and maintain proximity*, typically by calling out, crying, searching under his or her own power, clinging or whining.
- Lastly, *separation protest* is also a core attachment function, required at times to ensure that the parent continues his or her focus on providing security to the infant. An infant may even 'punish' the parent for not being available when needed, with a show of anger.

Importantly, these attachment functions (Hazan et al. 2004; Hazan and Zeifman 1999; Zeifman and Hazan 2008) and the behaviours that sustain them are only apparent at certain times. Proximity-seeking behaviours, for example, are not required continuously; they are activated at times of attachment strain or threat, such as when a person is separated from those who provide attachment functions or when the individual is in pain or is unable to defend him- or herself. These are conditions that are often present when illness requires investigation and treatment (see Fig. 2.1).

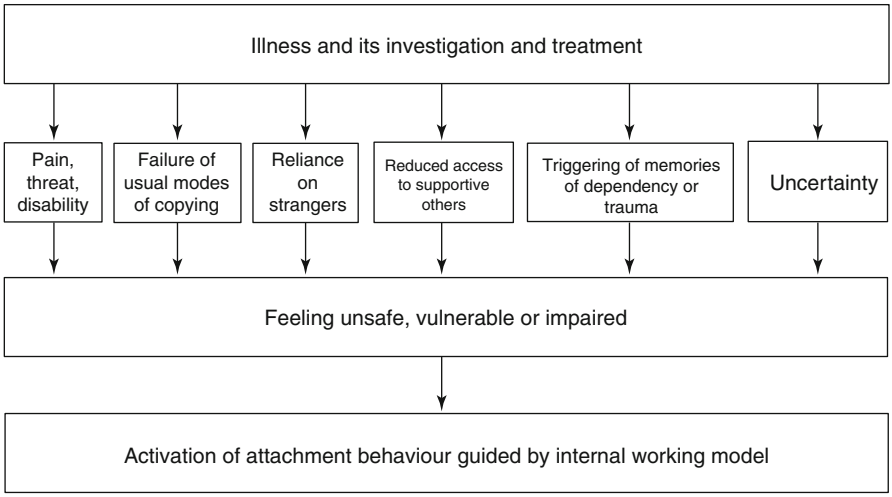

Fig. 2.1 Conditions that are associated with illness and its treatment consistently lead to activation of the attachment system

2.2 Classification of Attachment Styles

As infants adapt to the relational micro-environment that is defined by the characteristics of their attachment figures (and by the complex interactions that emerge between the parents and the child), they develop fairly consistent preferences for certain attachment strategies or behaviours—the ones that are most successful in meeting their need to feel secure as often as possible. It is remarkable, given the range of possibilities, that there are relatively few behavioural clusters that comprise the attachment patterns which emerge.

Furthermore, there is a surprising degree of consistency in patterns of attachment behaviour as children grow into adolescents and then adults. As we mature, we turn to new people to serve our attachment needs, first peers and then, typically, romantic partners. But the functions that attachment figures serve remain the same. As adults we can identify our attachment figures by reflecting upon the person who serves our needs for a secure base and a safe haven and who are the targets of our proximity seeking and separation protest.

Patterns of adult attachment can be understood in different ways, as 'states of mind' about attachment phenomena (which will be described in some detail in Chap. 3) or as clusters of attitudes, behaviour and emotional expression in close relationships. In this book, we combine the two approaches, which is somewhat heretical to attachment purists but is clinically useful.[1] We can describe the five patterns of attachment, which we can locate on two dimensions of attachment

[1] We justify this approach and describe it in more detail elsewhere (Maunder and Hunter 2012).

insecurity: attachment anxiety and attachment avoidance (Fig. 2.2).[2] In this system of classification, the X-axis refers to attachment anxiety, which is the degree of discomfort one feels with separation. The Y-axis is attachment avoidance, which is the extent to which one is distressed by crowding or closeness. Every individual person has an attachment style, and in this model, each style can be located in this two-dimensional space, depending on the degree to which he or she is prone to attachment anxiety and attachment avoidance.

On such a grid, individuals whose style is described by a point close to the origin experience a low intensity of separation anxiety and are comfortable with closeness. Their attachment style is *secure*, and they can adapt well to many stressors because they have reasonable confidence in their ability to function by themselves, as well as confidence with asking for and accepting help from others when they need it.

If we go farther out on the X-axis, we encounter people with high levels of anxiety about separation. These individuals have *preoccupied* attachment, and they prefer to be close to the people who function as a secure base and safe haven, and they will work desperately to keep those people close to them because of the vulnerability they feel when left alone under stressful conditions. The most common method of keeping an attachment figure near is hyperactive signaling, such as crying or clinging in a child, or effusive expressions of neediness in an adult.

If we return to the origin and then ascend the Y-axis, we encounter individuals with a *dismissing* attachment style, who emphasize independence and self-reliance. For this group, attachment signals are relatively deactivated (Shaver and Mikulincer 2002), which means that expressions of distress are suppressed in order to avoid appearing vulnerable or to avoid the possibility of being shamed for dependency.

Individuals whose attachment style is determined by both high separation anxiety and high avoidance of dependence may be described as having a *fearful* attachment style. People with this pattern of attachment live with the tension created by being both anxious about being alone and distrustful or afraid of others. This leaves them with sustained and often intense distress and no good way of recruiting others to help manage it.

[2] Patterns of adult attachment are described as 'categories' by those who use classification tools, especially the Adult Attachment Interview (Hesse 2008), and as 'styles' by those who use self-report measures that sometimes classify the patterns but more often measure degrees of attachment insecurity. Synthesizing the dimensional and categorical approaches to describing adult attachment, Bartholomew and Horowitz (1991) described a 2-dimension, 4-category model of attachment, in which categories (secure, preoccupied, dismissing-avoidant, fearful-avoidant) are understood as combinations of extreme positions (positive or negative) on two dimensions of attachment (model of self and model of other). Bartholomew and Horowitz's model has been widely adopted in the consultation-liaison and psychosomatic literature, but often in a somewhat modified form as the dimensions of attachment anxiety and attachment avoidance (which are reliably measured by self-report instruments) have come to replace the conceptual models of self and other respectively. In this book, we refer to patterns and styles, which we use interchangeably and sometimes refer to the underlying dimensions of attachment anxiety and attachment avoidance. When we refer to papers that use other terms, we include both those terms and the closest equivalent in the model adopted by this book.

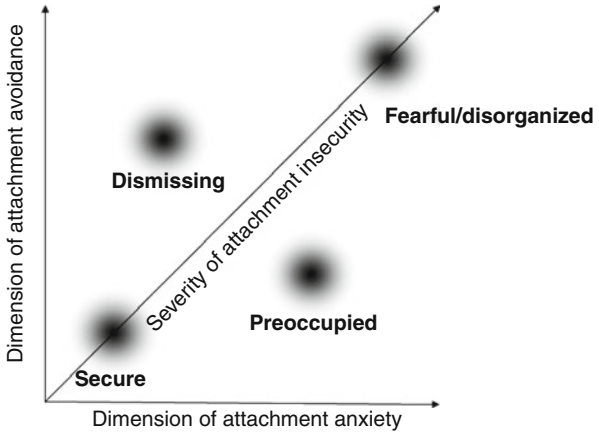

Fig. 2.2 A model of dimensions of attachment insecurity and prototypes of attachment style (From Maunder and Hunter (2012), used with permission)

Secure attachment and the three insecure patterns, preoccupied, dismissing and fearful, are all described as *organized* styles of attachment. When a person with any of these four styles faces a threat to his or her sense of security, he or she will activate a similar behavioural repertoire each time, be it secure or insecure. Each of these styles represents a reliable, consistent attachment strategy.

The final type of attachment is *disorganized*, and it is qualitatively different than the organized styles. Disorganized attachment is derived from experiences in infancy characterized by 'fear without solution', either because the parent who would otherwise provide comfort and protection is the *cause* of fear or because the parent is unable to offer adequate comfort in the face of other threats (Lyons-Ruth and Jacobvitz 2008; Lyons-Ruth et al. 2005). Karlen Lyons-Ruth provides the description of disorganized attachment in adults that is most clinically useful in health-care settings, which includes several possible presentations of the consequences of unresolvable fear. These could include (i) inconsistent attitudes towards attachment figures, such as both devaluing and identifying with a hostile or helpless parent, (ii) inconsistent use of both dismissing and preoccupied strategies and (iii) pervasive narrative incoherence (which is explained in Chap. 3). Manifestations of disorganized attachment overlap with constructs from outside of attachment theory, including the characteristics of borderline personality disorder, dissociation and primitive psychological defences, especially splitting.[3]

[3] The description of disorganized attachment that we adopt is broader, more easily observed and more severe than the categories of 'cannot classify' or 'unresolved for loss or trauma' which are made using the Adult Attachment Interview (Hesse 2008). Disorganized attachment is not identical to fearful attachment because its manifestations are less consistent but does share with the fearful style a conflict between pulls toward two incompatible solutions to fear.

Although attachment behaviours are only displayed during a state of vulnerability, organized attachment styles lead to similar behaviours being produced each time. This means that attachment behaviour is a state-dependent trait—it emerges in a reliable pattern, but only when triggered. The state-dependency of attachment behaviour is highly relevant for our work with medically and surgically ill people because pain and illness are consistent triggers of attachment behaviour. We can be sure that our patients' behaviour when they are ill is to some extent a manifestation of attachment behaviour. It is this state dependency that makes understanding attachment behaviour so relevant to appreciating the state of mind of a person who is ill.

2.3 The Internal Working Model

The relative consistency of attachment styles over time speaks to the underlying value of a behavioural system selected by evolution. If a behaviour has been reinforced as the best strategy for surviving one's most dependent years as an infant, then the system will continue to favour that behaviour later in life. This happens automatically, without deliberation. The theoretical foundation of this stability is the *internal working model*. As hypothesized by Bowlby (1973), the internal working model is a cognitive-emotional schema with two main components. The first looks outward; it is a set of expectations about what constitutes threats in one's environment and what one can expect from attachment figures at times of threat. This is an expectation learned from direct experience in key developmental relationships over time. The second component of the internal working model is a guide to responses; it is a behavioural plan to be used at times of attachment threat. In somewhat simplified terms, we can imagine the following behaviours to emerge when individuals are stressed in a way that triggers the attachment system.[4]

A *secure* individual has had sufficiently reliable, sensitive and responsive parenting relative to his or her needs. This leads to an internal working model that includes expectations that others will be consistent, respectful, responsive and supportive. The secure internal working model also contains a behavioural plan that is flexible, supporting both seeking proximity and intimacy, and comfort with independence, as suits the situation.

By contrast, a *preoccupied* person has an internal working model that formed in the context of inconsistent interactions with an attachment figure who may have been depressed, anxious or preoccupied him- or herself. A person with preoccupied attachment therefore expects inconsistent responses from others and favours attachment behaviours that readily signal vulnerability and need in order to keep an unreliable attachment figure close by. Hypersignaling and consistently seeking proximity look like clinging and neediness in an adult.

[4] The descriptions of attachment styles presented here are simplified composites of the work of many scholars, whose contributions are credited in a more detailed version published elsewhere (Maunder and Hunter 2009).

The *dismissing* person has learned in his or her interactions with parents not to show vulnerability or neediness. A person with dismissing attachment is not 'unattached', however. It is important to recognize that attachment bonds are universal and obligatory. A person with dismissing attachment has simply developed an internal working model that operates on the premise that the most successful way to maintain attachments is to appear not to need them. The dismissing person's internal working model is characterized by expectations of inadequate support or shaming in response to displays of hurt or fear and a behavioural module that promotes self-reliance and independence. Suppression of signs of distress has the effect of conveying that no support is needed in the face of major stress. In fact, one often has the sense that even inquiring about a dismissing person's well-being is unwelcome.

A *fearful* individual may have experienced intrusive or hurtful parenting. A person with this attachment style expects that needed support will not be forthcoming and so tends to endure anxiety and other distressing emotions in isolation, too scared to try to recruit support. The behavioural outcome of this mixed state is often a combination of some signaling of neediness (the result of high attachment anxiety) along with behaviour that leads to isolation, such as withdrawal or hostility (the result of high attachment avoidance). As opposed to what is seen in disorganized attachment, the tension between these opposing pulls tends to find a relatively stable point of balance (such as anxious isolation or angry withdrawal) and tends to be consistent across multiple episodes of threat or stress.

Lastly, a person with *disorganized* attachment is likely to have grown up in an environment of unresolvable fear. This pattern is characteristic of the child of a parent who is frightening, or too frightened themselves, to provide a sense of safety and comfort (Lyons-Ruth and Jacobvitz 2008). *Either* the person to whom an infant in this situation is programmed, by evolution, to turn to for safety is the same person causing the threat, which is an unsolvable dilemma, *or* this child's experience of fear and stress is insufficiently metabolized by his or her caregiver and therefore overwhelming. The internal working model that develops in these circumstances does not support any consistent behavioural response. As an adult, a person with disorganized attachment is therefore likely to use both dismissing and preoccupied strategies inconsistently and unlikely to communicate his or her needs and preferences coherently. This presentation does little to either sustain solo functioning or recruit support. Unfortunately, disorganized adults often drive away people who are in a position to help, who become overwhelmed by intense but inconsistent or contradictory interpersonal pulls.

2.4 Attachment and Gender

Evidence opposes commonly held stereotypes of the patterns of attachment that are most frequent in men and in women. Using different methods, researchers have found that differences in the distribution of attachment styles between the sexes are either small (slightly less secure attachment and slightly more preoccupied

attachment in women) or none (Mickelson et al. 1997; van Ijzendoorn and Bakermans-Kranenburg 2010). Thus, for the purposes of a health-care provider who is tuning in to the importance of attachment phenomena in patients, it is best to consider attachment styles as characteristics that are essentially independent of gender.

2.5 Attachment Styles Over Time

A core premise of the approaches described in this book is that patterns of attachment behaviour are triggered by illness and injury and manifest in a reliable pattern each time they are triggered. This consistency in patterns of attachment over time begins with the attachment style that has been set in infancy and later comes to bear on close relationships in adult life. What is the evidence for that consistency?

Two longitudinal studies illustrate principles of stability in attachment style over time. The first of these, carried out in a stable middle-class community, found that from infancy to age 21 the stability of attachment patterns was 74 % (Waters et al. 2000). That is, of 50 people whose attachment pattern was classified at age 12–18 months using the strange situation procedure,[5] 32 were classified into the matching attachment pattern at age 21 using the Adult Attachment Interview. These individuals had gone through school, met many peers and been exposed to hundreds of relationships within their family, peer group and the media, yet held fast to the attachment pattern that they had developed as infants.

Among the young adults who had an attachment style that did not match the one observed when they were infants, it is important to recognize the impact of stressful life events, such as loss of a parent, parental divorce or life-threatening illness. Such stressors were significantly related to changing from a secure to an insecure pattern (of nine people who started secure and changed, six became dismissing and three moved to preoccupied), but not to changing from an insecure to a secure pattern (five people).

In a second longitudinal study of similar design, Weinfeld and colleagues studied the continuity of attachment patterns in socio-economically challenged subjects and found much more discontinuity (Weinfield et al. 2000). Only 39 % of the young adults who participated had an adult attachment pattern that corresponded to the classification made when they were infants. Importantly, however, the shifts that occurred were not random. Of the 35 participants whose attachment pattern was classified differently in infancy and adulthood, 20 (57 %) changed from secure to dismissing and 5 others (14 %) changed from resistant (the infant category that

[5] The strange situation is a procedure developed by Mary Ainsworth (1978) and used by developmental researchers to classify the attachment patterns of children. In it, a mother and child are allowed to play together, then a series of increasingly stressful changes occur which involve a stranger entering the room, mother leaving and mother returning. Raters assess the child's behaviour, placing emphasis on the reunion sequences. Raters attend to the extent to which the toddler signals a desire for contact with mother (typically by approaching her), how easily soothed he or she is and how willing he or she is to explore the room and resume play (Goldberg 2000).

corresponds to preoccupied in adults) to dismissing. Thus, in this socio-economically challenged group, the most common type of discontinuity by far was a shift to the greater mistrust, self-reliance and disavowal of the importance of close relationships that is seen in dismissing attachment (71 % of those whose pattern changed). This discontinuity makes sense; it suggests that even if a person starts out in a relational environment that supports a secure attachment, enduring adversity can modify attachment behaviour towards a pattern of greater self-reliance in order to minimize the uncertainty and vulnerability that result from depending on others who are not reliably available or helpful. This hypothesized process of becoming self-reliant in response to adversity may also account for the higher prevalence of dismissing attachment that has been consistently observed in geriatric populations (Magai 2008; Van Assche et al. 2013).

Interestingly, other studies in adults have shown a drift from preoccupied (or high attachment anxiety) to secure (or lower attachment anxiety) (Klohnen and Bera 1998; Zhang and Labouvie-Vief 2004) over years, which is consistent with cross-sectional evidence that less attachment anxiety is found in older cohorts (Segal et al. 2009). Our understanding of this is that some preoccupied individuals are able to find greater relational stability over the course of their lives, perhaps by connecting with a reassuring and consistent partner, who, over time, provides a consistent enough experience of safe haven and secure base that the individual can diminish his or her focus on seeking and maintain proximity to the attachment figure.

This selected evidence supports the conclusion that patterns of attachment are consistent over time in most people and that when they change, it tends to be for good reasons, not randomly. The most likely direction of change is in the direction of dismissing attachment in response to adverse life events, although a shift from preoccupied to secure is also possible when a positive relationship repairs the inconsistency in one's developmental years. Overall, aging adults have fewer attachment figures, more symbolic attachments (to God for instance), increased attachments to places and pets and a lower prevalence of attachment anxiety (Segal et al. 2009; Van Assche et al. 2013). Importantly for our purposes, attachment insecurity in the elderly is also associated with less capacity to provide care for an impaired spouse (Van Assche et al. 2013).

2.6 Attachment Across Cultures

Beginning with Mary Ainsworth's pioneering work (1967) on the assessment of attachment in Uganda, there has been active investigation of attachment across different cultures, including North American and European settings, Japan, Indonesia, the Gusii in Kenya, the Hausa in Nigeria, the Dogon in West Africa, the Bushmen of Botswana, the Efe' of Zambia, the township of Khayelitsha in South Africa, the case of the only child in China, and an instance of collective parenting in the Israeli Kibbutz (van Ijzendoorn and Sagi-Schwartz 2008). Cross-cultural investigation has required researchers to wrestle with many complexities: how to assess parenting

networks, how to modify the strange situation to different cultural contexts and how to interpret the behaviour manifested by children within cultural norms.

Obviously, the assessment of cultural impact on attachment is complex, and far from complete. However, the work that has been done has some strikingly consistent findings. First, across cultures, children in distress show attachment behaviour, and the types of attachment behaviour they show are essentially universal. Second, mothers' sense of an ideal child, in every culture studied, is similar to the description of an optimally secure child according to developmental experts.[6] Third, across cultures the most secure attachment is associated with the most sensitive parenting. Fourth, secure children in different cultures fare the best socially and physically, including with respect to nutritional status (Valenzuela 1990). Therefore, notwithstanding variations due to cultural practices and values, attachment behaviour appears to be universal. Importantly for the topic of this book, one of the points of that universality is that secure attachment is associated with health.

2.7 Adaptive and Maladaptive Attachment Behaviours

Insecure attachment styles are not pathological. Any organized pattern of attachment is the product of having adapted to the environment in which an individual was raised. An attachment style is the best possible fit that an infant could achieve with the person who raised him or her and is therefore evidence of having the flexibility to adapt, at least in childhood. Even in adulthood, it is not unusual to find a context where insecure attachment is rewarded, as occurs when a high-powered executive is admired for her exceptional self-reliance.

Nonetheless, insecure attachment styles tend to be more rigid than secure attachment, meaning that a person with an insecure style has fewer options available with which to adapt to varying circumstances. Rigidity can lead to maladaptive applications of attachment behaviours to situations in which they are not well suited (such that what worked very well 'there and then' is not very effective 'here and now'). The misapplication of insecure behaviour patterns is especially problematic in circumstances where collaboration with others is required, such as health care. As a result, insecure patterns of attachment, while not pathological in themselves, are often relevant to interpersonal troubles that interfere with optimal health care. These include difficulties that arise between health-care providers and patients from mistrust, poor communication and dissatisfaction to treatment non-adherence.

[6] This finding is cited in (van Ijzendoorn and Sagi-Schwartz 2008) and attributed to Posada G., Gao Y, Wu F, Posado R, Tascon M, Schoelmerich A et al. (1995). The secure-base phenomenon across cultures: Children's behaviour, mothers' preferences and experts' concepts. In E. Waters, B.E. Vaughn, G Posada and K. Kondo-Ikemura (Eds.), Caregiving, cultural, and cognitive perspectives on secure-base behaviour and working models: New growing points of attachment theory and research. Monographs of the Society for Research in Child Development, 60 (2–3, Serial No. 244) 27–48.

2.8 Attachment and Mental Illness

Attachment theory is not a theory of everything. It is important to keep that in mind, especially in consultation-liaison psychiatry, where we are often in the position of trying to understand the most proximal and salient causes of a person's difficulty adjusting to illness. When we teach an attachment perspective on consultation-liaison psychiatry, our students are prone to go through a phase in which they characterize all distress as attachment-based and overlook the suffering that emerges from other sources, especially from mental illness. For instance, a secure patient with generalized anxiety disorder may be misidentified as having a preoccupied attachment style. Attributing this patient's distress to attachment insecurity overlooks some of her strengths and may lead to the neglect of syndrome-focused treatment strategies.

Nonetheless, attachment insecurity is consistently elevated among people with mental illness (Bakermans-Kranenburg and van Ijzendoorn 2009) and can be understood as a risk factor for some mental illnesses. The most significant psychiatric syndromes that co-occur with insecure attachment in a consultation-liaison setting are depression and personality disorders.

2.8.1 Depression

For our purposes, the most important of the mental health problems that co-occur with insecure attachment is depression, because it is common and because of its consistent, substantial negative impact on the burden and outcome of physical illness. Depression is not only associated with increased severity of physical symptoms, increased health-care costs, and reduced health-related quality of life (Evans et al. 2005), it also contributes to increased mortality (Lemogne et al. 2013). Even in high-acuity settings, such as the ICU, pre-existing depression is an independent risk factor for increased mortality (Wewalka et al. 2015).

Evidence supports Bowlby's prediction that factors that contribute to insecure attachment also increase the risk of depression. For instance, one study found that girls who were younger than 11 when their mothers died are three times more likely to be depressed as adults than girls without such a loss (Harris et al. 1990). Perhaps this happens because the developmental experience of attempting to relate to an unavailable parent and being thwarted leads to learned helplessness, a state that consistently causes depression (Seligman and Maier 1967). Alternatively, attachment insecurity may increase the risk of depression by increasing vulnerability to the effects of stress. Furthermore, insecure patterns of attachment are often associated with deficits in self-esteem and self-efficacy (Mikulincer and Shaver 2007), which may contribute to depression. For all these reasons, depression is common in those with insecure attachment, especially in the context of medical illness (Ciechanowski et al. 2003; Maunder et al. 2005). When it is present, depression must be recognized and managed; it is sometimes the most reversible element of a vicious cycle of disease and the consequences of illness.

2.8.2 Personality Disorders

The overlap between the constructs of personality and attachment patterns is substantial, which can make the distinction between these constructs confusing. In the prominent five-factor model of personality, neuroticism is correlated with attachment anxiety, whereas agreeableness and extraversion are inversely associated with attachment avoidance (Noftle and Shaver 2006). Furthermore, relationship events, such as separation and loss, which are prominent triggers for attachment behaviours, are also often provocative events for people with personality disorders. Examples of clinical overlap come readily to mind. A person with fearful attachment who consistently withdraws from social engagement may impress a clinician as having schizoid traits (Sheinbaum et al. 2013). A dismissing person who prefers rigid control over aspects of his relational life may also display obsessional symptoms that are unrelated to his interpersonal world. A person with preoccupied attachment, especially in its extreme, may well meet the diagnostic criteria that define a dependent or histrionic personality disorder.

Most strikingly, the chaos of interpersonal dynamics and emotional expression that is typical of a person with disorganized attachment will often remind clinicians of borderline personality disorder. Both disorganized attachment and borderline personality disorder are associated with severe, adverse developmental experiences that disrupt internal representations of self and other and impair the person's capacity to understand what is likely occurring in the mind of the other person (Fonagy et al. 2000). Perhaps the most pertinent clinical overlap between patients with borderline personality traits and those with attachment insecurity is in affective dysregulation (Kuo et al. 2015). Borderline patients usually have poor affect tolerance and use maladaptive strategies, such as self-harm, to diminish distress. Epidemiology also supports the co-occurrence of borderline personality disorder and attachment insecurity (Bakermans-Kranenburg and van Ijzendoorn 2009).

Notwithstanding the overlap between these constructs, two fundamental differences between attachment phenomena and personality are the degree to which their manifestations are state dependent and the necessity for attachment phenomena to occur within the context of a dyadic relationship. How much a person signals distress, by clinging or using avoidant distancing (as dictated by the internal working model typical of their pattern of attachment), depends on the behaviour of the attachment figure with whom they are interacting. Attachment behaviours are triggered by attachment threats, such as fear, loneliness, illness or separation, but are otherwise latent. An individual with dismissing attachment, who is allowed to determine his interpersonal distance (in the workplace, for instance) is unlikely to be experienced as difficult by another person. The same person, when illness activates his attachment system and imposes unwanted dependency, may become defiant and frustrating to others. The characteristics of a personality disorder, on the other hand, are relatively less responsive to environmental context, which is to say they are more likely to be on display across various contexts.

While insecure attachment often occurs in people who do not have a personality disorder, it is probably uncommon for a person with a personality disorder to be

securely attached. In the latter case, the distinction may be moot. The clinical task is therefore to distinguish the maladaptive characteristics that can be reduced by interventions that increase perceived security, from those that are more ingrained, and to work to reduce feelings of insecurity wherever possible.

2.9 Attachment and Food, Substance Use and Sex

Individuals with insecure attachment have difficulty tolerating distressing affect and lack the most effective strategies to reduce distress, which are to draw support from others and to use internal, psychological strategies like distraction and reframing. As a result, individuals with insecure attachment may be more prone to find other ways to regulate distress, such as smoking tobacco, drinking alcohol, using other substances, using sex to manage affect or overeating. We call these strategies external regulators of distress. For example, in a survey of 356 primary care patients attending the family practice clinic at our hospital, we found consistently significant relationships between both dimensions of attachment insecurity and three of the most common behaviourally driven risk factors for health problems: smoking, harmful drinking and obesity (Fig. 2.3).

Each of these strategies may be associated with a mental illness, such as substance use disorders and eating disorders (Okearney 1996; Schindler and Broning 2014). For our purposes, the behaviours are more important than the psychiatric syndromes, because each of the behaviours that act as external regulators of affect also contribute to disease risk and may also be a reason for medical or surgical hospitalization. Medical treatment may be due to acute states such as alcohol withdrawal or may be due to the indirect, chronic consequences of the behaviour, such as heart disease or cancer as a result of smoking. Importantly for the purposes of this book, these strategies of affect regulation, overrepresented in populations of insecurely attached people, each confers physical disease risk. This is one reason that insecure attachment is such a common phenomenon among medical patients—people with secure attachment are a little bit more likely to be healthy.[7]

2.10 The Physiology of Attachment

We have focused so far on how attachment theory provides a deeper appreciation of interpersonal interactions and behaviour. Another reason that attachment theory is valuable in consultation-liaison psychiatry is that attachment security and insecurity are linked to physiology. There exists a growing literature from animal and human studies that attachment relationships are reflected in our physiological stress

[7] The bias towards insecure attachment among medical and surgical patients is modest. There are plenty of secure people in hospital too. However, in the general population, the ratio of secure to insecure patterns is about 60:40 (Mickelson et al. 1997), in clinical populations, often the reverse is found.

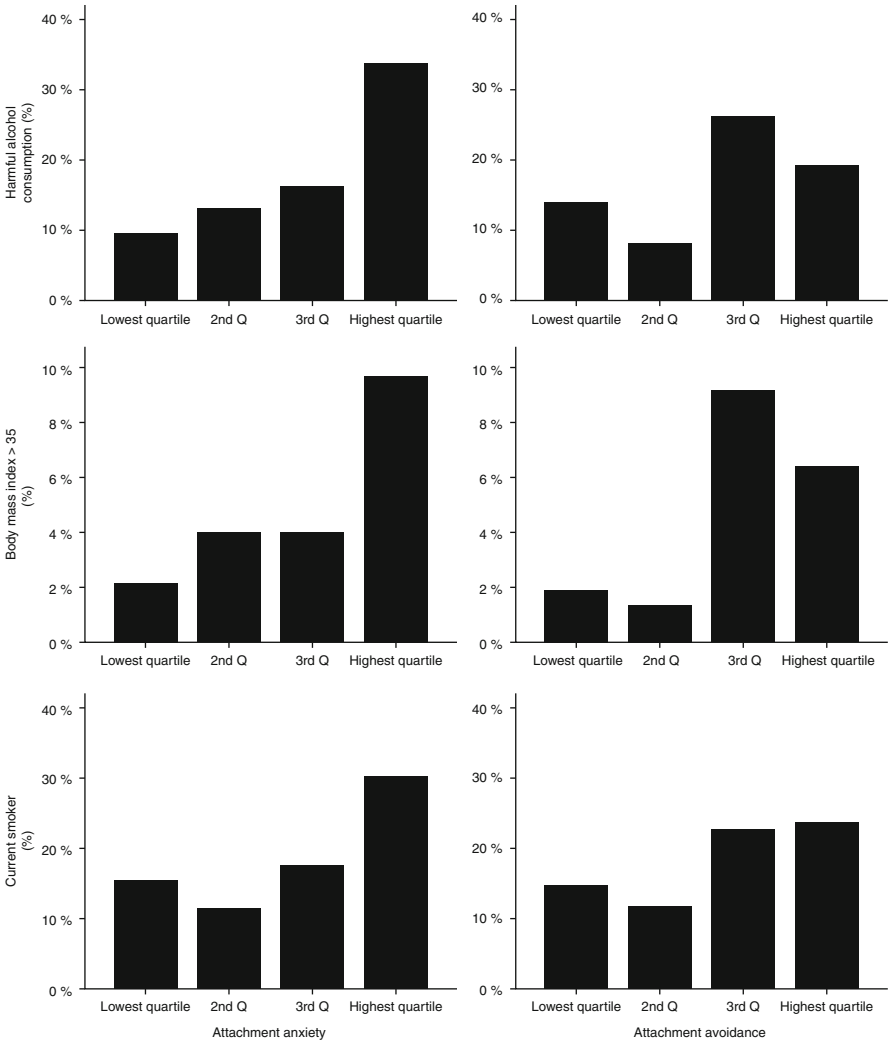

Fig. 2.3 Relationship between dimensions of attachment insecurity and three common health risk factors in primary care patients

response systems. This data can help us appreciate that an insecure state of mind is accompanied by a parallel, stressed state of body. Chronic activation of the stress response, as may occur among people with insecure attachment (Maunder et al. 2006), can lead to increased allostatic load (McEwen and Wingfield 2003) which in turn increases the risk of physical illness. One of the better studied corollaries to this process is that early developmental adversity, which increases the risk of insecure patterns of attachment, is associated with an increased risk of many adult diseases (Felitti et al. 1998; Shonkoff et al. 2009).

One aspect of the physiology of attachment that deserves emphasis is the principle of co-regulation. Resilience in a stressful circumstance can be understood as the capacity to quickly recognize a threat, to make the necessary responses and then to return to baseline when the threat has diminished or gone. Downregulating the physiological stress response can come as a result of social contact, which is both directly soothing and also alleviates distress. Thus, adults in close reciprocal relationships can co-regulate each other's stress (Sbarra and Hazan 2008). This co-regulation is one reason why the loss of an attachment figure can be so debilitating; the loss removes the mechanism which settles us. This leaves one with an impaired capacity to turn off or turn down the stress response.

Consider the combined impact of some of the factors that we have introduced. Illness and pain cause stress and trigger the attachment system. Hospitalization exacerbates this stress and further induces attachment behaviour by initiating separation from attachment figures and depriving a patient of the person who could most effectively soothe him or her. If the patient starts off with an insecure attachment style, then he or she experiences the chronic strain of insecurity *plus* acute stress from pain and illness *plus* diminished access to a co-regulatory source of solace. This combination is bound to create a heightened state of threat and a poorly regulated response. In these circumstances, we should expect that a patient's attachment behaviour will be intensely activated and directed towards whoever in the local environment seems be in the best position to help. These are core challenges of consultation-liaison psychiatry: to help a patient in such a state to regain a greater degree of security and adaptive capacity, and to help health-care providers to reframe behaviour that seems maladaptive as a patient's best attempt to feel secure again. Ultimately we aim to prevent patients in a state of crisis from experiencing isolative fear and abandonment, and then experience, like Laura, despair.

References

Ainsworth MDS (1967) Infancy in Uganda: infant care and the growth of love. Johns Hopkins University Press, Baltimore

Ainsworth M, Blehar M, Waters E, Wall S (1978) Patterns of attachment: a psychological study of the strange situation. Erlbaum, Hillsdale

Bakermans-Kranenburg MJ, van Ijzendoorn MH (2009) The first 10,000 Adult Attachment Interviews: distributions of adult attachment representations in clinical and non-clinical groups. Attach Hum Dev 11(3):223–263

Bartholomew K, Horowitz LM (1991) Attachment styles among young adults: a test of a four-category model. J Pers Soc Psychol 61:226–244

Bowlby J (1973) Attachment and loss: Vol 2: Separation: anxiety and anger. Basic Books, New York

Ciechanowski P, Sullivan M, Jensen M, Romano J, Summers H (2003) The relationship of attachment style to depression, catastrophizing and health care utilization in patients with chronic pain. Pain 104(3):627–637

Evans DL, Charney DS, Lewis L, Golden RN, Gorman JM, Krishnan KR, Nemeroff CB, Bremner JD, Carney RM, Coyne JC, Delong MR, Frasure-Smith N, Glassman AH, Gold PW, Grant I, Gwyther L, Ironson G, Johnson RL, Kanner AM, Katon WJ, Kaufmann PG, Keefe FJ, Ketter T, Laughren TP, Leserman J, Lyketsos CG, McDonald WM, McEwen BS, Miller AH,

Musselman D, O'Connor C, Petitto JM, Pollock BG, Robinson RG, Roose SP, Rowland J, Sheline Y, Sheps DS, Simon G, Spiegel D, Stunkard A, Sunderland T, Tibbits P Jr, Valvo WJ (2005) Mood disorders in the medically ill: scientific review and recommendations. Biol Psychiatry 58(3):175–189

Felitti VJ, Anda RF, Nordenberg D, Williamson DF, Spitz AM, Edwards V, Koss MP, Marks JS (1998) Relationship of childhood abuse and household dysfunction to many of the leading causes of deaths in adults: the adverse childhood experiences (ACE) study. Am J Prev Med 14:245–258

Fonagy P, Target M, Gergely G (2000) Attachment and borderline personality disorder. A theory and some evidence. Psychiatr Clin North Am 23(1):103–122

Goldberg S (2000) Attachment and development. Hodder Education, London

Harris TO, Brown GW, Bifulco AT (1990) Depression and situational helplessness/mastery in a sample selected to study childhood parental loss. J Affect Disord 20(1):27–41

Hazan C, Zeifman D (1999) Pair bonds as attachments: evaluating the evidence. In: Cassidy J, Shaver PR (eds) Handbook of attachment. Guilford Press, New York, pp 336–354

Hazan C, Gur-Yaish N, Campa M (2004) What does it mean to be attached? In: Rholes WS, Simpson JA (eds) Adult attachment: theory, research and clinical implications. Guilford, New York

Hesse E (2008) The Adult Attachment Interview: protocol, method of analysis, and empirical studies. In: Cassidy J, Shaver PR (eds) Handbook of attachment, 2nd edn. Guilford Press, New York, pp 552–598

Klohnen EC, Bera S (1998) Behavioral and experiential patterns of avoidantly and securely attached women across adulthood: a 31-year longitudinal perspective. J Pers Soc Psychol 74(1):211–223

Kuo JR, Khoury JE, Metcalfe R, Fitzpatrick S, Goodwill A (2015) An examination of the relationship between childhood emotional abuse and borderline personality disorder features: the role of difficulties with emotion regulation. Child Abuse Negl 39:147–155

Lemogne C, Nabi H, Melchior M, Goldberg M, Limosin F, Consoli SM, Zins M (2013) Mortality associated with depression as compared with other severe mental disorders: a 20-year follow-up study of the GAZEL cohort. J Psychiatr Res 47(7):851–857

Lyons-Ruth K, Jacobvitz D (2008) Attachment disorganization: genetic factors, parenting contexts, and developmental transformation from infancy to adulthood. In: Cassidy J, Shaver PR (eds) Handbook of attachment, 2nd edn. Guilford Press, New York, pp 666–697

Lyons-Ruth K, Yellin C, Melnick S, Atwood G (2005) Expanding the concept of unresolved mental states: hostile/helpless states of mind on the Adult Attachment Interview are associated with disrupted mother-infant communication and infant disorganization. Dev Psychopathol 17(1):1–23

Magai C (2008) Attachment in middle and later life. In: Cassidy J, Shaver PR (eds) Handbook of attachment, 2nd edn. Guilford Press, New York, pp 532–551

Maunder RG, Hunter JJ (2009) Assessing patterns of adult attachment in medical patients. Gen Hosp Psychiatry 31(2):123–130

Maunder RG, Hunter JJ (2012) A prototype-based model of adult attachment for clinicians. Psychodyn Psychiatry 40(4):549–573

Maunder RG, Lancee WJ, Hunter JJ, Greenberg GR, Steinhart AH (2005) Attachment insecurity moderates the relationship between disease activity and depressive symptoms in ulcerative colitis. Inflamm Bowel Dis 11(10):919–926

Maunder RG, Lancee WJ, Nolan RP, Hunter JJ, Tannenbaum DW (2006) The relationship of attachment insecurity to subjective stress and autonomic function during standardized acute stress in healthy adults. J Psychosom Res 60(3):283–290

McEwen BS, Wingfield JC (2003) The concept of allostasis in biology and biomedicine. Horm Behav 43(1):2–15

Mickelson KD, Kessler RC, Shaver PR (1997) Adult attachment in a nationally representative sample. J Pers Soc Psychol 73:1092–1106

Mikulincer M, Shaver PR (2007) Attachment in adulthood: structure, dynamics, and change. Guilford, New York
Narvaez D, Gleason T, Wang L, Brooks J, Burke Lefever J, Cheng Y (2013) The evolved development niche: longitudinal effects of caregiving practices on early childhood psychosocial development. Early Childhood Res Q 28(4):759–773
Noftle EE, Shaver PR (2006) Attachment dimensions and the big five personality traits: associations and comparative ability to predict relationship quality. J Res Pers 40(2):179–208
Okearney R (1996) Attachment disruption in anorexia nervosa and bulimia nervosa: a review of theory and empirical research. Int J Eat Disord 20(2):115–127
Sbarra DA, Hazan C (2008) Coregulation, dysregulation, self-regulation: an integrative analysis and empirical agenda for understanding adult attachment, separation, loss, and recovery. Pers Soc Psychol Rev 12(2):141–167
Schindler A, Broning S (2014) A review on attachment and adolescent substance abuse: empirical evidence and implications for prevention and treatment. Subst Abus. doi:10.1080/08897077.2014.983586
Segal D, Needham TN, Coolidge FL (2009) Age difference in attachment orientations among younger and older adults: evidence from two self-report measures of attachment. Int J Aging Hum Dev 69(2):119–132
Seligman MEP, Maier SF (1967) Failure to escape traumatic shock. J Exp Psychol 74:1–9
Shaver PR, Mikulincer M (2002) Attachment-related psychodynamics. Attach Hum Dev 4(2):133–161
Sheinbaum T, Bedoya E, Ros-Morente A, Kwapil TR, Barrantes-Vidal N (2013) Association between attachment prototypes and schizotypy dimensions in two independent non-clinical samples of Spanish and American young adults. Psychiatry Res 210(2):408–413
Shonkoff JP, Boyce WT, McEwen BS (2009) Neuroscience, molecular biology, and the childhood roots of health disparities: building a new framework for health promotion and disease prevention. JAMA 301(21):2252–2259
Valenzuela M (1990) Attachment in chronically underweight young children. Child Dev 61:1984–1996
Van Assche L, Luyten P, Bruffaerts R, Persoons P, van den Ven L, Vandenbulcke M (2013) Attachment in old age: theoretical assumptions, empirical findings and implications for clinical practice. Clin Psychol Rev 33(1):67–81
van Ijzendoorn MH, Bakermans-Kranenburg MJ (2010) Invariance of adult attachment across gender, age, culture, and socioeconomic status? J Soc Pers Relat 27(2):200–208
van Ijzendoorn MH, Sagi-Schwartz A (2008) Cross-cultural patterns of attachment: universal and contextual dimensions. In: Cassidy J, Shaver PR (eds) Handbook of attachment, 2nd edn. Guilford Press, New York, pp 880–905
Waters E, Merrick S, Treboux D, Crowell J, Albersheim L (2000) Attachment security in infancy and early adulthood: a twenty year longitudinal study. Child Dev 71(3):684–689
Weinfield NS, Sroufe LA, Egeland B (2000) Attachment from infancy to early adulthood in a high-risk sample: continuity, discontinuity, and their correlates. Child Dev 71(3):695–702
Wewalka M, Warszawska J, Strunz V, Kitzberger R, Holzinger U, Fuhrmann V, Zauner C, Miehsler W, Moser G (2015) Depression as an independent risk factor for mortality in critically ill patients. Psychosom Med 77(2):106–113
Wittman AB, Wall LL (2007) The evolutionary origins of obstructed labor: bipedalism, encephalization, and the human obstetric dilemma. Obstet Gynecol Surv 62(11):739–748
Zeifman D, Hazan C (2008) Pair bonds as attachments: re-evaluating the evidence. In: Cassidy J, Shaver PR (eds) Handbook of attachment, 2nd edn. Guilford Press, New York, pp 436–455
Zhang F, Labouvie-Vief G (2004) Stability and fluctuation in attachment style over a 6-year period. Attach Hum Dev 6(4):419–437

Advanced Concepts in Attachment Theory and Their Application to Health Care

3

Jonathan Hunter and Robert Maunder

In Chap. 2, we provided a sketch of the internal working model of each attachment style and related patterns of attachment behavior. During a clinical interview or a similar interaction between a health-care provider and a patient, other aspects of communication and interaction can help a clinician acquire a deeper understanding of a patient's attachment style, which can be very helpful in providing care. Therefore, in order to increase the utility of an attachment perspective in clinical practice, we describe the aspects of attachment style that are most relevant in these interactions: narrative coherence, mentalizing, affect regulation (particularly the expression of anger), and interpersonal pulls. We will examine how individuals with different attachment styles differ in these domains and how they affect medical care.

3.1 Narrative Coherence

Narrative coherence is the capacity to tell a story well, so that a listener can appreciate it without too much confusion. In the absence of over-riding issues such as delirium, psychosis, or language difficulties, coherence is a useful guide for understanding the attachment style of one's patient. Principles of narrative coherence as they relate to attachment states of mind have been particularly well described by the developers of the Adult Attachment Interview (Hesse 2008). Coherence depends on the speaker being comfortable enough with the emotions that the story elicits to be reflective and depends on the speaker appreciating what the listener needs to know in order to organize and understand the information. For instance, timelines need to

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be clear, without too much flipping back and forth between past and present. The various people in the story need to be identified with enough detail that they can be distinguished as individuals, but not described with so much detail that the listener is distracted from their role in the narrative. Sentences need to be reasonably complete and not left with dangling nonspecific phrases ("It was, you know…"). In a coherent story, emotions match circumstances, so, for example, it makes sense that a character in the narrative is sad or angry.

It is not hard to appreciate a tale that is coherent. For instance, when taking a history from a patient who is able to provide a coherent narrative, a clinician will usually find it easy to let the patient talk, typically only interjecting to encourage the patient to continue or to clarify a point. On the other hand, an incoherent story is hard to understand. A clinician often will not understand "who did what when" and may feel frustrated or distracted. A clinician may feel a need to interrupt and clarify frequently, but despite those efforts, the story may become less clear, as the insecure person is thrown further off stride by the interjections.

Importantly, the capacity for narrative coherence is related to attachment style, with secure individuals best able to report a story coherently (George and West 2001; Hesse 2008). On the other hand, for an individual with preoccupied attachment, anxiety interferes with telling a clear story, and, furthermore, the intent to convey information effectively is less important than the need to keep the other person close and engaged, as mandated by the patient's internal working model. The telling of this patient's story is often characterized by intense affect, overwhelming detail, and an overall lack of clarity. Who someone in this narrative *is*, and why they have been brought into the story, is often a mystery to the listener; circumstantiality, digression, and lack of context obscure relevance. The intensely conveyed but garbled narrative results in an interaction that takes more time than is typical for the clinical situation. This is most noticeable at the end of an appointment, when a preoccupied patient often reacts to social cues that it is time to end with amplified distress that extends the interview. In summary, an interaction with a preoccupied patient involves many words and lots of feeling, often about multiple fragmented relationship episodes, but provides little in the way of factual understanding of the problem with his or her health.

A patient with dismissing attachment tells a story that is incoherent for the opposite reasons. This patient's communication style is determined by the (usually unconscious) need to remain independent and avoid communicating the neediness that the patient's internal working model predicts will elicit a shaming response. The dismissing patient's descriptions are typically brief or clichéd and thus reveal little that is personal. Affect is kept to a minimum. In response to this very brief and factual story, clinicians often feel that the interview can be concluded quickly. What will be absent, however, is a clear sense of the person as an individual or what distresses him or her. There are few words, sparse emotion, and only superficial descriptions of relationships or people.

In describing typical styles of narrative incoherence, we can group fearful and disorganized individuals together as they both lack the capacity to regulate fear when relating their story. Their internal working models predict a punitive, abusive,

or abandoning reaction from others, so their ability to communicate is overwhelmed by hypervigilance for a threatening reaction from the listener. Fearfulness may distort the narrative enough that it is hard for a clinician to determine a chief complaint or to appreciate how a symptom has evolved over time. Emotions may be intense, but varied, fleeting, and inconsistent. A listener to such a story may start to feel themselves disorganized and fraught. Inconsistencies are common; a clinician may experience an appeal for support in one moment only to feel attacked or rejected the next. Clinicians commonly react to the tension and uncertainty by withdrawing from the patient encounter, even prior to collecting the information that is needed. Not surprisingly, individuals with a fearful or disorganized attachment style are often unable to create a strong alliance with a health-care provider. More typically, they re-experience the rejection that they fear.

3.2 Mentalizing

This is a term that has been used in multiple ways, referring to related, but subtly different concepts within developmental psychology, neurophysiology, and psychotherapy. For our pragmatic purposes, we can think of mentalizing as roughly synonymous with reflective functioning.[1] According to Holmes, "mentalizing is the mental process by which an individual implicitly and explicitly interprets the actions of himself and others as meaningful on the basis of intentional mental states such as personal desires, needs, feelings, beliefs and reasons" (Holmes 2006). One component of mentalizing is the ability to appreciate what is in someone else's mind. A person who mentalizes well can appreciate that someone else is experiencing a particular emotion, or has an unexpressed wish, or is experiencing an even more complicated mental state, such as having an intention to be helpful even when they are not succeeding in being helpful yet. Mentalizing requires guessing; we can never truly know what is in the mind of another person. Nevertheless, appreciating that the other person has a mind, even if its contents are mysterious, is a start and provides a foundation for the development of interpersonal understanding.

It is characteristic of mothers of secure infants that they are good mentalizers. Their capacity to appreciate what causes stress to their babies, and to convey to their child that the baby's behavior is motivated rather than random, teaches infants over time that they are fundamentally knowable and valued by another. That confers resilience and increases the child's capacity to understand emotion. Infant-mother attachment security at 1 year significantly predicted success on a task of understanding emotions at 6 years, even controlling for mother and infant verbal skills (Steele et al. 1999). Developmental exposure to a parent's good mentalizing skills also teaches a child how to mentalize effectively for him- or herself. This is presumed to happen because the parent's behavior has been sufficiently consistent that

[1] See Chap. 9 for an in-depth discussion of this concept in the context of persistent somatic complaints.

his or her mind is "knowable" to the child. In adults, secure attachment and good mentalizing capacity usually go hand in hand. Mentalizing and narrative coherence often co-occur because a person who mentalizes well can intuit what details are relevant and which are distracting for the clinician who is listening to their story.

Mentalizing is typically compromised in people with insecure patterns of attachment. Fear trumps thoughtful reflection on the state of mind of another person, and so a person with an insecure attachment style is guided by the dictates of the internal working model rather than a nuanced appreciation of the current circumstance. For example, a dismissing individual's need to avoid any perception of being dependent on the support of others may lead him or her to keep others at an emotional distance, without taking the other's actual intentions into account. This means that people with insecure attachment can be left with a chronic blind spot, a lack of appreciation of what motivates others, and of the impact they have on others. This interpersonal disadvantage can be of particular relevance when it leads to miscommunication with health-care workers.

In the same way that deficits of mentalizing lead to blind spots regarding others' thoughts and feelings, these deficits also interfere with self-reflection. Each of us may behave in ways we do not understand, or would wish not to, or that perplex or embarrass us. Having the capacity to mentalize means that at those times we can reflect on what is going on for us interpersonally and emotionally, as a way of understanding ourselves. The combination of these abilities is what Jeremy Holmes sums up eloquently when he speaks of mentalizing as "the ability to see others from the inside, and ourselves from the outside" (Holmes 2006).

3.3 Affect Regulation

When we wrote about the evolutionary underpinnings of the attachment system, we emphasized its relevance for managing fear and how proximity to an attachment figure who provides safety also soothes distress. In adulthood, attachment behavior continues to serve to regulate emotions, although the goal is no longer actual physical proximity to an attachment figure, but rather the internal experience of feeling secure. This is a more flexible goal than simply obtaining physical contact and thus allows one to adapt more easily to a wider range of circumstances and to tolerate stressful separations.

For individuals with a secure pattern of attachment, this shift in the target of attachment activity is relatively easily negotiated, and they find it relatively easily to feel safe.[2] In contrast, insecure attachment, by its very nature, involves frequent states of poorly regulated distress. Attachment behavior in adults is the result of a drive for interpersonal co-regulation of this distress as guided by the internal working model. Insecure individuals use overdetermined and inflexible strategies to try to obtain feelings of security but rarely succeed in obtaining this goal. For example,

[2] Note that the word secure is used in two ways, as the description of a feeling (which suggests the perception of calm and safety) and as the label of a pattern of attachment.

a person with preoccupied attachment, when scared by a threatening medical procedure, may turn indiscriminately and desperately to the nearest health-care worker for reassurance or comfort, often overloading a health-care worker who is not well trained for that role. In this example, the strategy dictated by the internal working model is not likely to achieve the patient's desired sense of calmness (Mikulincer and Shaver 2007). On the other hand, a dismissing person is more likely to hide any fear or discomfort, negating the opportunity to acquire support from others (Main 1981; Rholes et al. 1998). Therefore, another clue to identifying attachment styles is provided by attending to the levels of affect a person displays and the extent to which their interpersonal strategies are effective at downregulating that intensity.

3.3.1 The Expression of Anger

Patients often experience anger in clinical settings and sometimes express it, which can lead to undesirable responses, such as hostility from health-care workers or even premature discharge from the hospital. However, expressions of anger also provide valuable information; appreciating how anger is metabolized and expressed within the context of different attachment styles provides clinicians with yet another window on the internal working model.

The opportunities for a patient to be angry are plentiful. Medical care is often inefficient. Patients are sometimes obliged to wait for long periods to see a doctor and then may be seen by a junior trainee or other stranger who cannot effectively respond to their concerns. Tests can be intrusive and uncomfortable and may carry an expectation that they will reveal a disturbing diagnosis. Procedures are often not well explained, and clinicians often fail to mentalize their patients' needs and concerns.

The secure individual's capacity for reflection and access to effective affect regulation strategies usually leads him or her to express anger in a controlled manner that helps the listener to reflect on how to fix the problem. This patient is able to talk about the things that that induce anger without becoming angry at the health-care provider to whom they are speaking. As a result, the expression of anger can be constructive and ultimately reparative (Bowlby 1973; Feeney et al. 2008; Mikulincer 1998; Pistole 1989).

The preoccupied person's anger, by contrast, is intensely engaging. Hearing a story about something that has angered the patient, the clinician often feels drawn into rushing to the patient's defense, or, conversely, identifies with the oppressor in the story, and feels a pull to reject the patient. In either case, the patient's expression of anger draws patient and clinician closer together—intensely, but not productively, engaged in what often amounts to a recapitulation of the type of interaction that angered the patient in the first place (Holmes 2001; Jellema 2002; Rholes et al. 1998).

A dismissing individual anticipates that others will be unhelpful or harmful and is sensitive to subtle harms and errors. Anger is most typically expressed in a cool, well-argued, and powerful discourse that creates distance by blaming the clinician

or institution and may elicit either submission or defensiveness from a health-care worker (Jellema 2002; Rholes et al. 1998). The anger of a person with disorganized attachment is likely to be intense, unpredictable, difficult to assuage, and off-putting. A fearful person may also express anger in this way but may also obsequiously suppress all anger, presenting as passive, compliant, and harmless (West and Sheldon-Kellor 1994).

In each of these patterns, a clinician is challenged to step back from the heat of apparent conflict to reflect upon the process by which anger is communicated. This can provide valuable information about a patient's internal working model.

3.4 Interpersonal Pulls

Health care is inherently interactive and depends on interpersonal communication. Within this relationship, it is inevitable that each party influences the other. The concept of interpersonal pulls, which has been explicated by Kiesler (1996), provides a parsimonious model for understanding how individuals typically influence others. Drawn from psychotherapy research rather than attachment theory, it nevertheless summarizes interpersonal reactions that are relevant to understanding the relational experiences of people with differing types of insecurity.

Interpersonal pulls are understood using a circumplex model. In this schema, a person's interpersonal style can be located on two axes (see Fig. 3.1) in which the vertical axis denotes interpersonal power, with dominance at the north pole and submissiveness at the south pole. Positions on the vertical axis tend to pull for the opposite reaction from another person, so a person who presents with dominance typically evokes submission from another person, and vice versa.

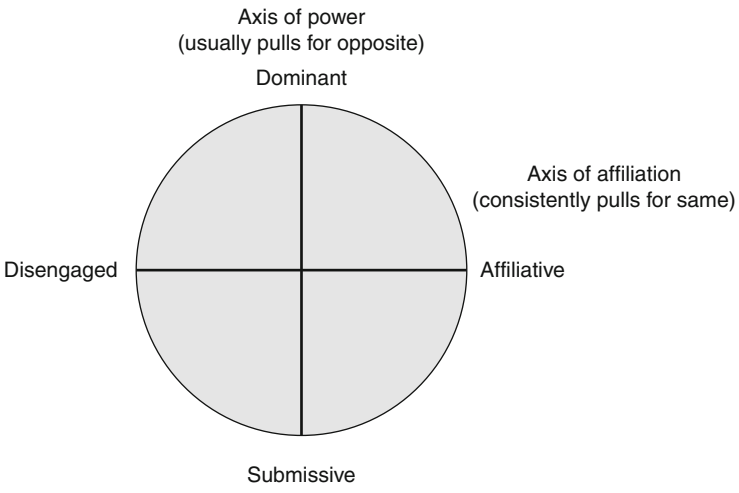

Fig. 3.1 Interpersonal pulls and the interpersonal circumplex (From Leszcz et al. 2014, used with permission)

The horizontal or equatorial axis describes one's tendency for affiliation, with independence or disengagement in the west and affiliation in the east. A position on the affiliative axis tends to pull for a matching response. This means that someone who is affiliative pulls for a similar degree of cooperation and connection from another person, while a person who is distant evokes a non-affiliative response from the other.[3]

This organization compliments attachment classification, in that each attachment style can be plotted on the interpersonal circumplex. For instance, a preoccupied individual who is overly affiliative and submissive would be placed in the southeast quadrant. In this position, we can guess, with a reasonable degree of likelihood, that the response they will evoke from another person is affiliative (matching) and dominant (opposite). Thus, the clinician may feel pulled to provide advice and take charge in order to reduce the preoccupied person's distress. On the other hand, a dismissing individual who tends toward independence and dominance would be located in the northwest quadrant. Their independence will pull for a distant (matching) response from the other and may also evoke passivity (opposite) on the vertical dimension.

Many types of interpersonal behavior can fit within these broad categories. Submission, for instance, can manifest as a clinician's disempowered withdrawal in the face of an angry patient, and dominance may take the form of overly energetic activity in caring for a patient. Dominance in this sense may also refer to the balance of agency (*who* is advancing the patient's interests) or the locus of control of a patient's care.

The interpersonal circumplex provides a useful tool for understanding interpersonal dynamics when consulting to clinicians that are struggling with a patient's attachment behavior. If staff is feeling disempowered and withdrawing from the patient, for example, it is a good starting point to consider that they are dealing with a dominant, non-affiliative person (in attachment terms, a person with a dismissing style of insecure attachment). The circumplex provides a quick and useful formulation of the difficulty that can allow clinicians to explore the utility of responses other than the ones that are being elicited spontaneously.

3.5 Attachment Styles and Health Care

If we pull characteristics from each area described above, we can construct prototypes of how a person with each attachment style will appear in a health-care context. Like all textbook descriptions, no one individual in the real world will fully match, but having exemplars in mind increases pattern recognition—which is valuable in the heat of a clinical encounter.

[3] Empirically, the expectation that affiliative behaviors pull for a matching response is supported more consistently than the expectation that power responses pull for the opposite response (Leszcz et al. 2014). Under some circumstances, dominance pulls for a competitive dominant response.

3.5.1 The Secure Patient

A secure individual has had a reliable developmental experience; important events were often predictable and for the most part people behaved consistently. Stress in early life was manageable, particularly because it elicited the support of an attentive, attuned, and effective attachment figure. As an adult, a secure patient tells a story that is easy to organize and understand. Just as attachment figures have been thoughtful about the secure individual, he or she has learned to be thoughtful about others, and it shows in coherent communication, even about distressing and complicated circumstances. The secure patient is good at appreciating what is going on in his or her own mind and skilled at guessing what is in the mind of others. This patient's capacity to regulate affect generally, and to express anger constructively, contributes to collaborative and successful health-care relationships. Thus, the secure patient experiences a virtuous cycle in which their effective interpersonal capacities creates more concern and better care, leading to the best possible level of security, which in turn promotes effective interpersonal functioning, and optimizes health-care relationships.

3.5.2 The Preoccupied Patient

A preoccupied individual has an internal working model that determines that interpersonal communication is directed more toward signaling of attachment needs for proximity than it is toward conveying information clearly. This patient's narrative is typically incoherent, with intense affect that elicits a similarly intense response in a listener. There is a lot of talking, although the communicative value of the words is often low. Affect is under-regulated, and expressions of anger invite others to pick sides, either rushing to the patient's defense or identifying and allying with the perceived victimizer. Overall, the preoccupied patient's unconscious strategy is to enlist the clinician's support with a barrage of distress, with little attention to the clinician's state of mind or to how he or she reacts, other than a hypervigilant attention to signs of rejection. A patient with this attachment style tends to frustrate attempts at consistent care. A self-fulfilling prophecy or negative cycle can emerge when frequent requests for help, combined with poorly articulated distress and an inability to be calmed by reassurance, eventually cause health-care providers to withdraw and avoid the patient's apparently unresolvable distress. This, inevitably, precipitates the very feelings of abandonment their internal working model was designed to both dread and prevent. At such times, a preoccupied patient may turn to other settings or practitioners for second opinions, resulting in fragmented and disorganized care that contributes to the overall chaos of their lives. In inpatient settings, this shifting alliance between different team members is typically experienced as splitting.

3.5.3 The Dismissing Patient

A dismissing individual emphasizes self-reliance and avoidance of neediness. This patient's narrative is characterized by a lack of personal detail or affect and evidence of incoherence may, therefore, be subtle. A dismissing individual reveals little of his or her mind to the interviewer and is incurious about the mental state of others. He or she will usually suppress strong emotions and, if angered, tends to use expressions of anger to distance the other, for example, by evoking a sense of inadequacy in a health-care worker. A dismissing patient's bias to independence tends to lead him or her to minimize and avoid contact with health care, so he or she is often not experienced as being problematic. However, when a person with dismissing attachment has a condition that requires adherence to a health-care provider's recommendations, thus reducing her sense of independence, her internal working model directs her toward distrust and avoidance of care. It is in settings such as a diabetes clinic that struggles such as these are prominent.[4]

3.5.4 The Fearful or Disorganized Patient

The fearful or disorganized patient typically has the most chaotic relationships in health-care settings. Fearful patients are the least likely to schedule regular appointments, but present more often in crisis, and are also most likely to fail to appear for the requested scheduled appointments (Ciechanowski et al. 2006). This chaotic pattern reflects a developmental history in which there was no reliable strategy for dealing with external threat and persistent internal struggles around fear, distrust, neediness, and avoidance. Affect is intense and dysregulated; anger can erupt without warning or vacillate with fearful withdrawal. Health-care settings are experienced as threatening places and health-care workers are likely to be approached with distrust, fear, and an apparently irreconcilable need for help. The capacity to mentalize is severely impaired by fear.

The behavior of a patient with disorganized attachment is even less predictable. Health-care providers struggle to keep the relationship within the normal bounds of offering and delivering help, modified by patient feedback. However, communication is often too inconsistent to allow clinicians to use patient feedback to calibrate their efforts. Disorganized patients often evoke intense interpersonal pulls from health-care workers who are activated to rush in to help by the intensity of distress. Unfortunately, the lack of privacy and intrusiveness necessitated by much of health care may in turn push a fearful or disorganized patient to withdraw from care or to undermine health-care relationships. The unhappy endpoint is a parallel withdrawal by the health-care provider or rejection of the patient as difficult, unworkable, or even hateful (Groves 1978).

[4] See Chap. 4.

3.6 Summary

Across different attachment styles, we see that patterns of relationship have a major influence on the effectiveness of the health care delivered. The Canadian medical pioneer, Sir William Osler advised medical students to "[c]are more particularly for the individual patient than for the special features of the disease"[5] which emphasizes that it is more important to know what kind of person has a disease than what disease a person has, which succinctly summarizes the attachment perspective on health care. We cannot pretend that there is only one type of patient and that we can therefore get by with only one type of interaction. Models of health-care delivery need to accommodate to the differences amongst patients. To do so, we hypothesize, will not add a layer of complexity, but rather diminish conflict and increase health-care efficacy.

We nominate attachment theory as an approach to understanding individual differences between patients and adapting health care to their individual needs. Patterns of attachment are a valuable guide to this goal because they apply to everyone; attachment behavior is always activated at times of sufficient stress. Furthermore, illness, injury, and loss, the typical contexts of most health-care contacts, are core triggers of attachment behavior. Finally, patterns of attachment determine how adults can accept help or function independently when they are strained, a condition that is also immediately applicable to health-care interactions. In 1952, James Robertson and Laura taught us that human beings must always be understood in their interpersonal context, and never more so than when they are ill. It is now our turn to put that insight into practice.

References

Bowlby J (1973) Attachment and loss: Vol 2: Separation: anxiety and anger. Basic Books, New York

Ciechanowski P, Russo J, Katon W, Simon G, Ludman E, Von Korff M, Young B, Lin E (2006) Where is the patient? The association of psychosocial factors and missed primary care appointments in patients with diabetes. Gen Hosp Psychiatry 28(1):9–17, available from: PM:16377360

Feeney JA, Kelly L, Gallois C, Peterson C, Terry DJ (2008) Attachment style, assertive communication, and safer sex behavior. J Appl Soc Psychol 29:1964–1983

George C, West M (2001) The development and preliminary validation of a new measure of adult attachment: the adult attachment projective. Attach Hum Dev 3(1):30–61, available from: PM:11708383

Groves JE (1978) Taking care of the hateful patient. N Engl J Med 298:883–887

Hesse E (2008) The Adult Attachment Interview: protocol, method of analysis, and empirical studies. In: Cassidy J, Shaver PR (eds) Handbook of attachment: theory, research and clinical applications, 2nd edn. Guilford Press, New York, pp 552–598

Holmes J (2001) The search for the secure base: attachment theory and psychotherapy. Brunner-Routledge, East Sussex

[5] From Osler's "Address to the Students of the Albany Medical College," first published in Albany Medical Annals in 1899 and quoted in Silverman and Bryan (2007).

Holmes J (2006) Mentalization: what's new? In: Allen JG, Fonagy P (eds) Mentalization. Psychoanalytic Press, New York

Jellema A (2002) Dismissing and preoccupied insecure attachment in CAT: some implications for CAT practice. Clin Psychol Psychother 9:225–241

Kiesler DJ (1996) Contemporary interpersonal theory and research. Wiley, New York

Leszcz M, Pain C, Hunter J, Maunder R, Ravitz P (2014) Achieving psychotherapy effectiveness. W.W. Norton and Company, New York

Main M (1981) Avoidance in the service of attachment: a working paper. In: Immelman K et al (eds) Behavioral development: the Bielefeld interdisciplinary project. Cambridge University Press, New York, pp 651–693

Mikulincer M (1998) Adult attachment style and individual differences in functional versus dysfunctional experiences of anger. J Pers Soc Psychol 74:513–524

Mikulincer M, Shaver PR (2007) Attachment in adulthood: structure, dynamics, and change. Guilford, New York

Pistole MC (1989) Attachment in adult romantic relationships: style of conflict resolution and relationship satisfaction. J Soc Pers Relat 6:505–510

Rholes WS, Simpson JA, Stevens JG (1998) Attachment orientations, social support, and conflict resolution in close relationships. In: Simpson JA, Rholes WS (eds) Attachment theory and close relationships. Guilford Press, New York, pp 166–188

Silverman ME, Bryan CS (2007) The Quotable Osler, Revised Paperback Edition ed. American College of Physicians, Philadelphia

Steele H, Steele M, Croft C, Fonagy P (1999) Infant-mother attachment at 1 year predicts children's understanding of mixed emotions at 6 years. Soc Dev 8(2):161–178

West ML, Sheldon-Kellor AE (1994) Patterns of relating: an adult attachment perspective. Guilford Press, New York

The Relevance of Attachment Theory in Medical Care

4

Bernhard Strauss and Katja Brenk-Franz

4.1 The History of Attachment Theory in Medicine

Attachment theory provides a biopsychosocial model to explain how individual differences in experience and behavior are related to interpersonal proximity and distance as well as to the regulation of affect and stress (Bowlby 1977). Whereas Bowlby's original intention was to develop a theory for the assessment and treatment of emotional disorders, he was clearly disappointed that his work – for a long time – did not take root in the clinical realm of adult psychoanalysis and psychotherapy (Sandler 2011). Instead, his ideas were assimilated into developmental psychology, leading to numerous studies that validated concepts from attachment theory such as Mary Ainsworth's investigations of infant attachment patterns using the Strange Situation (Ainsworth et al. 1978). These studies provide a solid basis for the extension of our knowledge of human development as well as its influence on personality and psychopathology (Bowlby 1988).

Although attachment theory was initially resisted by the psychoanalytic community, later psychoanalytically oriented authors in the United Kingdom (e.g., Holmes 1994) and Germany (e.g., Köhler 1991) reintegrated attachment theory and the results of developmental psychology research into clinical applications. Since the early 1990s, many psychotherapy research studies based upon attachment theory have been conducted which show, for example, that attachment characteristics and attachment-related interpersonal expectations predict both the quality of the

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Table 4.1 Examples of how attachment theory helps health-care practitioners

Relevance of attachment theory in primary care	Examples of importance to the health-care practitioner
Explains individual differences in coping strategies and behaviors of patients (such as hypervigilance or trivialization of symptoms)	Attachment styles give practitioners information about possible reactions or needs of their patients, which may improve their communication, for instance, when disclosing a new and serious diagnosis
	Practitioners can enact specific strategies to address people who tend to deny or trivialize symptoms and improve regulation of patients who catastrophize their disease
Predicts patients' adherence to treatment and advice	Depending on the attachment style of the patient, the clinician can predict likely adherence with medical treatment and act accordingly
Guides treatment and communication optimization for individual patients in primary care	As dismissing patients are more autonomous, have less self-disclosure, and avoid medical visits, they should receive special attention to adherence to medical appointments and implementation of self-care behavior. For instance, they may prefer patient education via a technological interface, such as the Internet, as the absence of a personal relationship may diminish the drive for distancing
Encourages the development of tools for use in a medical context to quickly and effectively understanding a person's relationship style	A screening instrument to assess attachment styles of patients could help the practitioner to optimize the doctor-patient relationship

therapeutic alliance (Diener and Monroe 2011) and the outcome of psychotherapy (Levy et al. 2011). There is also evidence that attachment security increases during psychotherapy (Taylor et al. 2015) and that the attachment patterns of therapists might play an important role in establishing therapeutic rapport (e.g., Schauenburg et al. 2010).

Since the attachment system plays an important role in the regulation of both the emotions and the interpersonal patterns activated in stressful situations, the concept has consequently been applied to the fields of psychosomatic medicine (Maunder and Hunter 2001) and health psychology (Pietromonaco et al. 2013), reflecting a "return" of the theory into the medical field.

Over the past years, the importance of attachment theory has grown immensely in many fields of medical care. Table 4.1 lists a selection of issues related to medical illness where attachment is believed to be important.

Attachment theory has increasingly been applied to understand the development of disease and chronic illness, the behavior of patients in medical care (Maunder and Hunter 2001), and the doctor-patient relationship. Attachment theory has been used to understand the behavior of patients with chronic illness (e.g., Sirois and Gick 2014), pain (Meredith et al. 2008; Meredith 2013; Costa-Martins et al. 2014), and cancer (Hunter et al. 2006; Rodin et al. 2007; Lo et al. 2010; Henselmans et al. 2010; Nicholls et al. 2014) and patients who depend heavily on medical providers, such as in intensive or palliative care (Petersen and Koehler 2006).

Researchers found evidence in diabetic patients that insecure attachment was associated with poorer diabetes self-management (e.g., lower adherence to recommendations related to oral hypoglycemic medications, diet, exercise, foot care, and smoking) and negative outcomes (elevated glycosylated hemoglobin levels, Ciechanowski et al. 2004a, b). In our own studies, we also found a connection between insecure attachment and low self-management skills and behavior in patients with diabetes. Attachment anxiety was significantly linked to impaired coping and lower self-efficacy, hope, dietary control, and physical activity. Attachment avoidance, on the other hand, was associated with lower levels of social support and health-care use (Brenk-Franz et al. 2015).

Similarly, in the context of chronic pain, insecure adult attachment was clearly connected to disability levels (McWilliams et al. 2000) and depressive symptoms (Ciechanowski et al. 2003; Meredith et al. 2007). In the National Comorbidity Replication Survey, McWilliams and Bailey (2010) found that a wide range of health conditions, including several cardiovascular disorders (i.e., stroke, heart attack, high blood pressure), were associated with anxious attachment, whereas secure attachment was unrelated to the health conditions (McWilliams and Bailey 2010). These examples indicate how promising an attachment perspective might be to improve medical treatment.

Two major approaches to adult attachment have guided research in attachment in medicine (Bartholomew and Shaver 1998). The developmental approach has mainly used the Adult Attachment Interview and derived measures to infer states of mind regarding childhood experiences with relevant caregivers (Main et al. 1985). This approach usually leads to a categorical classification of attachment. A second approach was mainly developed within social psychology and personality research and commonly relies on self-report measures of attachment and related thoughts and feelings in adult relationships measuring the degree of attachment anxiety and avoidance (Brennan et al. 1998). Most health-related research regarding attachment relied on self-report measures of adult attachment, involving ratings of particular attachment styles (Hazan and Shaver 1987) or scales assessing the attachment dimensions (Bartholomew and Horowitz 1991) that are thought to underlie attachment styles.

4.2 Activation of the Attachment System with Illness and Disease

Based upon attachment theory, one can assume that a person's disease and the activation of the attachment system influence each other. On the one hand, suffering from a disease can be perceived as threat by the patient and causes him or her to activate the attachment behavior system (Shaver and Mikulincer 2004; Bowlby 1977, 1988). On the other hand, individually formed inner working models of attachment should have both direct and indirect influences on the health conditions, including the way health care is used (Box 4.1).

Strategies of affect regulation and their association with the attachment system in patients with disease can be analyzed according to the model of Shaver and Mikulincer (2004). According to the model, being confronted with a disease can be interpreted as

Box 4.1: The Relevance of Attachment for Medical Illness

Activation of the attachment system with illness and medical treatment
Illness and physical/psychological impairment as a consequence of insecure attachment
Attachment as a determinant of coping and illness behavior
Attachment as a determinant of self-management
Attachment as a predictor of adherence
Attachment as an important factor forming the doctor-patient relationship

Box 4.2: Examples of Patient Characteristics as a Function of Secure Attachment Style

Patients with secure attachment…

- Develop higher self-esteem and self-acceptance (Bartholomew and Horowitz 1991)
- Have a higher level of self-disclosure (Mikulincer and Nachshon 1991)
- Feel more comfortable and flexible in interpersonal relationships (Ciechanowski and Katon 2006; Mikulincer and Nachshon 1991)
- Assess personal resources and needs more realistically (Ciechanowski and Katon 2006)
- Use social support systems and benefit from these and seek actively help (Florian et al. 1995; Li et al. 2008; Mikulincer and Florian 1997; Ognibene and Collins 1998)
- Use more flexible coping strategies (i.e., active problem solving, accepting the situation, acquiring emotional support) (Schmidt et al. 2002; Mikulincer and Florian 1998)
- Are more cooperative, optimistic, confident, reliable, and understanding (Klohnen and John 1998)
- Are positively perceived in groups and perceive other persons to be more differentiated, benefit more from therapies, and develop closer working relationships (Strauß and Schwark 2007)
- Have a higher treatment acceptance in the doctor-patient relationship (Dozier 1990)

a threat, which activates the attachment system and, in turn, may lead to seeking proximity to an attachment figure. A person with secure attachment may find it sufficiently soothing to activate internal resources ("proximity to an internalized attachment figure"), whereas a person with dismissing attachment may disavow his or her need for contact with others. If the internal or external attachment figure is available and responsive, then access to either the caregiver's attention and/or security-based self-representations can lead to deactivation of the attachment system. If this is not the case, the attachment system remains activated, and, depending on the internal working model, deactivating or hyperactivating strategies will be employed (Boxes 4.3 and 4.4).

Box 4.3: Examples of Patient Characteristics as a Function of Dismissing Attachment Style
Patients with dismissing attachment…

- Are characterized by the pursuit of autonomy and independence, more interpersonal distance, and control (Allen et al. 2005)
- Distrust others; expect them to be hostile, exploitative, and insensitive (Ciechanowski and Katon 2006; Dozier et al. 1994)
- Report lower self-disclosure (Mikulincer and Nachshon 1991)
- Develop uncooperative working relationships and rarely seek social support (Hesse 2008; Mikulincer and Shaver 2007; Ognibene and Collins 1998)
- Use more rigid coping mechanisms, prefer cognitive distancing of emotions (Feeney 1995; Lopez et al. 2001)
- Respond to anger, irritation, or frustration with interpersonal distance (Jellema 2002; Rholes et al. 1998)
- Are more rational, autonomous, emotionally independent, and sarcastic (Klohnen and John 1998)
- Tend to trivialize their problems, emotions, and symptoms (Jellema 2002; Strauß and Schwark 2007)

Box 4.4: Examples of Patient Characteristics as a Function of Preoccupied Attachment Style
Patients with preoccupied attachment …

- Show their stress or anger excessively and vigorously seek social support (Mikulincer and Shaver 2007)
- Have more unbalanced relationships, because the need for support outweighs the possibility of giving social support (George and West 2001)
- Do not feel resilient and resistant (Meredith et al. 2005)
- Are more demanding, unstable, dependent, moody, and frustrated (Klohnen and John 1998)
- Tend to catastrophize the description of symptoms (Ciechanowski et al. 2003)
- Develop strong dependent bonds to the doctor/therapist (Strauss and Schwark 2007)
- Report their situation with ambivalent and diffuse language (Hesse 2008)
- Want more intense and frequent contact with the therapist, test boundaries, and keep their therapists involved (Strauss and Schwark 2007)

Deactivating strategies are commonly associated with the denial of attachment needs, downplaying of risks in terms of trivializing symptoms of diseases, repression of negative emotions and cognitions, as well as the avoidance of contact with

an attachment figure. In contrast, hyperactivating strategies probably increase sensitivity to threatening situations. A chronically activated attachment system might lead a patient to continuously perceive danger in his or her environment, so symptoms might be dramatized and exaggerated. As a consequence, there is a strong demand for a sense of protection and security from potential attachment figures, which may include not only partners but also family members and health-care providers such as physicians and nurses. It is assumed that these processes happen automatically, i.e., a patient is not fully aware of them and cannot really reflect upon their actions.

4.3 Illness and Physical/Psychological Impairment as a Consequence of Insecure Attachment

Within medical care, deactivating and hyperactivating strategies of patients with insecure attachment are of paramount interest for understanding health behavior. It is also of interest to understand *how* insecure attachment correlates with the formation and maintenance of disease. Based on empirical evidence, Maunder and Hunter (2001) (see Fig. 1.2) developed a model of the association between insecure attachment and heightened risk for disease, based on three different paths. The first path describes the relationship between insecure attachment and various impaired mechanisms of stress regulation, which can have a direct influence on the formation and maintenance of disease caused by an increase in physiological stress response. A second path shows the association between insecure attachment and increased externalization of emotional regulation related to problematic health behavior and the role of specific risk factors such as substance abuse (nicotine, alcohol), disturbed eating behavior, or risky sexual behavior. The third path, indicates that insecure attachment is associated with an inadequate use of protective factors such as social support, adherence, and self-care of patients. This has a direct effect on the disease as well as an indirect effect through suboptimal use of the medical care system and an inadequate description of disease-related symptoms.

Insecure attachment has clearly been shown to be a risk factor for the development of mental and physical disorders, whereas secure attachment works as a protective factor associated with greater life satisfaction (Maunder and Hunter 2001; Thompson 1999; Wensauer and Grossmann 1998). Insecure attachment is also seen as an important risk factor for the development of chronic diseases, such as chronic pain, stroke, heart attack, high blood pressure, and ulcer disease (McWilliams and Bailey 2010). While it is estimated that the percentage of securely attached individuals in representative samples might fluctuate between 50 and 60 %, the percentage in clinical samples, especially those of patients with psychological disorders, is approximately 20 % (Bakermans-Kranenburg and Van Ijzendoorn 1993, 2009), underlining the risk potential of attachment insecurity.

4.4 Attachment as a Determinant of Coping

Theories of coping refer to both treatment-related and intrapsychic efforts to tolerate or minimize stressful situations (Lazarus and Launier 1978). Several studies have demonstrated that patients' management of diseases depends on their attachment characteristics (Mikulincer and Florian 1998; Schmidt et al. 2002; Turan et al. 2003). In particular, attachment-based patterns of affect regulation influence patients' coping behavior. Patients with secure attachment assess stressful situations more flexibly, solve problems more actively, and use their social network (Seiffge-Krenke 2004).

Patients with avoidant attachment tend to suppress emotions, such as fear or anger, have a need to exert control, tend not to seek social support (e.g., Kotler et al. 1994), tend to show avoidance and passive resignation (Turan et al. 2003), and generally employ threat-reducing, repressive, and deactivating coping strategies (Schmidt et al. 2002). In keeping with these strategies, avoidant patients seek less medical help and avoid contact with their physicians (Brenk-Franz et al. 2015, Mikail et al. 1994).

In contrast, patients with preoccupied attachment focus more on the threatening aspects of their disease. They report more negative emotions and disease-related symptoms and tend to catastrophize (Ciechanowski et al. 2003). They also employ more diverting strategies and more negative emotional coping (Schmidt et al. 2002). In self-report, preoccupied patients also revealed hyperactivating tendencies in their coping behavior (Box 4.4).

4.5 Attachment as a Determinant of Self-Management

Self-care and self-management are increasingly important in medical care as patients become more involved in the treatment of their diseases. Health-promoting behaviors are taught to patients, on the assumption that by supporting empowerment and shared decision-making, patients will be more active and autonomous within the medical care system (Kanfer et al. 2006). Self-management as a behavioral and cognitive strategy helps people to structure their behavior and to achieve their goals (König and Kleinmann 2006). It can therefore be regarded as an expression of the self as a representational agent, which is closely related to secure attachment (Fonagy et al. 2004). Self-efficacy is a key component of cognitive self-management (Bandura 1977). It describes the expectation that one will be able to successfully perform a specific behavior (Schwarzer 2002). Self-management strategies are essential elements of evidence-based medical treatment of patients with chronic diseases in primary care (Wagner et al. 2001). Self-management programs have shown clear benefit for patients with diabetes mellitus (Cochran and Conn 2008; Duke et al. 2009), coronary heart disease (Barth et al. 2006), arterial hypertension (Glynn et al. 2010), and depression (Gensichen et al. 2011; Khan et al. 2007).

Some recent studies from primary care have explored the relationship between attachment and self-management. For example, diabetic patients with avoidant attachment showed less behavioral self-care (such as regular foot care, adherence to diet, avoiding smoking, adherence to medical health-care use) than patients who are securely attached (Brenk-Franz et al. 2015; Ciechanowski et al. 2004a).

4.6 Attachment as a Predictor of Treatment Adherence

Treatment adherence and nonadherence are another important focus. Only half of patients with chronic disease take their medication as prescribed (WHO 2003) even though strong adherence leads to better treatment outcomes (Simpson et al. 2006). However, adherence and nonadherence are subject to different influences. Factors which promote adherence include self-efficacy and the presence of symptoms (Dunbar-Jacob and Mortimer-Stephens 2001). Some of the factors known to influence nonadherence are poor education, unwanted adverse reactions, polypharmacy, and the presence of chronic diseases (Claxton et al. 2001; Hernandez-Ronquillo et al. 2003).

Concepts of developmental psychology have only recently been used to explain treatment nonadherence. Secure attachment is associated with more health-promoting behavior (Scheidt and Waller 2002) and various foci of self-efficacy and so is expected to promote treatment adherence. With respect to nonadherence, in diabetes, dismissing attachment is associated with low overall adherence and leads to poorer glucose control, especially if the communication with the physician is subjectively perceived as unsatisfactory (Ciechanowski et al. 2001). In lupus patients, a study tested if patients' attachment styles could predict patients' adherence and health-related quality of life. Attachment avoidance was again seen to have a negative effect on a patient's adherence, whereas attachment anxiety was seen to have a negative impact on health-related quality of life (Bennett et al. 2011). Attachment avoidance has also been associated with not using seat belts when driving (Ahrens et al. 2012). Thus, the avoidant dimension of attachment insecurity is consistently associated with nonadherence.

4.7 Attachment as an Important Influence on the Doctor-Patient Relationship

Evidence shows that psychotherapists have the potential to act as an attachment figure by providing a patient a "secure base" and "safe haven" (Borelli and David 2004). Dozier and Bates (2004) indicated that "The client finds in the therapist someone who seems stronger and wiser than him- or herself. Thus, the client may interact with the clinician in ways that reflect expectations from other relationships," a notion that could easily be extended to the field of medical treatment. Accordingly, attachment theory may provide a model for explaining why some patients have an

intense need for their doctor. This would occur when a fundamental need for security, initiated by the threat posed by an illness, drives the patient to regard the physician as an attachment figure, with whom proximity needs to be maintained in order to feel safe.

Supporting this hypothesis is the fact that patients prefer continuous care by a single primary care physician (e.g., Pandhi and Saultz 2006) and continue to prefer continuity of care even when the severity of illness is increasing (Baker et al. 2007; Frederiksen et al. 2010; Guthrie and Wyke 2006). Patients commonly report problems when they have to change their primary care physician, even if the relationship was difficult (Frederiksen et al. 2010). Thus, the evidence suggests that continuity is desirable, and discontinuity problematic, for most patients. A continuous care provider may be well situated to act as a safe haven and a secure base with respect to threats related to health.

Studies in health-care research show correlations between patients' attachment characteristics and the way they present themselves in the health-care system. Early attachment relationships influence behavior in all important relationships throughout life. Therefore, the doctor-patient relationship is likely to be affected by the deficits in social competencies and skills and deficits in perceived social support, which are common among patients with insecure attachment styles (Mallinckrodt 2000). Dysfunctional illness behavior can be understood as a result of such problems (Ciechanowski et al. 2002). Patients with preoccupied attachment, for example, express more attention-seeking behavior, report more symptoms, and overuse health services (Ciechanowski et al. 2002), whereas those with avoidant attachment are more likely to reject a practitioner, self-disclose less, underuse care services, and avoid regular contact with their physicians (Dozier 1990; Feeney and Ryan 1994; Brenk-Franz et al. 2015).

So far, we have concentrated on the attachment of the patient, but in any relationship there is a mutual influence between the individuals – what can we say about the attachment of the health-care worker? Unfortunately, studies to determine the attachment behavior of the treating physicians and their influence on the doctor-patient relationship are still rare. First results indicate that physicians who focus on a holistic treatment of patients often have characteristics of secure attachment and that medical students with more secure attachment often opt for primary care medicine and medical disciplines allowing more stable and long-lasting doctor-patient relationships (Ciechanowski et al. 2004b, 2006). There are also indications that securely attached case managers have a better understanding of the "hidden needs" of their patients, while case managers with insecure attachment primarily respond to the visible needs of their patients (Dozier et al. 1994). Physicians with a positive mental model of the self are more willing to go against their patients' opinions and wishes for certain treatment (Salmon et al. 2007, 2008). Overall, it is clear that the attachment styles of physician and patient influence each other. Prospectively, there should be a stronger focus on the issue of doctor-patient fit and on the question how the doctor-patient relationship might change for the better over time (Salmon and Young 2009).

4.8 Conclusions: Benefits and Tasks of Attachment Classification in Medical Care

As shown in this introductory chapter, attachment theory – after its return into the medical world – has gained considerable interest in medical and psychosomatic research.

Attachment theory provides an explanatory model for different strategies of emotion regulation, coping, and the use of the health-care system. It is still not clear how the mechanisms related to different attachment styles influence health-related long-term outcomes. There is strong evidence that dismissing patients tend to suppress emotions, whereas hypervigilance and rumination are common characteristics of preoccupied patients. Both strategies result (mostly indirectly) in chronic health problems (e.g., Maunder and Hunter 2001; Mikulincer and Shaver 2007). There is clearly a need for long-term studies exploring in which ways attachment characteristics act as predictors of specific medical outcomes. Moreover, their underlying biological pathways should be further clarified (Miller et al. 2009).

For the future, it is also important to consider which interventions might strengthen secure attachment and improve basic mechanisms of affect regulation, enhancing pro-social behavior and improving long-term health-related factors (Simpson and Rholes 2010). So far, there is some evidence showing that crucial aspects of patients' illness behavior, coping, and adherence as well as their self-management in face of (chronic) diseases relate to their attachment history. These results clearly have the potential to guide the development of strategies for improving patient treatment in primary care.

References

Ahrens KR, Ciechanowski P, Katon W (2012) Associations between adult attachment style and health risk behaviors in an adult female primary care population. J Psychosom Res 72(5):364–370

Ainsworth MDS, Blehar MC, Waters E, Wall S (1978) Patterns of Attachment: A Psychological Study of the Strange Situation. Erlbaum, Hillsdale, NJ

Allen JG, Stein H, Fonagy P, Fultz J, Target M (2005) Rethinking adult attachment: a study of expert consensus. Bull Menninger Clin 69(1):59–80

Baker R, Boulton M, Windridge K, Tarrant C, Bankart J, Freeman GK (2007) Interpersonal continuity of care: a cross-sectional survey of primary care patients' preferences and their experiences. Br J Gen Pract 57(537):283–289

Bakermans-Kranenburg MJ, Van Ijzendoorn MH (1993) A psychometric study of the adult attachment interview: reliability and discriminant validity. Dev Psychol 29(5):870–879

Bakermanns-Kranenburg MJ, Van Ijzendoorn MH (2009) The first 10000 Adult Attachment Interviews. Attach Hum Dev 11:223–263

Bandura A (1977) Self-efficacy: toward a unifying theory of behavioural change. Psychol Rev 84(2):191–215

Barth J, Critchley J, Bengel J (2006) Efficacy of psychosocial interventions for smoking cessation in patients with coronary heart disease: a systematic review and meta-analysis. Ann Behav Med 32(1):10–20

Bartholomew K, Horowitz LM (1991) Attachment styles among young adults: a test of a four-category model. J Pers Soc Psychol 61(2):226–244

Bartholomew K, Shaver PR (1998) Methods of assessing adult attachment: Do they converge? In: Simpson JA & Rholes WS (eds) Attachment theory and close relationships. Guilford Press, New York, pp 25–45

Bennett JK, Fuertes JN, Keitel M, Phillips R (2011) The role of patient attachment and working alliance on patient adherence, satisfaction, and health-related quality of life in lupus treatment. Patient Educ Couns 85(1):53–59

Borelli JL, David DH (2004) Attachment Theory and Research as a Guide to Psychotherapy Practice. Journal of Imagination, Cognition, and Personality, 23, 257–287

Bowlby J (1977) The making and breaking of affectional bonds. Br J Psychiatry 130(3):201–210

Bowlby J (1988) A secure base. Clinical applications of attachment theory. Routledge, London

Brenk-Franz K, Strauß B, Tiesler F et al (2015) The influence of adult attachment on self-management in elderly primary care patients with multi-morbidity. PLoS One (in press)

Brennan KA, Clark CL, Shaver PR (1998) Self-report measurement of adult romantic attachment: An integrative overview. In: Simpson JA & W. S. Rholes WS (eds) Attachment theory and close relationships. Guilford Press, New York, pp 46–76

Ciechanowski PS, Katon WJ (2006) The interpersonal experience of health care through the eyes of patients with diabetes. Soc Sci Med 63(12):3067–3079

Ciechanowski PS, Katon WJ, Russo JE, Walker EA (2001) The patient-provider relationship: attachment theory and adherence to treatment in diabetes. Am J Psychiatry 158(1):29–35

Ciechanowski PS, Walker EA, Katon WJ, Russo JE (2002) Attachment theory: a model for health care utilization and somatization. Psychosom Med 64(4):660–667

Ciechanowski PS, Sullivan M, Jensen M, Romano J, Summers H (2003) The relationship of attachment style to depression, catastrophizing and health care utilization in patients with chronic pain. Pain 104(3):627–637

Ciechanowski PS, Russo JE, Katon WJ et al (2004a) Influence of patient attachment style on self-care and outcomes in diabetes. Psychosom Med 66(5):720–728

Ciechanowski PS, Russo JE, Katon WJ, Walker EA (2004b) Attachment theory in health care: the influence of relationship style on medical students' specialty choice. Med Educ 38(3): 262–270

Ciechanowski PS, Worley LL, Russo JE, Katon WJ (2006) Using relationship styles based on attachment theory to improve understanding of specialty choice in medicine. BMC Med Educ 6:3

Claxton AJ, Cramer J, Pierce C (2001) A systematic review of the associations between dose regimens and medication adherence. Clin Ther 23(8):1296–1310

Cochran J, Conn VS (2008) Meta-analysis of quality of life outcomes following diabetes self-management training. Diabetes Educ 34(5):815–823

Costa-Martins JM, Pereira M, Martins H, Moura-Ramos M, Coelho R, Tavares J (2014) Attachment styles, pain, and the consumption of analgesics during labor: a prospective observational study. J Pain 15(3):304–311

Diener MJ, Monroe JM (2011) The relationship between adult attachment style and therapeutic alliance in individual psychotherapy. Psychotherapy 48(3):237–248

Dozier M (1990) Attachment organisation and treatment use for adults with serious psychopathological disorders. Dev Psychopathol 2(1):47–60

Dozier M, Bates B (2004) Attachment state of mind and the treatment relationship. In: Attkinson L, Goldberg S (eds) Attachment issues in psychopathology and intervention. Lawrence Erlbaum Associates Publishers, Mahwah, NJ pp 167–180

Dozier M, Cue KL, Barnett L (1994) Clinicians as caregivers: role of attachment organization in treatment. J Consult Clin Psychol 62(4):793–800

Duke SAS, Colagiuri S and Colagiuri R (2009) Individual patient education for people with type 2 diabetes mellitus. Cochrane Database Syst Rev (1):CD005268. doi:10.1002/14651858.CD005268.pub2

Dunbar-Jacob J, Mortimer-Stephens M (2001) Treatment adherence in chronic disease. J Clin Epidemiol 54(12):S57–S60

Feeney JA (1995) Adult attachment, coping style and health locus of control as predictors of health behaviour. Aust J Psychol 47(3):171–177

Feeney JA, Ryan SM (1994) Attachment style and affect regulation: relationships with health behaviour and family experiences of illness in a student sample. Health Psychol 13(4):334–345

Florian V, Mikulincer M, Bucholtz I (1995) Effects of adult attachment style on the perception and search for social support. J Psychol 129(6):665–676

Fonagy P, Gergely G, Jurist E, Target M (eds) (2004) Affect regulation, mentalization, and the development of the self, 2nd edn. Other Press, New York

Frederiksen HB, Kragstrup J, Dehlholm-Lambertsen B (2010) Attachment in the doctor-patient relationship in general practice: a qualitative study. Scand J Prim Health Care 28(3):185–190

Gensichen J, Petersen JJ, Karroum T et al (2011) Positive impact of a family practice-based depression case management on patient's self-management. Gen Hosp Psychiatry 33(1):23–28

George C, West M (2001) The development and preliminary validation of a new measure of adult attachment: the adult attachment projective. Attach Hum Dev 3(1):30–61

Glynn LG, Murphy AW, Smith SM, Schroeder K, Fahey T (2010) Interventions used to improve control of blood pressure in patients with hypertension. Cochrane Database Syst Rev 3, CD005182. doi:10.1002/14651858.CD005182.pub4

Guthrie B, Wyke S (2006) Personal continuity and access in UK general practice: a qualitative study of general practitioners' and patients' perceptions of when and how they matter. BMC Fam Pract 7:11

Hazan C, Shaver P (1987) Romantic love conceptualized as an attachment process. J Pers Soc Psychol 52(3):511–524

Henselmans I, Helgeson VS, Seltman H, de Vries J, Sanderman R, Ranchor AV (2010) Identification and prediction of distress trajectories in the first year after a breast cancer diagnosis. Health Psychol 29(2):160–168

Hernandez-Ronquillo L, Tellez-Zenteno JF, Garduno-Espinosa J, Gonzalez-Acevez E (2003) Factors associated with therapy nonadherence in type-2 diabetes patients. Salud Publica Mex 45(3):191–197

Hesse E (2008) The adult attachment interview: protocol, method of analysis, and empirical studies. In: Cassidy J, Shaver PR (eds) Handbook of attachment: theory, research and clinical applications. Guilford Press, New York, pp 552–598

Holmes J (1994) The clinical implications of attachment theory. Br J Psychother 11(1):62–76

Hunter MJ, Davis PJ, Tunstall JR (2006) The influence of attachment and emotional support in end-stage cancer. Psychooncology 15(5):431–444

Jellema A (2002) Dismissing and preoccupied insecure attachment in CAT: some implications for CAT practice. Clin Psychol Psychother 9(4):225–241

Kanfer FH, Reinecker H, Schmelzer D (2006) Selbstmanagement-Therapie: Ein Lehrbuch für die Klinische Praxis. Springer Medizin Verlag, Heidelberg

Khan N, Bower P, Rogers A (2007) Guided self-help in primary care mental health: meta-synthesis of qualitative studies of patient experience. Br J Psychiatry 191(3):206–211

Klohnen EC, John OP (1998) Working models of attachment: a theory-based prototype approach. In: Simpson JA, Rholes WS (eds) Attachment theory and close relationships. Guilford Press, New York, pp 115–140

König CJ, Kleinmann M (2006) Selbstmanagement. In: Schuler H (ed) Lehrbuch der Personalpsychologie. 2nd revised and expanded ed. Hogrefe, Göttingen, pp 331–348

Köhler L (1991) Neuere Ergebnisse der Kleinkindforschung. Ihre Bedeutung für die Psychoanalyse Erwachsener. Forum der Psychoanalyse, 6, 32–51

Kotler T, Buzwell S, Romeo Y, Bowland J (1994) Avoidant attachment as a risk factor for health. Br J Med Psychol 67(3):237–245

Lazarus RS, Launier R (1978) Stress-related transactions between person and environment. In: Pervin LA, Lewis M (eds) Perspectives in interactional psychology. Plenum Press, New York, pp 287–327

Levy KN, Ellison WD, Scott LN et al (2011) Attachment style. J Clin Psychol Session 67(2):193–203

Li T, Li J, Dai Q (2008) Adult attachment, social support, and depression level of post stroke patients. J Soc Behav Pers 36(10):1341–1352

Lo C, Lin J, Gagliese L, Zimmermann C, Mikulincer M, Rodin G (2010) Age and depression in patients with metastatic cancer: the protective effects of attachment security and spiritual wellbeing. Ageing Soc 30(2):325–336

Lopez FG, Mauricio AM, Gormley B, Simko T, Berger E (2001) Adult attachment orientations and college student distress: the mediating role of problem coping styles. J Couns Dev 79(4): 459–464

Main M, Kaplan N, Cassidy J (1985) Security in infancy, childhood, and adulthood: a move to the level of representation. In: Bretherton I, Waters E (eds) Growing points in attachment theory and research (Serial No. 209): monographs of the Society for Research in Child Development, vol 50(1–2). University of Chicago Press, Chicago, pp 66–104

Mallinckrodt B (2000) Attachment, social competencies, social support, and interpersonal process in psychotherapy. Psychother Res 10(3):239–266

Maunder RG, Hunter JJ (2001) Attachment and psychosomatic medicine: developmental contributions to stress and disease. Psychosom Med 63(4):556–567

McWilliams LA, Bailey SJ (2010) Associations between adult attachment ratings and health conditions: evidence from the National Comorbidity Survey Replication. Health Psychol 29(4):446–453

McWilliams LA, Cox BJ, Enns MW (2000) Impact of adult attachment styles on pain and disability associated with arthritis in a nationally representative sample. Clin J Pain 16(4):360–364

Meredith PJ (2013) A review of the evidence regarding associations between attachment theory and experimentally-induced pain. Curr Pain Headache Rep 17(4):326. doi:10.1007/s11916-013-0326-y

Meredith PJ, Strong J, Feeney JA (2005) Evidence of a relationship between adult attachment variables and appraisals of chronic pain. Pain Res Manag 10(4):191–200

Meredith PJ, Strong J, Feeney JA (2007) Adult attachment variables predict depression before and after treatment for chronic pain. Eur J Pain 11(2):164–170

Meredith PJ, Ownsworth T, Strong J (2008) A review of the evidence linking adult attachment theory and chronic pain: presenting a conceptual model. Clin Psychol Rev 28(3):407–429

Mikail SF, Henderson PR, Tasca GA (1994) An interpersonally based model of chronic pain: an application of attachment theory. Clin Psychol Rev 14(1):1–16

Mikulincer M, Florian V (1997) Are emotional and instrumental supportive interventions beneficial in times of stress? The impact of attachment style. Anxiety Stress Coping 10:109–127

Mikulincer M, Florian V (1998) The relationship between adult attachment styles and emotional and cognitive reactions to stressful events. In: Simpson JA, Rholes WS (eds) Attachment theory and close relationships. Guilford Press, New York, pp 143–165

Mikulincer M, Nachshon O (1991) Attachment styles and patterns of self-disclosure. J Pers Soc Psychol 61(2):321–331

Mikulincer M, Shaver PR (2007) Attachment in adulthood: structure, dynamics, and change. Guilford Press, New York

Miller G, Chen E, Cole SW (2009) Health psychology: developing biologically plausible models linking the social world and physical health. Annu Rev Psychol 60:501–524

Nicholls W, Hubert-Williams N, Bramwell R (2014) The role of relationship attachment in psychological adjustment to cancer in patients and caregivers: a systematic review of the literature. Psychooncology 23:1083–1095

Ognibene TC, Collins NL (1998) Adult attachment styles, perceived social support and coping strategies. J Soc Pers Relationships 15(3):323–345

Pandhi N, Saultz JW (2006) Patients' perceptions of interpersonal continuity of care. J Am Board Fam Med 19(4):390–397

Petersen Y, Koehler L (2006) Application of attachment theory for psychological support in palliative medicine during the terminal phase. Gerontology 52(2):111–123

Pietromonaco PR, Uchino B, Dunkel Schetter C (2013) Close relationship processes and health: implications of attachment theory for health and disease. Health Psychol 32(5):499–513

Rholes WS, Simpson JA, Stevens JG (1998) Attachment orientations, social support, and conflict resolution in close relationships. In: Simpson JA, Rholes WS (eds) Attachment theory and close relationships. Guilford Press, New York, pp 166–188

Rodin G, Walsh A, Zimmermann C et al (2007) The contribution of attachment security and social support to depressive symptoms in patients with metastatic cancer. Psychooncology 16(12):1080–1091

Salmon P, Young B (2009) Dependence and caring in clinical communication: the relevance of attachment and other theories. Patient Educ Couns 74(3):331–338

Salmon P, Wissow L, Carroll J et al (2007) Doctors' responses to patients with medically unexplained symptoms who seek emotional support: criticism or confrontation? Gen Hosp Psychiatry 29(5):454–460

Salmon P, Wissow L, Carroll J et al (2008) Doctors' attachment style and their inclination to propose somatic interventions for medically unexplained symptoms. Gen Hosp Psychiatry 30(2):104–111

Sandler S (2011) Remembering with emotion in dynamic psychotherapy. Jason Aronson, New York

Schauenburg H, Buchheim A, Beckh K et al (2010) The influence of psychodynamically oriented therapists' attachment representations on outcome and alliance in inpatient psychotherapy. Psychother Res 20(2):193–202

Scheidt CE, Waller E (2002) Bindungsforschung und Psychosomatik. In: Strauß B, Buchheim A, Kächele H (eds) Klinische Bindungsforschung. Theorien, Methoden, Ergebnisse. Schattauer, Stuttgart, pp 242–254

Schmidt S, Nachtigall C, Wuethrich-Martone O, Strauß B (2002) Attachment and coping with chronic disease. J Psychosom Res 53(3):763–773

Schwarzer R (2002) Selbstwirksamkeitserwartung. In: Schwarzer R, Jerusalem M, Weber H (eds) Gesundheitspsychologie von A bis Z. Hogrefe, Göttingen, pp 521–524

Seiffge-Krenke I (2004) Adaptive and maladaptive coping styles: does intervention change anything? Eur J Dev Psychol 1(4):367–382

Shaver PR, Mikulincer M (2004) What do self-report attachment measures assess? In: Rholes WS, Simpson JA (eds) Adult attachment: theory, research, and clinical implications. Guilford Press, New York, pp 17–54

Simpson JA, Rholes WS (2010) Attachment and relationships: milestones and future directions. J Soc Pers Relationships 27(2):173–180

Simpson SH, Eurich DT, Majumdar SR et al (2006) A meta-analysis of the association between adherence to drug therapy and mortality. BMJ 333(7557):15

Sirois FM, Gick ML (2014) An appraisal-based coping model of attachment and adjustment to arthritis. J Health Psychol. doi:10.1177/1359105314539231

Strauß B, Schwark B (2007) Die Bindungstheorie und ihre Relevanz für die Psychotherapie: 10 years later. Psychotherapeut 52:405–425

Taylor P, Rietzschel J, Damquah A et al (2015) Changes in attachment representations during psychological therapy. Psychother Res 25(2):222–238

Thompson RA (1999) Early attachment and later development. In: Cassidy J, Shaver PR (eds) Handbook of attachment: theory, research and clinical applications. The Guilford Press, New York, pp 265–286

Turan B, Osar Z, Turan J, Damci T, Ilkova H (2003) Dismissing attachment and outcome in diabetes: the mediating role of coping. J Soc Clin Psychol 22(6):607–626

Wagner EH, Austin BT, Davis C, Hindmarsh M, Schaefer J, Bonomi A (2001) Improving chronic illness care: translating evidence into action. Health Aff 20(6):64–78

Wensauer M, Grossmann KE (1998) Bindungstheoretische Grundlagen subjektiver Lebenszufriedenheit und individueller Zukunftsorientierung im höheren Erwachsenenalter. Z Gerontol Geriatr 31(5):362–370

WHO (ed) (2003) Adherence to long-term therapies: evidence for action. WHO, Geneva

Part II

Specific Populations

Attachment Theory and Pain

5

Pamela J. Meredith

From his first conceptualisation of attachment theory, Bowlby recognised the relationship between attachment and pain, and described pain as one of the triggers of the attachment system: '…a child's attachment behavior is activated especially by pain, fatigue, and anything frightening…' (Bowlby 1998, p. 3). Even earlier, Engel (1959), the founder of the biopsychosocial model (Engel 1977), had considered a link between chronic pain and both childhood neglect and abuse. Perhaps as a result of these precedents, the value of using an attachment theoretical framework to understand pain in clinical settings was one of the earliest applications of attachment theory to physical health (Kolb 1982).

Empirical evidence has burgeoned, particularly over the last 10 years (see Meredith 2013; Meredith et al. 2008). During this time, attachment theory has been investigated in relation to acute and experimental pain (Andrews et al. 2011; Meredith et al. 2006b), various painful conditions (Costa-Martins et al. 2014; McWilliams et al. 2000; Meredith et al. 2006a, 2007), and outcomes from pain treatment programs (Andersen 2012; Kowal et al. 2015). Attachment has been considered in relation to pain experienced by adults (Meredith et al. 2008), adolescents (Laird et al. 2015; Tremblay and Sullivan 2010), and children (Esposito et al. 2013; Walsh et al. 2008; Williamson et al. 2002). Insecure attachment has also been conceptualised as a risk factor for the development of chronic pain in the face of acute pain experiences (Meredith et al. 2008).

Attachment theory provides a useful lens through which to view the assessment and treatment of pain, informs research, and opens the field to exciting new possibilities. In this chapter, the literature on the association between pain and attachment will be reviewed in order to understand how an attachment framework informs

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our understanding, and management, of pain. Special emphasis will be given to the Attachment-Diathesis Model of Chronic Pain (Meredith et al. 2008), which provides a heuristic of the complex interplay of psychosocial factors linking attachment theory and the pain experience.

5.1 What Is Pain?

According to a well-accepted definition, pain is '…an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage' (Merskey and Bogduk 1994, p. 210). Acute pain lasts for a short period of time, while chronic pain is considered to be present if the pain has persisted unabated for at least 3 months.

The experience of pain is a necessary and important part of human life. Pain serves to alert us to the threat of injury, raising levels of distress and providing us with a cue to take rapid action to address the painful stimulus. Effective responses to painful stimuli may remove the cause of the pain, halt the discomfort and distress, curtail the risk of long-term tissue damage, and even enable us to evade death. These actions have consequences for the prevention of disability or disease and for ongoing participation in life's roles. Importantly, pain also triggers the attachment system, which serves these same functions. With both the pain and attachment systems conferring advantages for survival, it is perhaps not surprising that they are linked.

Unfortunately, however, a painful stimulus is not always an alert to imminent danger and our responses are not always effective in obtaining positive outcomes, such as relieving the pain. In some cases, pain may persist long after the trigger has abated and may even defy medical and therapeutic efforts to explain and manage it. While there may be physiological factors, such as central sensitisation (Baron et al. 2013) at play, in such cases the intractability of the pain and the unrelenting levels of distress add an additional layer of suffering, which challenge any individual's coping repertoire.

Pain and coping are both uniquely individual experiences, known to be affected by a complex interplay of biological, psychological, behavioral, social, and historical factors. In fact, psychological characteristics, such as a tendency to catastrophise or one's level of pain self-efficacy (the strength of one's belief in one's ability to respond effectively to pain), are known to be stronger predictors of pain outcomes than either medical diagnosis or pain intensity (Arnstein 2000). Individual tendencies to respond to pain in specific ways, known as 'pain behaviors', also affect pain outcomes. Although a wide range of explanatory models have been developed to portray the complex interrelationships among the many pain-related factors, these models have thus far failed to explain the developmental origins of these individual differences (see Meredith et al. 2008). Attachment theory may fill this gap, as it represents a compelling, evidence-based model for understanding the development of social and personality factors that may contribute to either resilience or vulnerability in the face of pain. Attachment theory further provides an explanatory model for understanding the individual's social environment (both past and present), and for considering how people are likely to experience the therapeutic relationship.

5.2 Attachment and Pain

During a painful experience, or when anticipating pain, the attachment system is activated, initiating a series of unique internal and behavioral responses. From the youngest of ages, pain causes an expression of distress, in order that someone will either remove the cause of the pain or provide comfort in the face of the associated distress. Over time, based on the quality of experiences with caregivers, these responses to painful stimuli become imbedded and habitual. In the following sections, the literature that pertains to the associations between attachment and pain will be reviewed, beginning with studies of associations between attachment and different types of pain. With links between attachment and chronic pain representing the most extensively investigated type of pain, this literature will be considered in Sect. 5.3.

5.2.1 Labour Pain

The experience of delivering a newborn infant represents a unique circumstance of acute pain, overlaid with implications for the woman's transition to parenthood (or memories of that transition from previous births), the activation of her caregiving system, and her developing relationship with her infant. Like other sources of pain, labour is likely to activate the mother's attachment system, and different attachment behaviors will be elicited depending on her internal working model. In such circumstances, the response of others to those behaviors can affect the pain experience. To date, only one study has been published which has considered the implications of attachment for women's experience of pain during labour. Costa-Martins et al. (2014) demonstrated, among a sample of 81 pregnant women, that those who were insecurely attached reported significantly more labour pain and analgesic consumption compared to those who were securely attached. Although the authors noted that administration of patient-controlled epidural anaesthesia was provided using the standard protocol, no other information was available about the nature of any support provided to the women during labour. This field provides a valuable avenue for future research, as it is likely that interventions providing attachment-informed support to these more vulnerable mothers during this time may provide benefit. For example, a woman with a preoccupied attachment pattern may benefit more from the support of a doula, while a dismissing mother may prefer minimal and instrumental support.

5.2.2 Headache

Research has demonstrated links between attachment style and headache-related pain and disability, although the associations are complex. For example, Savi et al. (2005) showed that people with headaches were more likely to report insecure attachment styles compared with a matched control group without headaches. Esposito et al. (2013) identified a higher prevalence of avoidant, and lower prevalence of secure attachment in a sample of 219 children (6–11 years) with headaches,

compared with 381 healthy controls. McWilliams and Bailey (2010) found that both anxious and avoidant attachment were positively associated with reports of headache pain, and especially with pain due to frequent or severe headaches, although this association was mediated by a history of depression or anxiety disorders. Unfortunately, these authors were not able to make a distinction between those with diagnosed migraine and those who simply perceived their headaches as 'frequent or severe'. Because neurophysiological differences between migraineurs and non-migraineurs have been highlighted in the literature (Harriott and Schwedt 2014), these groups would be usefully separated in future research.

In contrast, Berry and Drummond (2014) found no difference in avoidant or anxious attachment between a control group of people who rarely experienced headaches and people with either episodic migraine or tension-type headaches. Their sample size was small (only 22 controls), however, and no details of participant matching were provided. Using an experimental paradigm, these authors did show that preoccupied (anxious) attachment was associated with intensity of headache, pain-related distress, and forehead pain in response to mild electric shocks to the forehead (Berry and Drummond 2014), and these results were retained when controlling for neuroticism and the other five-factor personality variables.

Insecure attachment has also been associated with higher levels of migraine-related disability (Rossi et al. 2004). In this study, attachment insecurity was the most significant predictor of disability for patients with *episodic* migraine; however, attachment was not a predictor of *chronic* migraine-related disability.

5.2.3 Cancer Pain

Pain is a common symptom of cancer, and there is some evidence that attachment is associated with coping with cancer-related pain (Gauthier et al. 2012). More specifically, Gauthier and colleagues showed that attachment anxiety was associated with perceptions of more punishing responses from others, while attachment avoidance was associated with perceptions of less frequent solicitous and distracting responses. An interaction was observed between attachment style and the relational context in coping with cancer pain, in that attachment anxiety was associated with higher levels of dependency – 'Higher pain catastrophizing was associated with less frequent punishing responses only among anxiously attached patients who identified their spouse/partner as their supportive other' (Gauthier et al. 2012, p. 1264). These social aspects of pain coping are discussed in more detail below. In addition, insecure (particularly avoidant) attachment has been shown to be more prevalent for people with cancer (e.g. Tacon et al. 2001) and to be linked with poorer quality of life in breast cancer survivors (Fagundes et al. 2014) (see Chap. 6).

5.2.4 Acute or Experimental Pain

Several investigations of healthy, pain-free people have been conducted using various experimental or induced-pain techniques, including a cold pressor apparatus,

Box 5.1. Factors that are empirically linked to insecure adult attachment in experimental pain studies

Higher
- Perceived pain intensity
- Pain catastrophising
- Depression
- Anxiety
- Perceived stress
- Neuroticism

Lower
- Pain tolerance
- Pain threshold
- Perceived control of pain
- Perceived ability to self-manage acute pain

finger pressure, contact heat, and an ischaemic pain task. Results of these studies, while diverse, reveal important findings. As seen in Box 5.1, a wide range of factors have been empirically linked with insecure adult attachment in experimental studies (see Meredith 2013, for a detailed review).

This body of evidence suggests that insecure attachment precedes and, thus, may contribute *causally* to a problematic adjustment to pain. If extended to pain experienced in the real world, insecurely attached people responding in these ways to painful stimuli might plausibly have an inadequate resolution of pain and even be at increased risk for developing chronic pain. Convincing longitudinal evidence of this proposition is yet to be provided.

5.3 Attachment and Chronic Pain

The term 'chronic pain' encompasses a wide range of conditions including arthritis, low back pain, and generalised pain conditions such as fibromyalgia. Consistent with the conceptualisation of insecure attachment as a risk factor in the development of chronic pain, it has repeatedly been demonstrated that attachment insecurity, particularly fearful and dismissing attachment, is overrepresented in chronic pain populations (Davies et al. 2009; Kowal et al. 2015; Meredith et al. 2005, 2006a; Schmidt et al. 2002). For example, while there is evidence that approximately 65 % of people in normative samples are securely attached and 35 % are insecurely attached (Mickelson et al. 1997), in pain samples these numbers are more likely to be reversed (Kowal et al. 2015; Meredith et al. 2005). Insecure attachment has also been associated with having more pain sites (Davies et al. 2009) when compared with people with a secure attachment style.

In this section, I address early theoretical associations between attachment and chronic pain, the mechanisms through which attachment-related predispositions

impact on chronic pain, and clinical implications for managing and preventing chronic pain.

5.3.1 Historical Context of the Links between Attachment and Chronic Pain

The first documented discourse linking attachment theory and chronic pain emerged more than 30 years ago (Kolb 1982). At that time, Kolb drew parallels between the pain behaviors of his patients and their efforts to meet their attachment needs. For example, he viewed pain complaints as solicitation of caretaking behavior. In turn, the practitioner's response and efficacy of interventions served to either alleviate or magnify these attachment-focused pain behaviors. Kolb advised that people in pain be approached with 'noncritical acceptance' and an effort to understand the origins of the threats they perceived. Based on this perspective, he viewed pain-complaining behaviors (including anger) as separation anxiety. He suggested that,

> …attachment theory offers a significant new understanding that can expand our capacity to maintain gains in those who have achieved some control of their pain complaints…[and] help us to accept chronic pain complainers and provide guidelines for primary physicians and others who care for [these] persons…. (1982, p. 413)

In 1982, categories of attachment in adulthood were less clearly defined, and only attachment security versus insecurity was discussed. Since then, adult attachment styles have been elucidated, permitting more specific theoretical and empirical consideration.

For instance, Mikail et al. (1994) described the anticipated responses of people in each of four attachment categories (secure, dismissing, preoccupied, and fearful) to the presence of chronic pain. These responses are summarised in Table 5.1. Understanding the tendencies of people with different attachment styles enables us to predict the ways in which they may try to manage their pain and the possible consequences of these strategies, which may then provide targets for therapy. Given this degree of detail, it is perhaps surprising that the evidence to support these responses in chronic pain samples (as discussed in the next section) is still relatively limited, and it is not yet clear how much clinical impact these suggestions have had.

At the same time, Anderson and Hines (1994) described insecure attachment patterns as relative failures of early attachment support mechanisms, which leave the individual vulnerable to later stressors, such as pain. While these authors did not investigate attachment styles specifically, they gathered information about history of physical, sexual, and/or emotional abuse/neglect, abandonment, and substance abuse in primary caregivers. They suggested that these factors disrupt the child's capacity to develop consoling relationships, such that later experiences of pain reactivate (or exacerbate) latent distress states in a self-perpetuating hyperarousal pattern. In contrast, a secure base in childhood, and the associated secure attachment pattern, was suggested to support one's ability to tolerate and accommodate pain.

Table 5.1 Summary of characteristic responses to pain of people with different attachment styles

Attachment style	Characteristic response to pain
Secure Adaptive	Seek help from others when anxiety is heightened due to pain; mobilise support networks when needed Seek information and consultation from healthcare professionals Communicate openly and willingly self-disclose Present accurate details of their condition to health professionals Expect that help will be forthcoming Are less susceptible to developing chronic pain syndrome Are more responsive to treatment that is provided
Preoccupied Defensive hyperactivating of attachment signalling	Vacillate between help seeking and protective withdrawal Highly symptom focussed; more likely to report somatic symptoms Seek nurturance and caretaking Idealise healthcare professionals Are eager to please and likely to be compliant with treatment recommendations, at least initially Susceptible to feelings of rejection – may feel dismissed or rejected May inadvertently sabotage treatment as ambivalence heightens 'Doctor shoppers' Display higher rates of healthcare utilisation
Dismissing Defensive deactivating of attachment signalling	Avoid caregivers when threatened by pain Reluctant to seek help; delay help seeking until advanced stages of a condition Minimise or dismiss pain and symptoms May be more detached, hostile, frustrated, and blaming May appear stoic and restricted emotionally Devalue other's input and prefer to remain self-sufficient May seek multiple consults but are unlikely to comply with treatment recommendations
Fearful Both deactivating and hyperactivating	Distrusts others and also feels unworthy Anxious and hostile in interpersonal interactions Likely to delay help-seeking and to retreat from others when threatened by pain Likely to seek support at low levels of anxiety when requests are less likely to be noticed; avoid support seeking at high levels of anxiety, when feeling desperate Delayed care may result in secondary conditions Feel desperate, helpless, distressed, and hopeless May perceive referrals to other health professionals as rejections Progress in pain treatment may be restricted Are at risk of suicide

Drawn from Ciechanowski et al. (2003), Fraley et al. (2000), Mikail et al. (1994)

Anderson and Hines (1994) emphasised the impact of attachment security on one's capacity to be consoled when in pain. That is, while the majority of people have developed relationships and/or activities (e.g. work, athletics) that they find consoling, these strategies are likely to be disrupted by pain. According to these authors, the less secure the attachment, the less consolable the person and the lower the person's ability to tolerate pain. In addition, unremitting pain can be debilitating, leading to an undesirable level of vulnerability and dependency. These effects are understood to be more pronounced and difficult to manage for the more insecurely attached person. Thus, pain, related distress, and insecure attachment interact in a self-sustaining manner, with potentially incapacitating consequences (Anderson and Hines 1994).

Attachment-related coping strategies, many of which are relevant to pain behaviors, have been described in detail by Cole and colleagues (Cole-Detke and Kobak 1996; Dozier and Kobak 1992; Kobak et al. 1993) as either *secure* or *defensive*. While secure strategies involve timely and adaptive responses to stressors, defensive coping strategies may be either hyperactivating or deactivating (for detailed discussions of these strategies, see Fraley and Shaver 1997, 2000; Fraley et al. 2000).

Hyperactivation of the attachment system is akin to Anderson and Hines' hyperaroused state and would be characteristic of preoccupied attachment. It involves exaggerating behaviors designed to attract care and attention, minimising distance from others, and hypervigilance towards events perceived as potential stressors. Conversely, *deactivation* of the attachment system suggests denial of attachment needs, avoidance of behaviors designed to attract attachment security, and denial or minimisation of the emotions and cognitions associated with these needs, resulting in a compulsive self-reliance typical of dismissing attachment. Finally, individuals with fearful attachment patterns use strategies associated with both coping extremes, often indiscriminately (Dozier, Stovall, and Albus 1999; Simpson and Rholes 2002). These behaviors have consequences for the individual in pain and are also represented in Table 5.1.

Case: Dismissing Attachment

Frank is a truck driver. His hands are rough, his cheeks ruddy, and his smile ready. He is known as a hard worker, typically working 12–16 h days, 6 days a week. He has no problem with this; his father had been a dairy farmer so Frank knew what hard work was. Frank did not have time for medical appointments and generally felt healthy, so did not see the need. Even when he fell and broke two ribs and his collar bone, he went back to work the next day, despite the pain, which he described as 'not too bad'.

It was not until Frank was involved in a workplace accident that this changed. He was closing up his trailer when his rig rolled backwards, pinning him between the factory wall and his truck. Frank sustained fractured vertebrae, spinal injuries, and nerve and soft tissue damage to his lower back, legs, and buttocks. His medical and rehabilitation program was intensive, and he regained most of his musculoskeletal functioning; however, nothing worked to control the pain. Morphine and other prescription medications only ever 'took the edge off' for a short while, and he was uncomfortable being

dependent on drugs. Frank now found that he could sit for only 10 minutes at a time before the pain forced him to move. This affected not only his capacity to work but also to fish, which was his other main interest in life.

When seen in treatment, Frank admitted that all he wanted to do was to be able to climb into his boat and float off into the river where he had always found solace. If he could not do this again, he did not see that life was worth living. He was angry with the specialists who had treated him, and admitted he held little stock in what they told him. He also seemed to hold little hope that this referral would result in any positive outcomes. Frank just wanted to be fixed and to get on with his life.

5.4 Mechanisms Linking Chronic Pain and Attachment

Meredith and colleagues (2008) have reviewed the available literature and proposed a heuristic pathway through which attachment insecurity could contribute to the development of chronic pain and to maladaptive outcomes when experiencing pain. According to this Attachment-Diathesis Model of Chronic Pain (Meredith et al. 2008; see Fig. 5.1), attachment insecurity (column A) is likely to result in cognitive appraisals (column B) of:

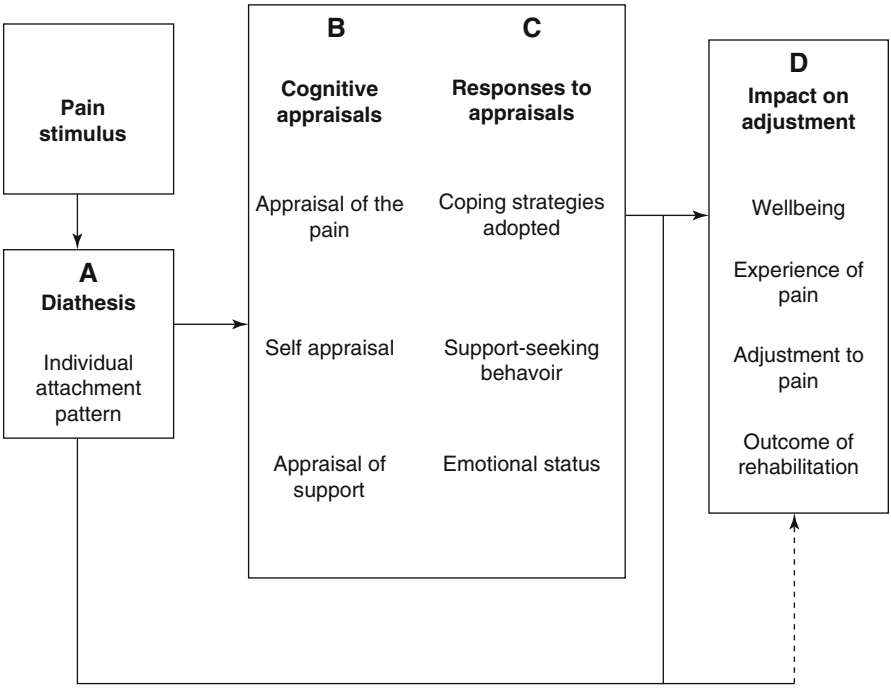

Fig. 5.1 The Attachment-Diathesis Model of Chronic Pain (From Meredith et al. 2008, used with permission from Elsevier Ltd.)

(a) *Pain* as being more threatening and less manageable
(b) The *self* as being less able to manage the pain and/or less deserving of support
(c) *Support* as being less available and responsive

These appraisals are, in turn, theoretically associated with specific emotional responses (column C), including pain-related fear, depression, and anxiety, and less adaptive behavioral coping responses, including hypervigilance and pain catastrophising, delayed or inadequate help-seeking behavior, and limited pain coping strategies. As might be anticipated, these responses predispose insecurely attached individuals to more problematic pain experiences and poorer adjustment to pain (column D) compared with their more securely attached counterparts. Moreover, according to this model, attachment insecurity moderates the associations between appraisals/responses (B and C) and impact (D), as well as potentially impacting directly on the adjustment.

Until recently, evidence of these associations was only available in relation to experimental pain (see above). However, evidence is now available for a substantial number of relationships between attachment insecurity and aspects of chronic pain as follows:

Insecurity, in general, is related to:

(a) Perceptions of diminished ability to control and decrease pain (Meredith et al. 2006a; Mikulincer and Florian 1998)
(b) Appraisal of the pain as more intense (Kratz et al. 2012; MacDonald and Kingsbury 2006; McWilliams et al. 2000; Meredith et al. 2006a)
(c) Appraisal of the pain as more threatening (Meredith et al. 2005; Mikulincer and Florian 1998)
(d) Appraisal of the self as not being able to cope with the pain (Meredith et al. 2006a)
(e) Reliance on more emotion-focussed and less problem-focussed coping strategies (Mikulincer and Florian 1998)
(f) More emotional distress (Meredith et al. 2005) and depression (Ciechanowski et al. 2003; Meredith et al. 2007)
(g) More pain-related disability (Davies et al. 2009; McWilliams et al. 2000)

Dismissing insecurity, specifically, is related to:

(a) The tendency to cope by ignoring pain sensations and using coping self-statements (Meredith et al. 2006a)
(b) More avoidant coping (Williamson et al. 2002)

Preoccupied insecurity is related to:

(c) Less social coping (Kratz et al. 2012)
(d) The tendency to catastrophise (Kratz et al. 2012; Meredith et al. 2006a)

In addition, Laird et al. (2015) recently tested predictions of the Attachment-Diathesis Model of Chronic Pain and found good model fit with their sample of 261 adolescents and young adults. These findings provide evidence for a range of mechanisms that explain the influence of attachment style on adjustment of people with chronic pain. In the following sections, additional mechanisms are considered through which attachment patterns may impact on the risk of developing chronic pain and on the pain experience, contributing to the overrepresentation of insecure attachment in chronic pain populations.

5.4.1 Help-Seeking and Treatment Adherence

Maunder and Hunter (2001) noted that insecure attachment is associated with altered help-seeking behavior (either under- or over-reliance on health services) and with lowered treatment adherence. If applied to pain, this suggests that insecurely attached people may engage in behaviors that diminish the opportunity for conditions to be diagnosed and treated in a timely manner, potentially resulting in more recalcitrant and painful conditions. Alternatively, they may visit the doctor more often, as a consequence of their incapacity to regulate the fear and distress caused by the pain, which may result in a range of unnecessary or inappropriate investigations and eventual disregard. Evidence supporting this was found in a sample of 111 people after treatment at a multidisciplinary pain treatment program, when associations between preoccupied attachment and high levels of pain-related healthcare visits over 12 months occurred (Ciechanowski et al. 2003). A similar finding emerged for people with fearful attachment, but only in the presence of catastrophising. As noted by Porter et al. (2007), these expectations deserve more attention in the field of chronic pain.

5.4.2 Attachment and Risk Taking

Taubman, Ben-Aria, and Mikulincer (2007) presented evidence, obtained from both community and clinical samples of adolescents and young adults, of links between insecure attachment and a range of risky behaviors. These included substance abuse (cigarettes, drugs, and alcohol), reckless driving, and unsafe sexual practices. Similar findings have been reported by Ahrens and colleagues (2012). These authors also demonstrated links between attachment anxiety and higher rates of unplanned pregnancy and increased risk of becoming HIV-positive. It is likely that these behaviors will predispose people to the development of painful conditions due to physical injury resulting from physical trauma, disease, or chronic conditions. Indeed, evidence suggests that insecure attachment is associated with a range of potentially painful and disabling health conditions. For example, preoccupied attachment has been linked with disorders of the cardiovascular system (stroke, heart attack), with reports of more physical symptoms (Ciechanowski et al. 2002;

Feeney and Ryan 1994), and with impaired physical health (Maunder and Hunter 2008) (see Chap. 4).

5.4.3 Attachment and Pain-Related Activity Patterns

As noted earlier (Anderson and Hines 1994), people engage in activities that they find consoling. In pain-free samples, Hazan and Shaver (1990) have highlighted the use of work and other activities to self-regulate or avoid social demands. Some evidence from the chronic pain literature suggests that individuals may use activity avoidance or overutilisation to manage their pain. For example, high levels of engagement in productive tasks have been associated with overactivity when in pain (van Houdenhove 1986), which has, in turn, been linked to poorer emotional and physical functioning (Andrews et al. 2012). This makes activity levels primary targets in pain treatment programs, where participants are instructed in *pacing* techniques, in an attempt to support measured activity levels and avoid exacerbations of pain. However, there are attachment-related variations in the repertoire of activities that pain patients find consoling (Anderson and Hines 1994).

At present, only one study has investigated associations between attachment patterns and the activity patterns of people with chronic pain (Andrews et al. 2014). In a sample of 164 adults with chronic pain in a tertiary pain clinic, secure attachment was associated with less use of activity avoidance, preoccupied attachment was linked with higher levels of both avoidance and overactivity, and fearful attachment was associated with a combination of high levels of both overactivity and avoidance. Many of these associations were partly or wholly mediated by pain catastrophising. Thus, having insecure attachment may create vulnerability for the development of maladaptive activity levels for people in pain. Understanding the role of attachment insecurity in activity engagement may then optimise strategies taught in treatment (Andrews et al. 2015). This area represents a fertile vein for further research, with therapeutic implications for tailoring pacing instructions by type of attachment insecurity.

5.4.4 Attachment and Social Support

Social factors such as the presence, attentiveness, and solicitousness of others, social context, and non-verbal behaviors have long received attention in the pain field. Social support is an important part of the pain treatment milieu, and it is customary for pain management programs to provide information to family members of people in pain and to include them in aspects of treatment. In paediatric settings, family involvement is especially emphasised.

The role of partners, parents, and other attachment figures for the person in pain has been investigated, often with complex and even contradictory findings. This is likely due to the sheer number of factors that may moderate or mediate the

associations between support and pain-related experiences. Two of these factors are the person's attachment style and that of their partner. Individual differences exist in the nature of support that is sought and valued by people with different attachment styles, and the nature of support or caregiving that a person is comfortable providing. As a general rule, when in pain, the *match* between the available and the desired support is likely to have a considerable influence on perceptions of, and adaptation to, pain. When in pain, social cues from others can signal either safety or threat, resulting in heightened or diminished levels of stress (Kolb 1982). These perceptions can, in turn, affect the person's expression of pain. For example, while a preoccupied person might be expected to magnify pain complaints, MacDonald (2008) found that preoccupied people who felt rejected were likely to report even *lower* pain thresholds than when they felt supported.

Other studies illustrate the complexity of this area. For example, Vervoort and colleagues (2010) found that when less securely attached children in pain catastrophised, they received negative responses from caregivers, but that more securely attached children catastrophising obtained positive responses. In contrast, Gauthier et al. (2012) found that preoccupied adults with cancer pain who catastrophised obtained more solicitous and distracting responses and less punishing responses. Partner or carer's attachment styles influence their own adjustment, as well (Porter et al. 2007). For example, insecurely attached carers of children in pain have been shown to have higher levels of depression (Williamson et al. 2002).

Although convincing, the evidence linking attachment insecurity to mechanisms associated with negative outcomes in chronic pain remains largely correlational and little prospective data is available. It will be important for future research to consider longitudinal studies from normative samples to determine whether or not insecure attachment before the onset of pain predicts more problematic coping with acute pain over time, the development of chronic pain conditions, more difficulties managing these conditions, and more challenging long-term outcomes. Nevertheless, the amount of evidence accumulated does point to a role for attachment-informed approaches in the management of pain.

5.5 Implications of Attachment Theory for the Management of Pain

While it has long been known that a wide range of psychosocial factors are associated with pain coping, past efforts to identify these have often resulted in labels such as 'hysterical', which rarely contributed to helpful interventions (Anderson and Hines 1994). An attachment-informed approach in the management of pain has implications for what information we gather about people in pain, how we view the person with pain, the emphasis on the therapeutic relationship, and associated outcomes, as will be discussed below. An attachment perspective also has implications for the person's own perception of their pain, their experience of their treatment, their self-management, and their willingness to adopt recommendations.

5.5.1 Information Gathering

An attachment perspective emphasises that a developmental history should be gathered before more intrusive investigations are considered. Without such a history, a pain presentation can be misunderstood. For example, dismissing individuals may minimise their pain and be undertreated, while preoccupied individuals might magnify their concerns and be overly investigated, exposed to intrusive interventions, and risk having future reports of pain ignored when no organic cause is identified. Use of an attachment perspective also highlights the need to inquire about the person's relationships with significant others and their broader social network, in order to understand their available social support. Kolb (1982) noted that increased pain complaining may indicate that social attachments have been threatened, as illustrated by the case of Gina.

Case: Gina

Gina is a 67-year-old grandmother of four. She has been married for 51 years and has complained of severe pain throughout her body, with exacerbations in different parts of her body from moment to moment, for more than 10 years. She reports that she has sought assistance from a range of professionals, and while she initially finds some comfort, she quickly becomes disenchanted when progress slows or when she realises that the professional seems less attentive than they should be. Gina has had an extensive series of investigations, including blood tests, MRIs, and CT scans over the last 10 years, and was eventually diagnosed retrospectively as having had Ross River fever (a viral illness transmitted by mosquitoes) and as having osteoarthritis; however, no other abnormalities were found. She has been prescribed a range of medications including prednisone, diazepam, and fluoxetine. These treatments provided only limited pain relief.

Gina's new GP collected a more detailed history and found that she hedged around questions about her marriage, implying that her husband has been abusive or at least neglectful of her needs and that life was inherently dissatisfying. Gina does not see her son or daughter as often as she would like and says they never make contact with her. She hinted that she wants more from her family than they are prepared to give. Over time Gina further disclosed that the reason she married young was that she was being sexually abused by her paternal grandfather.

This information highlighted Gina's social isolation. It enabled the doctor to consider Gina's pain presentation through a wider lens and to incorporate her emotional and social support needs into the treatment. In particular, the doctor's office itself was experienced by Gina as a safe haven, where she could feel heard and supported.

5.5.2 The Therapeutic Relationship and Counter-transference

Kolb (1982) recognised that, for some people, the professionals involved in treating pain problems become 'surrogate' attachment figures. However, because of individual attachment-related differences, people in pain will prefer, or accept, different types of support from healthcare providers. If unrecognised, this seems likely to strain the therapeutic alliance and could be ameliorated if attachment style were taken into account. Consistent with this, Kowal (2015) suggested that the higher levels of insecure attachment identified in pain rehabilitation programs may be a result of negative healthcare relationships and consequent referral to tertiary level treatment programs. Within most pain clinics, however, there is a similar lack of consideration of attachment patterns or effort to tailor communication styles to suit the needs of individuals with different attachment styles.

In relation to spinal pain, Anderson and Hines (1994, p. 149) stated that, 'It is our experience that the ability of the treatment team to form a consoling relationship with the patient is necessary for a successful outcome', while Rossi et al. (2004, p. 567) noted '…that attachment style is a major variable in the regulation of the patient-physician relationship.' Emphasising this point, Porter et al. (2007, p. 197) recently called for more research into '…the match between patient and caregiver attachment styles… [the] importance of provider sensitivity to attachment-related needs and motives, and tailoring caregiver interactions to patient attachment styles'. In fact, a person who does not feel that their attachment needs are met by their practitioner may engage in 'attachment searching' (Kolb 1982, p. 416) or seeking alternative sources of help. Kolb suggested some time ago that:

> On the basis of attachment theory, it becomes clear that establishment of a trusting, expectant, and secure attachment base forms the fulcrum on which rests application of any indicated technical intervention to relieve painful distress…In so doing, the physician accepts the attachment behavior for what it is and without admonition. Contacts can be scheduled in such a way as to avoid or alleviate separation anxiety and arousal of attachment behaviors… by scheduling them to see the caretakers at regular intervals and on a fixed time schedule… It is extraordinarily important that the patient be greeted with interest, respect, and a willingness to accept the pain complaint as serious… Any unscheduled contact accepted without criticism increases the patient's confidence…. (Kolb 1982, p. 416)

At the time that Kolb recognised this need, dismissing attachment was not recognised. Extending his insight to people with a dismissing style, however, who prefer to be self-sufficient, the clinician should guard against 'taking them at face value' and agreeing that they have no need of help. Inviting them back for further assessment conveys a willingness to listen and does not minimise or shame as previous attachment figures probably have. Simultaneously, one needs to avoid 'crowding' such an individual, or they will react by reducing contact, and the opportunity for effective intervention will be lost.

Regardless of the person's attachment style, the clinician also needs to be aware of his or her own emotional and behavioral reactions, in order to optimally manage the interaction. The clinician's reaction will, inevitably, be determined in part by his or her own attachment experiences, so it behoves us to appreciate our own attachment style and the manner in which it affects the development of the therapeutic alliance.

5.5.3 Outcomes from Pain Treatment Programs

Rossi et al. (2004, p. 567) recognised '…the influence of attachment style on … treatment response of patients with chronic pain syndromes'. A small amount of evidence suggests that insecure attachment may predict more limited responses to pain treatment programs. According to Andersen (2012), both secure and insecure groups demonstrated improved levels of anxiety and depression following cognitive behavioral intervention for chronic pain. However, the level of depression and anxiety for insecurely attached patients remained above the clinical level from pre- to post-treatment, while securely attached people scored below the clinical cutoff post-treatment. Similar results have also been found by Ciechanowski et al. (2003), Kowal et al. (2015), and Meredith et al. (2007). Proposed reasons for such findings included poorer therapeutic alliance, variations in treatment adherence and self-management, maladaptive coping strategies (more emotion-focussed or diverting strategies), lower levels of self-efficacy, and diminished emotional connection with the patient therapy group and participants. Interestingly, these reasons resemble the factors considered in the Attachment-Diathesis Model of Chronic Pain.

Andersen (2012) also found that insecurely attached people used significantly more opioids both before and after treatment compared to their securely attached counterparts. He suggested that the natural endogenous opioid system is not as easily activated by social interactions in insecurely attached people as it is in those who are securely attached, making them more vulnerable to opioid abuse.

Conclusion

Over a period of more than 30 years, the theoretical and empirical evidence of associations between attachment and pain has been accumulating. There is now greater awareness of the different mechanisms through which attachment may impact on pain and the ways in which understanding this association might improve the provision of services to people with, or at risk of developing, painful conditions. While many gaps still exist in this collective body of research, there are two pressing needs. The first is to obtain longitudinal evidence of the causal link between attachment insecurity and poor pain adjustment, and the second is to design and evaluate an attachment-informed treatment approach for people in pain.

References

Ahrens KR, Ciechanowski P, Katon W (2012) Associations between adult attachment style and health risk behaviors in an adult female primary care population. J Psychosom Res 72(5):364–370

Andersen TE (2012) Does attachment insecurity affect the outcomes of a multidisciplinary pain management program? The associations between the attachment insecurity, pain, disability, distress, and the use of opioids. Soc Sci Med 74:1461–1468

Anderson DJ, Hines RH (1994) In: Grzesiak RC, Ciccone DS (eds) Psychological vulnerability to chronic pain. Springer Publishing Company, New York

Andrews NE, Meredith PJ, Strong J (2011) Adult attachment, fear-avoidance and pain intensity in experimentally-induced pain. Eur J Pain 15:523–530

Andrews N, Meredith PJ, Strong J (2012) Activity pacing, avoidance, endurance, and associations with patient functioning in chronic pain: a systematic review and meta-analysis. Arch Phys Med Rehabil 93:2109–2121

Andrews N, Meredith PJ, Strong J, Donoghue G (2014) Adult attachment and approaches to activity in chronic pain. Pain Res Manag 19(6):317–327

Andrews N, Strong J, Meredith PJ, Gordon K, Bagraith K (2015) "It's very hard to change yourself": an exploration of overactivity in people with chronic pain using interpretative phenomenological analysis. Pain 156(7):1215–1231

Arnstein P (2000) The mediation of disability by self efficacy in different samples of chronic pain patients. Disabil Rehabil 22:794–801

Baron R, Hans G, Dickenson AH (2013) Peripheral input and its importance for central sensitization. Ann Neurol 74(5):630–636. doi:10.1002/ana.24017

Berry JKM, Drummond PD (2014) Does attachment anxiety increase vulnerability to headache? J Psychosom Res 76:113–120

Bowlby J (1998) A secure base: clinical applications of attachment theory. Routledge, London

Ciechanowski P, Walker EA, Katon WJ, Russo JE (2002) Attachment theory: a model for health care utilization and somatization. Psychosom Med 64:660–667

Ciechanowski P, Sullivan M, Jensen M, Romano J, Summers H (2003) The relationship of attachment style to depression, catastrophizing and health care utilization in patients with chronic pain. Pain 104:627–637

Cole-Detke H, Kobak R (1996) Attachment processes in eating disorder and depression. J Consult Clin Psychol 64(2):282–290

Costa-Martins JM, Pereira M, Martins H, Moura-Ramos M, Coelho R, Tavares J (2014) Attachment styles, pain, and the consumption of analgesics during labor: a prospective observational study. J Pain 15(3):304–311

Davies KA, Macfarlane GJ, McBeth J, Morriss R, Dickens C (2009) Insecure attachment style is associated with chronic widespread pain. Pain 143:200–205

Dozier M, Kobak RR (1992) Psychophysiology in attachment interviews: converging evidence for deactivating strategies. Child Dev 63(6):1473–1480

Dozier M, Stovall KC, Albus KE (1999) Attachment and psychopathology in adulthood. In: Cassidy J, Shaver PR (eds) Handbook of attachment: theory, research, and clinical applications. The Guildford Press, New York

Engel GL (1959) "Psychogenic" pain and the pain-prone patient. Am J Med 26:899–918

Engel GL (1977) The need for a new medical model: a challenge for biomedicine. Science 196:129–136

Esposito M, Parisi L, Gallai B, Di Dona A, Mavano SM, Rocella M, Carotenuto M (2013) Attachment styles in children affected by migraine without aura. Neuropsychiatr Dis Treat 9:1513–1519

Fagundes CP, Jaremka LM, Malarkey WB, Kiecolt-Glaser JK (2014) Attachment style and respiratory sinus arrhythmia predict post-treatment quality of life in breast cancer survivors. Psychooncology 23:820–826

Feeney JA, Ryan SM (1994) Attachment style and affect regulation: relationships with health behaviour and family experiences of illness in a student sample. Health Psychol 13(4):334–345
Fraley RC, Shaver PR (1997) Adult attachment and the suppression of unwanted thoughts. J Pers Soc Psychol 73(5):1080–1091
Fraley RC, Shaver PR (2000) Adult romantic attachment: theoretical developments, emerging controversies, and unanswered questions. Rev Gen Psychol 4(2):132–154
Fraley RC, Garner JP, Shaver PR (2000) Adult attachment and the defensive regulation of attention and memory: examining the role of preemptive and postemptive defensive processes. J Pers Soc Psychol 79(5):816–826
Gauthier LR, Rodin G, Zimmermann C, Warr D, Librach SL, Moore M, Shepherd FA, Gagliese L (2012) The communal coping model and cancer pain: the roles of catastrophizing and attachment style. J Pain 13(12):1258–1268
Harriott AM, Schwedt TJ (2014) Migraine is associated with altered processing of sensory stimuli. Curr Pain Headache Rep 18:458. doi:10.1007/s11916-014-1458-8
Hazan C, Shaver PR (1990) Love and work: an attachment-theoretical perspective. J Pers Soc Psychol 59:270–280
Kobak RR, Cole HE, Ferenz-Gillies R, Fleming WS, Gamble W (1993) Attachment and emotional regulation during mother-teen problem solving: a control theory analysis. Child Dev 64(1):231–245
Kolb LC (1982) Attachment behavior and pain complaints. Psychosomatics 23(4):413–425
Kowal J, McWilliams LA, Peloquin K, Wilson KG, Henderson PR, Fergusson DA (2015) Attachment insecurity predicts responses to an interdisciplinary chronic pain rehabilitation program. J Behav Med 38:518–526
Kratz AL, Davis MC, Zautra AJ (2012) Attachment predicts daily catastrophizing and social coping in women with pain. Health Psychol 31(3):278–285
Laird KT, Preacher KJ, Walker LS (2015) Attachment and adjustment in adolescents and young adults with a history of pediatric functional abdominal pain. Clin J Pain 31(2):152–158
MacDonald G (2008) Use of pain threshold reports to satisfy social needs. Pain Res Manag 13:309–319
MacDonald G, Kingsbury R (2006) Does physical pain augment anxious attachment? J Soc Pers Relat 23(2):291–305
Maunder RG, Hunter JJ (2001) Attachment and psychosomatic medicine: developmental contributions to stress and disease. Psychosom Med 63(4):556–567
Maunder RG, Hunter JJ (2008) Attachment relationships as determinants of physical health. J Am Acad Psychoanal Dyn Psychiatry 36:11–32
McWilliams LA, Bailey SJ (2010) Associations between adult attachment ratings and health conditions: evidence from the National Comorbidity Survey Replication. Health Psychol 29(4):446–453
McWilliams LA, Cox BJ, Enns MW (2000) Impact of adult attachment styles on pain and disability associated with arthritis in a nationally representative sample. Clin J Pain 16:360–364
Meredith PJ (2013) A review of the evidence regarding associations between attachment theory and experimentally-induced pain. Curr Pain Headache Rep 17(4):326
Meredith PJ, Strong J, Feeney JA (2005) Evidence of a relationship between adult attachment variables and appraisals of chronic pain. Pain Res Manag 10(4):191–200
Meredith PJ, Strong J, Feeney JA (2006a) Adult attachment, anxiety and pain self-efficacy as predictors of pain intensity and disability. Pain 123:146–154
Meredith PJ, Strong J, Feeney JA (2006b) The relationship of adult attachment to emotion, catastrophizing, control, threshold and tolerance in experimentally-induced pain. Pain 120(1–2):44–52
Meredith PJ, Strong J, Feeney JA (2007) Adult attachment variables predict depression before and after treatment for chronic pain. Eur J Pain 11(2):164–170
Meredith PJ, Ownsworth T, Strong J (2008) A review of the evidence linking adult attachment theory and chronic pain: presenting a conceptual model. Clin Psychol Rev 28(3):407–429
Merskey H, Bogduk N (eds) (1994) Classification of chronic pain: descriptions of chronic pain syndromes and definitions of pain terms, 2nd edn. IASP Press, Seattle

Mickelson KD, Kessler RC, Shaver PR (1997) Adult attachment in a nationally representative sample. J Pers Soc Psychol 73(5):1092–1106
Mikail SF, Henderson PR, Tasca GA (1994) An interpersonally based model of chronic pain: an application of attachment theory. Clin Psychol Rev 14(1):1–16
Mikulincer M, Florian V (1998) The relationship between adult attachment styles and emotional and cognitive reactions to stressful events. In: J. A. Simpson and W. S. Rholes (Eds.).Attachment Theory and Close Relationships. New York: Guilford Press, pp. 143–65
Porter LS, Davis D, Keefe FJ (2007) Attachment and pain: recent findings and future directions. Pain 128:195–198
Rossi P, Di Lorenzo G, Malpezzi MG, Di Lorenzo C, Cesarino F, Faroni J, Siracusano A, Troisi A (2004) Depressive symptoms and insecure attachment as predictors of disability in a clinical population of patients with episodic and chronic migraine. Headache 45:561–570
Savi L, Buccheri R, Tambornini A, De Martino P, Albasi C, Pinessi L (2005) Attachment styles and headache. J Headache Pain 6:254–257
Schmidt S, Nachtigall C, Wuethrich-Martone O, Strauss B (2002) Attachment and coping with chronic disease. J Psychosom Res 53:763–773
Simpson JA, Rholes WS (2002) Fearful-avoidance, disorganization, and multiple working models: some directions for future theory and research. Attach Hum Dev 4(2):223–229
Tacon AM, Caldera YM, Bell NJ (2001) Attachment style, emotional control, and breast cancer. Fam Syst Health 19(3):319–326
Taubman Ben-Aria O, Mikulincer M (2007) The effects of dispositional attachment orientations and contextual priming of attachment security on reckless driving. Transp Res F 10:123–138
Tremblay I, Sullivan MJL (2010) Attachment and pain outcomes in adolescents: the mediating role of pain catastrophizing and anxiety. J Pain 11(2):160–171
van Houdenhove B (1986) Prevalence and psychodynamic interpretation of premorbid hyperactivity in patients with chronic pain. Psychother Psychosom 45:195–200
Vervoort T, Goubert L, Crombez G (2010) Parental responses to pain in high catastrophizing children: the moderating effect of child attachment. J Pain 11(8):755–763
Walsh TM, McGrath PJ, Symons DK (2008) Attachment dimensions and young children's response to pain. Pain Res Manag 13(1):33–40
Williamson GM, Walters AS, Shaffer DR (2002) Caregiver models of self and others, coping, and depression: predictors of depression in children with chronic pain. Health Psychol 21(4):405–410

Adaptation to Cancer from the Perspective of Attachment Theory

6

Chris Hinnen

While it seems obvious that having cancer is highly demanding and stressful, most patients actually report relatively low levels of distress after they are diagnosed with cancer or are distressed for only a relatively short time (Helgeson et al. 2004; Henselmans et al. 2010; Hinnen et al. 2008). Some studies have even found that women with breast cancer experience stress at levels that are comparable to those found in primary care patients or individuals in the general population (Coyne et al. 2004; Fechner-Bates et al. 1994; Groenvold et al. 1999; Nolen-Hoeksema et al. 1994; Osborne et al. 2004). Still, large variations in stress responses can be seen among people with cancer, and a substantial subgroup may show considerable and enduring levels of physical and emotional stress (Mitchell et al. 2011), especially at the end of life (Gao et al. 2010).

While objective features of the illness and the treatment regimen may explain some of the variance in responses to stress (Andrykowski and Cordova 1998; Scheier and Helgeson 2006), characteristics related to the person and his or her social context may also contribute (Bardwell et al. 2006; Somerfield and McCrae 2000). One of the most important modulators of individual differences in emotional and physical stress responses when confronted with a life-threatening situation may be someone's tendency to seek connection with others in order to receive support (Bowlby 1985; Taylor et al. 2000). Indeed, in the context of cancer, less social support (including both the structural and functional aspects of support) has been associated with more emotional distress (Helgeson and Cohen 1996), with higher physiological stress responses (Nausheen et al. 2009; Turner-Cobb et al. 2000), and with worse illness progression (Nausheen et al. 2009) and higher mortality (Aizer

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et al. 2013). While the benefits of support are clear, our understanding of the psychological mechanisms that underlie the stress-modulating role of positive social interactions in the context of cancer is incomplete.

In recent years, researchers have used attachment theory to understand the psychological mechanisms underlying the stress-buffering effect of social support (Taylor et al. 2000). According to attachment theory, humans internalize cognitive and behavioral schema as a consequence of early childhood interactions with parents. These result in enduring expectations about the availability and responsiveness of others. These working models of attachment are presumed to govern coping and affiliative responses (e.g., symptom reporting, trust and willingness to express emotions), which in turn impact on social support and stress regulation.

In this chapter we review the literature and describe the utility of attachment theory in understanding individual differences in adaptation to cancer. We will focus on coping and affiliative responses that affect stress regulation and social support. First, we will describe the evidence for the association between attachment and emotional distress in the context of cancer. Next, we describe how one's attachment style influences the response to cancer. We will end with thoughts about clinical implications and future directions.

6.1 Attachment and Emotional Distress

Attachment theory helps to explain different emotional responses to illness in general (Ciechanowski et al. 2002; Hinnen et al. 2012; Mikail et al. 1994; Turner-Cobb et al. 2002) and cancer in particular (Cicero et al. 2009). For example, insecurely attached individuals with metastatic gastrointestinal cancer, lung cancer (Lo et al. 2010; Rodin et al. 2007, 2009), and end-stage cancer (Hunter et al. 2006) report more distress. Moreover, in a recent study of 142 patients with various types of cancer, we examined if attachment style was associated with changes in emotional distress and psychopathology over time. Attachment style was assessed with the Attachment Style Interview (ASI) 3 months after diagnosis. The ASI comprises seven attitudinal scales (distrust, need for closeness, rejection anxiety, self-reliance, need for closeness, separation anxiety, anger) and a behavioral assessment of one's "ability to make and maintain relationships," based on the presence of close supportive relationships (Bifulco et al. 2002a, b; Conde et al. 2011). The ASI allows for a reliable classification of one out of five types of attachment: enmeshed, fearful, angry/dismissive, withdrawn, and clearly secure/standard. In this study, the enmeshed and fearful classifications were combined into an "anxious/dependent" style, and the angry/dismissive and withdrawn classifications were combined into an "avoidant" style.[1] Distress was assessed at 3, 9, and 15 months after diagnosis with the Hospital Anxiety and

[1] Editor's note: For comparison to other discussions in this book, the avoidant group in the present study is similar to the dismissing attachment style discussed elsewhere, whereas the anxious/dependent group in the present style is similar to a group that combines preoccupied and fearful/disorganized attachment.

Depression Scale (HADS) (Zigmond and Snaith 1983). Cronbach's alpha for the total score was .92 at 3, 9, and 15 months after diagnosis. Moreover, psychopathology was assessed at 3 and 15 months after diagnosis with the "mini-SCAN" (Nienhuis et al. 2010) which is a semi-structured computerized psychiatric diagnostic interview assessing DSM-IV Axis I disorders, such as mood and anxiety disorders. Results showed that anxious/dependent individuals reported more distress at 3, 9, and 15 months after diagnosis than securely and avoidantly attached individuals (with a large effect size – Cohen's d >80). Also, anxious/dependent patients were three times more likely to report elevated levels of psychopathology (i.e., clinical and subclinical levels of anxiety and depression disorders) at 3 and 15 months after diagnosis (71 %) than secure (26 %) and avoidant (20 %) individuals. Moreover, mixed models analyses showed that both securely and avoidantly attached patients reported low levels of distress at 3 months after diagnosis and maintained a low distress level over time. In contrast, anxious/dependent patients reported high levels of distress shortly after diagnosis and remained highly distressed within the first fifteen months (Holwerda et al. 2013; unpublished data).

These results are in line with other studies showing that people with a preoccupied attachment style (or high attachment anxiety) are at risk for psychological problems when confronted with illness (Ciechanowski et al. 2003; Hinnen et al. 2012; Maunder and Hunter 2001). Also, in accordance with other findings (Henselmans 2010; Lam 2012), different trajectories of distress could be distinguished. Based on these findings and theoretical considerations, attachment-related distress trajectories can be hypothesized (see Fig. 6.1). In these hypothesized trajectories, securely attached patients may show initial high levels of distress at points of

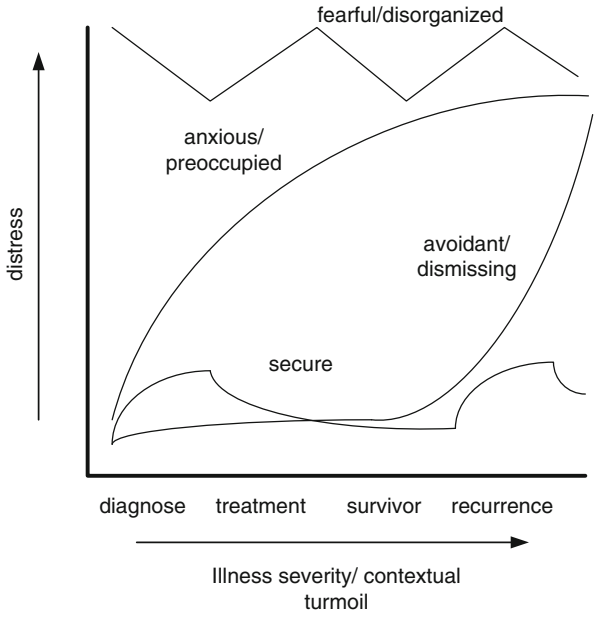

Fig. 6.1 Hypothesized trajectories of distress during phases of cancer

disease onset or exacerbation, followed by quick recovery at or close to baseline. Henselmans (2010) found that 33 % of the patients in their sample of women with breast cancer show such a pattern. We hypothesize that patients with dismissing attachment will show continuously low levels of distress until their clinical situation becomes too demanding to dismiss (e.g., when the illness recurs) which may then result in a sudden and persistent elevation of distress. We also hypothesize that patients with preoccupied attachment may not be able to downregulate their affect, resulting in increasing levels of distress that becomes increasingly higher over the course of treatment and beyond. Approximately 15 % of women with breast cancer (Henselmans 2010) were found to show such a pattern. Finally fearful/disorganized patients are likely to experience chronic high levels of distress which may persist largely independent from the illness, a pattern detected in 15 % of breast cancer patients (Henselmans 2010). We turn now to proposed underlying mechanisms for these trajectories.

6.2 Attachment Security

Securely attached individuals are likely to have considerable resources to deal with the diagnosis and treatment of cancer. They are comfortable depending on others and are readily comforted. They also have learned that they can act on their own behalf to reduce distress and solve problems (Mikulincer et al. 2003). This is in accordance with Bowlby's (1988) claim that secure attachment enhances not only interpersonal ties but also the individual's coping skills and feelings of personal worth and self-efficacy. These skills and feelings may reduce anxiety and foster the development of positive, constructive strategies for dealing with stressors (Mikulincer et al. 1993).

These claims have been confirmed in cancer populations. Secure patients with cancer were found to perceive greater support (Rodin et al. 2007) and expected more benefit from disclosing fears and worries (Hunter et al. 2006) than insecurely attached individuals, which in turn was associated with having less negative affect and emotional problems. Also, secure attachment has been found to be related to more problem-focused coping, positive reframing, and religion as coping, which may in turn be associated with benefit finding in cancer survivors (Schmidt et al. 2012).

While more securely attached patients may be highly resilient when confronted with cancer, this does not mean they will not suffer or show emotional distress. Sometimes, these individuals might even be as devastated as those who are more insecurely attached (Rando 2002). Although beliefs in personal control, safety, esteem, and trust are not psychologically detrimental, in the short term they can become liabilities when confronted with cancer if the person experiences their worldview as badly shaken (Attig 2002). Nonetheless, in the long run, these individuals are likely to be better able to adjust to cancer than their insecurely attached counterparts. We hypothesize therefore (see Fig. 6.1) that secure patients are most likely to show a coping trajectory in which elevated levels of distress during active

treatment are quickly downregulated after acute treatment (Henselmans et al. 2010), but where elevations may reoccur at key moments of strain during recovery (e.g., mammography) or when the illness returns. Even when treatment is not successful and relapse occurs, securely attached individuals may be less fearful than insecurely attached individuals when facing death, as they do not feel that they are alone in their smallness and finitude (Mikulincer et al. 1990, 1993).

While more securely attached patients are more likely to adapt to the challenges imposed by the illness, more insecurely attached patients may have more difficulty adapting.

6.3 Preoccupied Attachment

Successful adaptation to a major life event entails generating sufficient support by finding a balance between expressing enough distress to signal a need for support but not so much that one drives significant others away (Silver et al. 1990). Preoccupied patients have trouble finding this balance. Their working models predispose them to attaining and maintaining support and care by nearly constant attachment signaling of distress (Hunter and Maunder 2001). This is unfortunately coupled with limited problem-solving activities (Wilkinson 2003), as they locate relief exclusively in proximity to another person, rather than via their own resources. As a consequence, the preoccupied patient's ability to self-sooth is underdeveloped, and he or she is hypervigilant to distress. This manifests as a ruminative coping style – i.e., worrying and thinking about negative experiences and emotions in a repetitive and passive way (Burnette et al. 2009).

A ruminative response style has been shown not only to predict depression and anxiety in healthy and bereaved women (Nolen-Hoeksema 2000; Nolen-Hoeksema et al. 1994, 1997) but to compromise adaptation in cancer patients (Stanton et al. 2000). In women with breast cancer, a ruminative coping style has been associated with more negatively biased thinking, poor problem-solving, low levels of trust in the availability of others, and a delay in seeking medical care (Lyubomirsky et al. 2006). Also, cancer patients who ruminate and were hypervigilant toward disease-related threats were at high risk of poor adjustment, especially when they were also dissatisfied about the support received from family (Aymanns et al. 1995). Among 64 breast cancer survivors with high levels of cancer-related intrusive thoughts, those who felt unable to express thoughts and feelings to significant others reported less quality of life (Lewis and colleagues 2001).

The tendency of patients with preoccupied attachment to ruminate and express high levels of emotional and physical symptoms without actively engaging in problem-solving activities can reduce social support by alienating others, including medical and nursing staff. Nolen-Hoeksema (1999) showed that while ruminators seek more support than non-ruminators, they perceive receiving less social support than they require. While this frustration may stem from their unattainable desire for closeness and caring, it may also, in part, be based on reality. Ruminators "go over and over their loss and persistently discuss their feelings and symptoms without

making much progress towards recovery" (Nolen-Hoeksema 1999). Consequently partners, family, friends, and healthcare workers may withdraw from the ruminator and reject their concerns. This is supported by a study by Winkler (2006) who studied 189 middle-aged participants who received fictitious scenarios describing a friend who had been recently diagnosed with abdominal cancer. Within these scenarios, the directedness of the request for support (explicit vs. implicit vs. no request) and the coping strategy (with or without rumination) of the "friend" were coupled with the support tendencies (sustained support vs. short-term encouragement) of the participant. Results showed that a ruminative coping style of the fictitious sick friend was associated with a reduced tendency by participants to provide sustained support, which was even worse when ruminators tried to mobilize support in an indirect manner by describing their support needs vaguely (e.g., by expressing physical symptoms rather than asking for help directly).

These kinds of nonresponsive experiences may hinder downregulation of affect and reinforce the negative expectations of anxiously attached individuals around care provision. The relevance of this in cancer care is demonstrated by studies that show that insecure attachment representations are associated with lower levels of trust in one's oncologist (Hillen et al. 2014; Hinnen et al. 2014; Holwerda et al. 2013). Not being able to rely on others, and especially on one's physician, is likely to be highly distressing when confronted with cancer (Hillen et al. 2011). In fact, anxiously attached individuals with various types of cancer who had a lower level of trust in their physician were found to have more emotional and physical symptom reporting within the first year after diagnosis (Hinnen et al. 2014).

In sum, more anxiously attached individuals with cancer are likely to experience and express increasing and enduring high levels of emotional and physical distress when confronted with cancer, due to the interpersonal consequences of their coping style. Instead of promoting affiliation, high symptom reporting, coupled with rumination and poor problem-focused strategies, tends to alienate others. This results in receiving insufficient support from the figures one wishes to depend on – including the healthcare staff. This unsatisfactory interaction activates the patient's preoccupation with not being cared for, which may amplify stress responses and the expression of emotional and physical limitations even more, in a desperate attempt to maximize responsiveness of others. Sadly, more often than not this drives people further away.

6.4 Dismissing Attachment

In contrast to those with preoccupied attachment, patients with dismissing attachment express less distress and psychological symptoms after a cancer diagnosis, even when perceiving their physician as less trustworthy (Hinnen et al. 2014). Prevailing clinical and theoretical wisdom states that prolonged emotional inhibition and avoidance is unhealthy when confronted with a serious threat as it interferes with information processing and successful reorganization of one's beliefs and may produce rumination at a later date. In contrast, putting traumatic events into

words and thus acknowledging and expressing distress is believed to make it easier to integrate experiences by accommodation and assimilation. However, in oncology, only moderately strong associations between avoidance coping, emotional inhibition, and psychological distress are found (Figueiredo et al. 2004; Manne et al. 2001; Porter et al. 2005). These results suggest that the connection between emotional inhibition and mental health may be more complex and may be moderated by individual and contextual factors (Consedine et al. 2002; Fraley and Shaver 1998; Hagedoorn et al. 2011). In dismissing cancer patients, who are skeptical about the availability and responsiveness of others, avoidance and emotional inhibition may be intrinsically beneficial in order to maintain tolerable levels of arousal during a time of decreased self-efficacy and obligatory increased reliance on others (Consedine et al. 2002). This comfort with distance could also explain why a lower level of trust in one's physician was not found to be associated with the report of more emotional and physical distress in this group (Hinnen et al. 2014).

Furthermore, Fraley (1997, 1999) suggests that the defenses of people with a dismissing attachment style may be organized in such a way that the absence of observable distress may not be a "cover-up" of powerful feelings, but may actually reflect a true absence of sorrow. Although Fraley's notions primarily regard the feelings that are associated with the loss of an attachment figure, he and others (Wearden et al. 2003) suggest that dismissing individuals may have less intense feelings in a broad range of (interpersonal) situations, because they are less emotionally involved with people. Thus, dismissing patients may not only avoid the expression of distress; they may actually feel less distressed by a life-changing and potentially life-threatening illness such as cancer. Emotional inhibition and cognitive distancing may prevent emotional distress from entering awareness. Importantly however, this may not correspond with their underlying physical state as they may have physiological indicators of distress, such as increased blood pressure and reduced heart rate variability (Maunder et al. 2006b).

Clinically, it is important to know if avoidant defenses will hold intact as the experience of cancer becomes more intrusive and less control over its course is available, and what will happen if these defenses eventually fail. In other contexts the repressive defenses of people with a dismissing attachment style can break down under extreme and unavoidable stressors, resulting in panic, hostility, and physical complains (Mikulincer et al. 1993, 1999). However, in a recent oncology study, we found no support for a breakdown of defenses, as dismissing patients showed continuously low levels of distress within the first year after cancer diagnosis. A possible explanation for these findings may be found in illness characteristics. In our study, patients had a relatively good prognosis and were included in the study soon after diagnosis. In keeping with this finding, Manne and colleagues (Manne et al. 2001) found that avoidance coping predicted more distress over time among individuals with late-stage but not early-stage cancer. Thus, avoidant strategies may not be inherently detrimental but may become deleterious when the stressor itself becomes more intrusive and less avoidable.

When the repressive defenses of cancer patients with a dismissing attachment style do break down, they typically do not have a broad range of alternative

strategies to deal with the illness or to use to regulate their emotions. Their social network may be limited and they remain reluctant to seek support (Florian et al. 1995; Priel and Shamai 1995). In fact, that reluctance may even be amplified when the burden of the illness increases, because of the wish to maintain independence and autonomy (Simpson et al. 1992). An additional risk for patients with a dismissing attachment style is a suboptimal use of the healthcare system (Ciechanowski et al. 2001). Their repressive and defensive coping style and their lack of trust in others can reduce the perceived need and willingness to enter, or adhere to, medical treatment (Magai et al. 2004, 2007). For instance, Hill and colleagues (2013) also showed that among 257 undergraduate students, those with a dismissing attachment style were less likely to have engaged in screening for cervical cancer.

Thus, while more avoidantly attached patients may show few emotional problems shortly after diagnosis and when prognosis is good, when the illness progresses, problems may emerge such as noncompliance, exhaustion, and more physical stress responses.

6.5 Fearful/Disorganized Attachment

People with fearful or disorganized attachment are characterized by a desire for close relationships and approval but simultaneously shun intimacy to avoid the pain of potential loss and rejection (Shaver and Mikulincer 2002). These individuals are proposed to have had extremely harsh, abusive, and rejecting caregiving (Mikail et al. 1994). In adulthood these people are unable to develop coherent coping strategies in times of stress; they may both ruminate and try to avoid stressors and seek and simultaneously reject support. Clinically, they most closely resemble patients classified as having a borderline personality disorder. Although this group is least studied (in part because not all methods of assessing attachment directly identify the fearful/disorganized style), it can be argued that people with a fearful/disorganized attachment style may be most at risk of experiencing psychological and psychiatric problems in the context of cancer. Primo and colleagues (2000) showed in a group of breast cancer patients that those reporting both intrusive thoughts and avoidance strategies were at greatest risk for poor adjustment in the months following their diagnosis. Also, cancer patients with a borderline personality disorder face tremendous emotional and social challenges, including difficulty negotiating cooperation with the medical staff (Feely et al. 2013; Fitzgibbon and Barbuto 1989; Hay and Passik 2000).

In accordance with their childhood experiences, in which caregivers could not be trusted and were not a source of comfort, these patients may be reluctant to seek support from others, including medical professionals, even when experiencing high levels of symptoms. Ciechanowski (2002) showed in a group of primary care patients that although patients with a fearful attachment style reported the highest level of somatic symptoms over a 6-month period, they were least likely to seek support for these symptoms. The anxiety created by the need to trust others may

induce reactions such as catastrophic reasoning or denying the competence of healthcare providers, which may prevent seeking support (Ciechanowski et al. 2004). Anxiety-induced reactions have also been suggested to play a role in understanding why some women with breast cancer delay seeking help (Facione and Facione 2006; Stiefel 2006). In addition to the difficulty these patients have in seeking and maintaining supportive relations, healthcare staff may also find it very difficult to manage patients with fearful or disorganized attachment (Feely et al. 2013; Hay and Passik 2000). In fact, in the emergency department, patients with a fearful attachment style were predominately those that were viewed by physicians as difficult (Maunder et al. 2006a).

In sum, when confronted with cancer, fearful/disorganized individuals may have problems adapting to the illness, its emotional impact, and the social context of care. Their distress levels were likely to have been high before the illness and are likely to remain high even when treatment is long past and prognosis is good (Fig. 6.1). With a bad prognosis they may have little in their personal history to comfort them, as they look back upon a life that has been difficult and is lacking success, happiness, and love (Levinson 1975), further impairing their adaptation to the illness.

6.6 Clinical Implications

Psychological interventions and communication guidelines in oncology are generally developed for and offered to cancer patients in general or to patients with a specific type of cancer. Much less attention has been directed to services designed to address differences in the needs and abilities of individuals with cancer. However, the research summarized above suggests that insecure patients are at risk of suboptimal adjustment to cancer diagnosis and treatment. Screening for attachment insecurity in order to efficiently focus scarce healthcare resources therefore makes sense.

Ignoring that people may differ in their needs and abilities risks offering potentially efficacious support to an unselected, or inappropriately selected, group of people (Coyne and Lepore 2006). For example, Sandgren and McCaul (2007) investigated two therapy interventions: psycho-education and emotional expression delivered by telephone to an unselected group of women with breast cancer. These authors concluded that both interventions were ineffective in improving quality of life and mood. An alternative explanation for this null finding is that only a relatively small group of patients was sufficiently burdened by the illness to profit from the intervention and that their improvement was obscured by the lack of impact upon the others. Furthermore, different people may profit from different interventions. For example, more anxiously attached patients may profit especially from emotional expression, while more avoidantly attached patients may profit more from psycho-education, especially if delivered over the telephone, which would allow them to maintain a more comfortable interpersonal distance. This suggests a much more effective and efficient approach when developing and testing

interventions and communication guidelines in oncology: identify the needs and resources most effective for a specific group of people and tailor support accordingly (Coyne and Racioppo 2000; Hann et al. 2002).

Attachment classifications could also identify who is in need of support and how to offer support in order to optimally address differential needs and abilities (Tan et al. 2005; Thompson and Ciechanowski 2003). For example, it may be important to help people with preoccupied attachment, who are likely to ruminate and feel overwhelmed by the illness experience, to regulate their emotions during treatment and hospitalization. Healthcare workers may need to assist in the regulation of emotions for these people, as they are less able to sooth and distract themselves. Frequent, short contacts in which the emotional upset is addressed by a psychosocial team member, instead of by medical/oncology staff, can allow even intense emotions to be expressed and contained in a manner that interferes less with treatment. Affect regulation strategies, such as mindfulness or relaxation exercises, can be utilized to increase the individual's competence at self-soothing, increase their experience of security, and, again, minimize disruption to their necessary oncology treatment.

For people with dismissing attachment, who are compulsively self-reliant and in need of control, a more "hands-off" approach will likely be experienced as more acceptable support. Providing sufficient information and facilitating self-management strategies are more appropriate here than encouraging emotional expression. Their repressive defenses and avoidant coping strategies as well as their need for interpersonal distance should be respected. Their compulsive self-reliance can hamper medical treatment, however, typically by creating interpersonal distance and reduced communication. At such times, additional psychological interventions may be needed, either by "coaching" the treatment team on optimal communication strategies (see Chap. 8) or by negotiating a strategy with the patient that allows them the necessary distance and control to make the treatment tolerable.

For fearful/disorganized patients psychiatric consultation is typically indicated, as medication may be needed to manage their fear. Relevant family members, as well as the medical and nursing staff, may be in need of active liaison to help them deal with disruptive or chaotic behaviors (e.g., approach and avoidance, anger and dismissiveness, demanding and rejecting messages) that may frustrate optimal care (Feely et al. 2013; Hay and Passik 2000).

In sum, while secure people perceive and report stress levels that can be easily understood, as they correspond with objective evaluation, insecurely attached patients can demonstrate a discrepancy between their level of subjective distress and the objective reality of their oncological predicament. This discrepancy can impact on their healthcare requirements. Overreporting by anxiously attached patients may require active reassurance and emotional support from healthcare workers, underreporting by more avoidantly attached patients may require increased objective monitoring, and inconsistent reporting by fearful/disorganized patients will require a team to adhere closely to their standards of usual care, to avoid the chaotic communication disrupting care.

6.7 Future Directions

We have utilized attachment theory to understand the psychological mechanisms underlying the stress-buffering effect of social support in the context of cancer. We have argued that attachment theory may help explain individual differences in affiliation and coping responses that will moderate the impact of social support on stress regulation. Future research can focus further on these psychological mechanisms and also on the neurobiological mechanisms underlying the stress-buffering effect of social support.

In recent years, researchers have focused on the neuropeptide oxytocin (OT) as a neurobiological modulator of the stress-response system. The evidence is growing that oxytocin levels increase in time of stress (Cardoso et al. 2013; Ditzen et al. 2009) and have a key impact on stress regulation, both directly by impacting physiological responses such as blood pressure, cortisol levels, and norepinephrine and indirectly by stimulating affiliative responses (Campbell 2010; Churchland and Winkielman 2012). These include one's willingness to share emotions (Lane et al. 2013; Tops et al. 2007) and trustworthiness (Theodoridou et al. 2009) (Kosfeld et al. 2005). Therefore, oxytocin may prove to be an important neuropeptide underlying the attachment system and stress regulation. To date, the research investigating oxytocin and stress regulation and affiliation has been conducted mainly in laboratory settings with experimentally induced stressors. Little research has been conducted among individuals facing mental health threats – other than depression and PTSD – and none at all concerning threats that combine physical and mental stressors, such as cancer.

A better understanding of the biological mechanisms underlying stress activation and regulation in the context of cancer would undoubtedly have important clinical implications by informing specific psychological and pharmacological interventions to promote physical and mental health. For example, with appropriate informed consent, administered oxytocin could be a pharmacotherapeutic strategy to boost social interaction with intimate others, as well as healthcare professionals. Also, via oxytocin's positive impact on social experience, it is possible that the internal working model could be altered, with changes about the self (e.g., as worthy of care and support) and others (e.g., as trustworthy and caring). This would allow for new ways of dealing with stressors such as expressing one's emotions more freely and seeking support when needed. Thirdly, oxytocin could boost the effect of psychological interventions. As it dampens tension and promotes affiliation, patients may be more likely to profit from psychotherapy, as has been suggested in the treatment of posttraumatic stress disorder (Koch et al. 2014).

Also, a concept closely related to attachment theory that needs more attention in oncology is mentalizing (Fonagy et al. 2002). Mentalizing or "keeping mind in mind" (see Chap. 3) may help explain the differences in affect regulation in the context of illness (Bateman and Fonagy 2008) because insecure patients would be understood to have a diminished ability to mentalize when confronted with a threat such as cancer. Alternatively, the cognitive processes available to them are "pre-mentalizing" modes, which can unhelpfully impact on their perception of their circumstances. For instance, "psychic equivalence" mentalizing (see Chap. 9) in which

thoughts and feelings are experienced as equivalent to reality would mean that the oncology patient would convert the fear of cancer recurrence to a belief that it has returned or process a feeling of distrust for their physician as evidence that the medical staff cannot be trusted. An alternative potential regressive mental activity would be "pretend mode," characterized by a belief that what is in one's mind can take the place of actual facts. Oncologically, this could correspond to a thought such as "I can cure my cancer myself by thinking in a positive way." A mentalizing perspective argues that insecure patients are predisposed to function via these regressive modes when the threat of their cancer becomes overwhelming. Future research can test these expectations and investigate the effectiveness of mentalizing-based interventions within oncology.

Lastly, we typically rely on data self-reported by the patient concerning his mental and physical well-being. Given that we understand that anxiously attached patients are prone to hyper-activation of attachment signaling and avoidant individuals to hypo-activation, we risk focusing exclusively on anxiously attached patients and overlooking the problems of more avoidantly attached patients. Elevated physical stress responses may have serious negative health consequences (Giese-Davis and Spiegel 2002; Spiegel 2012). Therefore, future studies should include biological markers of stress, such as cortisol and norepinephrine in the context of cancer, in order to ensure a more complete understanding of the internal experience of the oncology patient.

References

Aizer AA, Chen M, McCarthy EP, Mendu ML, Koo S, Wilhite TJ et al (2013) Marital status and survival in patients with cancer. J Clin Oncol 31(31):3869–3876

Andrykowski MA, Cordova MJ (1998) Factors associated with PTSD symptoms following treatment for breast cancer: test of the Anderson model. J Trauma Stress 11(2):189–203

Attig T (2002) Questionable assumptions about assumptive worlds. In: Kauffman J (ed) Loss of the assumptive world. A theory of traumatic loss. Brunner-Routledge, New York, pp 55–68

Aymanns P, Filipp SH, Klauer T (1995) Family support and coping with cancer – some determinants and adaptive correlates. Br J Soc Psychol 34:107–124

Bardwell WA, Nataajan L, Dimsdale JE, Rock CL, Mortimer JE, Hollenbach K et al (2006) Objective cancer-related variables are not associated with depressive symptoms in women treated for early-stage breast cancer. J Clin Oncol 24(16):2420–2427

Bateman A, Fonagy P (2008) Mentalization in clinical practice. American Psychiatric Publishing, Arlington

Bifulco A, Moran PM, Ball C, Lillie A (2002a) Adult attachment style. II: its relationship to psychosocial depressive-vulnerability. Soc Psychiatry Psychiatr Epidemiol 37(2):60–67

Bifulco A, Moran P, Ball C, Bernazzani O (2002b) Adult attachment style. I: its relationship to clinical depression. Soc Psychiatry Psychiatr Epidemiol 37(2):50–59

Bowlby J (1985) Loss: sadness and depression. Penguin Group, New York

Bowlby J (1988) A secure base: clinical applications of attachment theory. Tavistock/Routledge, London

Burnette JL, Davis DE, Green JD, Worthington EL Jr, Bradfield E (2009) Insecure attachment and depressive symptoms: the mediating role of rumination, empathy, and forgiveness. Pers Individ Differ 46(3):276–280

Campbell A (2010) Oxytocin and human social behavior. Pers Soc Psychol Rev 14(3):281–295
Cardoso C, Ellenbogen MA, Orlando MA, Bacon SL, Joober R (2013) Intranasal oxytocin attenuates the cortisol response to physical stress: a dose–response study. Psychoneuroendocrinology 38(3):399–407
Churchland PS, Winkielman P (2012) Modulating social behavior with oxytocin: how does it work? what does it mean? Horm Behav 61(3):392–399
Cicero V, Lo Coco G, Gullo S, Lo Verso G (2009) The role of attachment dimensions and perceived social support in predicting adjustment to cancer. Psychooncology 18(10):1045–1052
Ciechanowski P, Katon WJ, Russo JE, Walker EA (2001) The patient-provider relationship: attachment theory and adherence to treatment in diabetes. Am J Psychiat 158(1):29–35
Ciechanowski P, Katon WJ, Russo JE, Dwight-Johnson MM (2002) Association of attachment style to lifetime medically unexplained symptoms in patients with hepatitis C. Psychosomatics 43(3):206–212
Ciechanowski P, Sullivan M, Jensen M, Romano J, Summers H (2003) The relationship of attachment style to depression, catastrophizing and health care utilization in patients with chronic pain. Pain 104:627–637
Ciechanowski P, Russo JE, Katon WJ, Korff MV, Ludman E, Lin E et al (2004) Influence of patient attachment style on self-care and outcome in diabetes. Psychosom Med 66:720–728
Ciechanowski P, Walker EA, Katon WJ, Russo JE (2002) Attachment theory: a model for health care utilization and somatization. Psychosom Med 64(4):660–667
Conde A, Figueiredo B, Bifulco A (2011) Attachment style and psychological adjustment in couples. Attach Hum Dev 13(3):271–291
Consedine NS, Magai C, Bonanno GA (2002) Moderators of emotion inhibition-health relationship: a review and research agenda. Rev Gen Psychol 6(2):204–228
Coyne JC, Lepore SJ (2006) Rebuttal: the black swan fallacy in evaluating psychological interventions for distress in cancer patients. Ann Behav Med 32:115–118
Coyne JC, Racioppo MW (2000) Never the twain shall meet?: closing the gap between coping research and clinical interventions. Am Psychol 55(6):655–664
Coyne JC, Palmer SC, Shapiro PJ, Thompson R, DeMichele A (2004) Distress, psychiatric morbidity, and prescriptions for psychotropic medication in a breast cancer waiting room sample. Gen Hosp Psychiatry 26:121–128
Ditzen B, Schaer M, Gabriel B, Bodenmann G, Ehlert U, Heinrichs M (2009) Intranasal oxytocin increases positive communication and reduces cortisol levels during couple conflict. Biol Psychiatry 65(9):728–731
Facione NC, Facione PA (2006) The cognitive structuring of patient delay in breast cancer. Soc Sci Med 63(12):3137–3149
Fechner-Bates S, Coyne JC, Schwenk TL (1994) The relationship of self-reported distress to psychopathology. J Consult Clin Psychol 62:550–559
Feely MA, Havyer RDA, Lapid MI, Swetz KM (2013) Management of end-of-life care and of difficult behaviors associated with borderline personality disorder. J Pain Symptom Manage 45(5):934–938
Figueiredo MI, Fries E, Ingram KM (2004) The role of disclosure patterns and unsupportive social interactions in the well-being of breast cancer patients. Psychooncology 13:96–105
Fitzgibbon M, Barbuto J (1989) Approach to the medically ill borderline patient – a case-study. Psychol Rep 65(3):1091–1096
Florian V, Mikulincer M, Bucholtz I (1995) Effects of adult attachment style on the perception and search for social support. J Psychol 129(6):665–676
Fonagy P, Gergely G, Jurist E, Target M (2002) Affect regulation, mentalization and the development of the self. Other Press, New York
Fraley RC, Shaver PR (1997) Adult attachment and the suppression of unwanted thoughts. J Pers Soc Psychol 73(5):1080–1091
Fraley RC, Shaver PR (1998) Airport separations: a naturalistic study of adult attachment dynamics in separating couples. J Pers Soc Psychol 75(5):1198–1212

Fraley RC, Shaver PR (1999) Loss and bereavement: attachment theory and recent controversies concerning "grief work" and the nature of detachment. In: Cassidy J, Shaver PR (eds) Handbook of attachment. Theory, research, and clinical applications. The Guilford Press, New York, pp 735–759

Gao W, Bennett MI, Stark D, Murray S, Higginson IJ (2010) Psychological distress in cancer from survivorship to end of life care: prevalence, associated factors and clinical implications. Eur J Cancer 46(11):2036–2044

Giese-Davis J, Spiegel D (2002) Emotion regulation and metastatic breast cancer. Int Congr Series 1241:31–35

Groenvold M, Fayers PM, Sprangers MAG, Bjorner JB, Klee MC, Aaronson NK et al (1999) Anxiety and depression in breast cancer patients at low risk of recurrence compared with the general population: a valid comparison? J Clin Epidemiol 52(6):523–530

Hagedoorn M, Puterman E, Sanderman R, Wiggers T, Baas PC, van Haastert M et al (2011) Is self-disclosure in couples coping with cancer associated with improvement in depressive symptoms? Health Psychol 30(6):753–762

Hann D, Baker F, Denniston M, Gesme D, Reding D, Flynn T et al (2002) The influence of social support on depressive symptoms in cancer patients – age and gender differences. J Psychosom Res 52(5):279–283

Hay J, Passik S (2000) The cancer patient with borderline personality disorder: suggestions for symptom-focused management in the medical setting. Psychooncology 9(2):91–100

Helgeson VS, Cohen S (1996) Social support and adjustment to cancer: reconciling descriptive, correlational and intervention research. Health Psychol 15(2):135–148

Helgeson VS, Snyder P, Seltman H (2004) Psychological and physical adjustment to breast cancer over 4 years: identifying distinct trajectories of change. Health Psychol 23(1):3–15

Henselmans I, Helgeson VS, Seltman H, de Vries J, Sanderman R, Ranchor AV (2010) Identification and prediction of distress trajectories in the first year after a breast cancer diagnosis. Health Psychol 29(2):160–168

Hill EM, Gick ML (2013) Attachment and barriers to cervical screening. J Health Psychol 18(5):648–657

Hillen MA, de Haes HCJM, Smets EMA (2011) Cancer patients' trust in their physician-a review. Psychooncology 20(3):227–241

Hillen MA, de Haes HCJM, Stalpers LJA, Klinkenbijl JHG, Eddes E, Verdam MGE et al (2014) How attachment style and locus of control influence patients' trust in their oncologist. J Psychosom Res 76(3):221–226

Hinnen C, Ranchor AV, Sanderman R, Snijders TAB, Hagedoorn M, Coyne JC (2008) Course of distress in breast cancer patients, their partners, and matched control couples. Ann Behav Med 36(2):141–148

Hinnen C, Schreuder I, Jong E, van Duijn M, Dahmen R, van Gorp ECM (2012) The contribution of adult attachment and perceived social support to depressive symptoms in patients with HIV. AIDS Care 24(12):1535–1542

Hinnen C, Pool G, Holwerda N, Sprangers MAG, Sanderman R, Hagedoorn M (2014) Lower levels of trust in one's physician is associated with more distress over time in more anxiously attached individuals with cancer. Gen Hosp Psychiatry 36(4):382–387

Holwerda N, Sanderman R, Pool G, Hinnen C, Langendijk JA, Bemelman WA et al (2013) Do patients trust their physician? the role of attachment style in the patient-physician relationship within one year after a cancer diagnosis. Acta Oncol 52(1):110–117

Hunter JJ, Maunder RG (2001) Using attachment theory to understand illness behavior. Gen Hosp Psychiatry 23:177–182

Hunter MJ, Davis PJ, Tunstall JR (2006) The influence of attachment and emotional support in end-stage cancer. Psychooncology 15(5):431–444

Koch SBJ, van Zuiden M, Nawijn L, Frijling JL, Veltman DJ, Olff M (2014) Intranasal oxytocin as strategy for medication-enhanced psychotherapy of PTSD: salience processing and fear inhibition processes. Psychoneuroendocrinology 40:242–256

Kosfeld M, Heinrichs M, Zak P, Fischbacher U, Fehr E (2005) Oxytocin increases trust in humans. Nature 435(7042):673–676

Lam WWT, Shing YT, Bonanno GA, Mancini AD, Fielding R (2012) Distress trajectories at the first year diagnosis of breast cancer in relation to 6 years survivorship. Psychooncology 21(1):90–99

Lane A, Luminet O, Rime B, Gross JJ, de Timary P, Mikolajczak M (2013) Oxytocin increases willingness to socially share one's emotions. Int J Psychol 48(4):676–681

Levinson P (1975) Obstacles in treatment of dying patients. Am J Psychiat 132(1):28–32

Lewis J, Manne S, DuHamel K, Vickburg S, Bovbjerg D, Currie V et al (2001) Social support, intrusive thoughts, and quality of life in breast cancer survivors. J Behav Med 24(3):231–245

Lo C, Zimmermann C, Rydall A, Walsh A, Jones JM, Moore MJ et al (2010) Longitudinal study of depressive symptoms in patients with metastatic gastrointestinal and lung cancer. J Clin Oncol 28(18):3084–3089

Lyubomirsky S, Kasri F, Chang O, Chung I (2006) Ruminative response styles and delay of seeking diagnosis for breast cancer symptoms. J Soc Clin Psychol 25(3):276–304

Magai C, Consedine NS, Gillespie M, O'Neal C, Vilker R (2004) The differential roles of early emotion socialization and adult attachment in adult emotional experience: testing a mediator hypothesis. Attach Hum Dev 6(4):389–417

Magai C, Consedine N, Neugut AI, Hershman DL (2007) Common psychosocial factors underlying breast cancer screening and breast cancer treatment adherence: a conceptual review and synthesis. J Womens Health 16(1):11–23

Manne S, Glassman M, Du Hamel K (2001) Intrusion, avoidance, and psychological distress among individuals with cancer. Psychosom Med 63(4):658–667

Maunder R, Hunter J (2001) An attachment-based model of stress-vulnerability and disease. Psychosom Med 63(1):154

Maunder RG, Panzer A, Viljoen M, Owen J, Human S, Hunter JJ (2006a) Physicians' difficulty with emergency department patients is related to patients' attachment style. Soc Sci Med 63(2):552–562

Maunder R, Lancee W, Nolan R, Hunter J, Tannenbaum D (2006b) The relationship of attachment insecurity to subjective stress and autonomic function during standardized acute stress in healthy adults. J Psychosom Res 60(3):283–290

Mikail SF, Henderson PR, Tasca GA (1994) An interpersonally based model of chronic pain: an application of attachment theory. Clin Psychol Rev 14(1):1–16

Mikulincer M, Florian V, Tolmacz R (1990) Attachment styles and fear of personal death: a case study of affect regulation. J Pers Soc Psychol 58(2):273–280

Mikulincer M, Florian V, Weller A (1993) Attachment styles, coping strategies, and posttraumatic psychological distress: the impact of the gulf war in Israel. J Pers Soc Psychol 64(5):817–826

Mikulincer M, Horesh N, Eilati I, Kotler M (1999) The association between adult attachment style and mental health in extreme life-endangering conditions. Pers Indiv Differ 27:831–842

Mikulincer M, Shaver PR, Pereg D (2003) Attachment theory and affect regulation: the dynamics, development, and cognitive consequences of attachment-related strategies. Motiv Emotion 27(2):77–102

Mitchell AJ, Chan M, Bhatti H, Halton M, Grassi L, Johansen C et al (2011) Prevalence of depression, anxiety, and adjustment disorder in oncological, haematological, and palliative-care settings: a meta-analysis of 94 interview-based studies. Lancet Onco 12(2):160–174

Nausheen B, Gidron Y, Peveler R, Moss-Morris R (2009) Social support and cancer progression: a systematic review. J Psychosom Res 67(5):403–415

Nienhuis FJ, van de Willige G, Rijnders CAT, de Jonge P, Wiersma D (2010) Validity of a short clinical interview for psychiatric diagnosis: the mini-SCAN. Brit J Psychiat 196(1):64–68

Nolen-Hoeksema S (2000) The role of rumination in depressive disorders and mixed anxiety/depressive symptoms. J Abnorm Psychol 109(3):504–511

Nolen-Hoeksema S, Davis CG (1999) "Thanks for sharing that": ruminators and their social support networks. J Pers Soc Psychol 77(4):801–814

Nolen-Hoeksema S, Parker LE, Larson J (1994) Ruminative coping with depressed mood following loss. J Pers Soc Psychol 67(1):92–104
Nolen-Hoeksema S, McBride A, Larson J (1997) Rumination and psychological distress among bereaved partners. J Pers Soc Psychol 72(4):855–862
Osborne RH, Elsworth GR, Sprangers MAG, Oort FJ, Hopper JL (2004) The value of the hospital anxiety and depression scale (HADS) for comparing women with early onset breast cancer with population-based reference women. Qual Life Res 13:191–206
Porter L, Keefe F, Hurwitz H, Faber M (2005) Disclosure between patients with gastrointestinal cancer and their spouses. Psychooncology 14(12):1030–1042
Priel B, Shamai D (1995) Attachment style and perceived social support: effects on affect regulation. Pers Indiv Differ 19(2):235–241
Primo K, Compas BE, Oppedisano G, Howell DC, Epping-Jordan JE, Krag DN (2000) Intrusive thoughts and avoidance in breast cancer: individual differences and association with psychological distress. Psychol Health 14(6):1141–1153
Rando TA (2002) The "curse" of too good a childhood. In: Kauffman J (ed) Loss of the assumptive world. A theory of traumatic loss. Brunner-Routledge, New York, pp 171–192
Rodin G, Walsh A, Zimmermann C, Gagliese L, Jones J, Shepherd FA et al (2007) The contribution of attachment security and social support to depressive symptoms in patients with metastatic cancer. Psychooncology 16(12):1080–1091
Rodin G, Lo C, Mikulincer M, Donner A, Gagliese L, Zimmermann C (2009) Pathways to distress: the multiple determinants of depression, hopelessness, and the desire for hastened death in metastatic cancer patients. Soc Sci Med 68(3):562–569
Sandgren AK, Mccaul KD (2007) Long-term telephone therapy outcomes for breast cancer patients. Psychooncology 16(1):38–47
Scheier MF, Helgeson VS (2006) Really, disease doesn't matter? a commentary on correlates of depressive symptoms in women treated for early-stage breast cancer. J Clin Oncol 24(16):2407–2408
Schmidt SD, Blank TO, Bellizzi KM, Park CL (2012) The relationship of coping strategies, social support, and attachment style with posttraumatic growth in cancer survivors. J Health Psychol 17(7):1033–1040
Shaver PR, Mikulincer M (2002) Attachment related psychodynamics. Attach Hum Dev 4:133–161
Silver RC, Wortman CB, Crofton C (1990) The role of caregiving in support provision: the self-presentational dilemma of victims of life crisis. In: Sarason BR, Sarason IG, Pierce GR (eds) Social support: an interactional view. Wiley, New York, pp 397–426
Simpson JA, Rholes WS, Nelligan JS (1992) Support seeking and support giving within couples in an anxiety-provoking situation: the role of attachment styles. J Pers Soc Psychol 62(3):434–446
Somerfield MR, McCrae RR (2000) Stress and coping research. Methodological challenges, theoretical advances and clinical applications. Am Psychol 55(6):620–625
Spiegel D (2012) Mind matters in cancer survival. Psychooncology 21(6):588–593
Stanton AL, Danoff-Burg S, Cameron CL, Bishop M, Collins CA, Kirk SB et al (2000) Emotionally expressive coping predicts psychological and physical adjustment to breast cancer. J Consult Clin Psychol 68(5):875–882
Stiefel F (2006) Understanding why women delay in seeking help for breast cancer symptoms. J Psychosom Res 60(3):309–310
Tan A, Zimmermann C, Rodin G (2005) Interpersonal processes in palliative care: an attachment perspective on the patient-clinician relationship. Palliat Med 19(2):143–150
Taylor S, Klein L, Lewis B, Gruenewald T, Gurung R, Updegraff J (2000) Biobehavioral responses to stress in females: tend-and-befriend, not fight-or-flight. Psychol Rev 107(3):411–429
Theodoridou A, Rowe AC, Penton-Voak IS, Rogers PJ (2009) Oxytocin and social perception: oxytocin increases perceived facial trustworthiness and attractiveness. Horm Behav 56(1):128–132

Thompson D, Ciechanowski P (2003) Attaching a new understanding to the patient-physician relationship in family practice. J Am Board Fam Pract 16(3):219–226

Tops M, van Peer JM, Korf J (2007) Individual differences in emotional expressivity predict oxytocin responses to cortisol administration: relevance to breast cancer? Biol Psychol 75(2):119–123

Turner-Cobb JM, Sephton SE, Koopman C, Blake-Mortimer J, Spiegel D (2000) Social support and salivary cortisol in women with metastatic breast cancer. Psychosom Med 62(3):337–345

Turner-Cobb JM, Gore-Felton C, Marouf F, Koopman C, Kim P, Israelski D et al (2002) Coping, social support, and attachment style as psychosocial correlates of adjustment in men and women with HIV/AIDS. J Behav Med 25(4):337–353

Wearden A, Cook L, Vaughan-Jones J (2003) Adult attachment, alexithymia, symptom reporting, and health-related coping. J Psychosom Res 55:341–347

Wilkinson SR (2003) Coping and complaining: attachment and the language of disease. Brunner-Routledge, New York

Winkeler M, Filipp SH, Aymanns P (2006) Direct and indirect strategies of mobilization as determinants of social support provided for cancer patients. J Appl Soc Psychol 36(1):248–267

Zigmond AS, Snaith RP (1983) The hospital anxiety and depression scale. Acta Psychiatr Scand 67:361–370

Attachment and the End of Life Experience

7

Sarah Hales

> I once asked a man who knew he was dying what he needed above all in those who were caring for him. He said, 'For someone to look as if they are trying to understand me.'
>
> Cicely Saunders (1987)

> …rich connections temper the pain of transiency.
>
> Irvin Yalom (2009)

As at the beginning of life, the end of life requires strong care-seeking and caregiving systems. Unlike in early life, however, when greater independence and autonomy from caregivers are achieved over time, at the end of life individuals face ever increasing need and vulnerability and the inevitability of separation through death. Those with advancing and terminal illness may experience a sense of increasing threat as treatments fail, the disease advances, disability increases and death looms closer. Treatments for many life-threatening conditions such as cancer are improving and life expectancies are lengthening, but when cure does not occur, patients and families are left in a state of chronic threat for longer.

In this chapter, attachment theory will be employed to understand variations in experience and behaviours of dying patients and their loved ones as they negotiate treatment within the health care system. Concepts central to palliative care including the good death, dignity, physician-assisted suicide and grief can all be better understood with the aid of attachment theory. Even more importantly, treatment interventions aimed at supporting an individual's sense of security may be beneficial in reducing distress and facilitating growth in those facing end of life.

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7.1 The Patient Experience of the End of Life

Patients with advancing and life-threatening illness are faced with multiple difficulties, including increasing physical disability, pain and physical symptoms, loss of previous identities and roles, dependency and loss of autonomy, challenges to previously held beliefs and world views, and the possibility of death. Indeed, awareness of approaching mortality is the distinct and unique crisis that differentiates patients in palliative care from those in the many other clinical settings described in these chapters. Unlike the temporary challenge of a planned surgery or chemotherapy treatment, for the dying patient, the fact of death may be ever-present, shortening the viewed horizon and creating a sense of persistent anticipatory fear. These death anxieties may include fears of future pain or suffering, dependency and loss of control, lost opportunities, the impact on loved ones, the timing of death or actual death and individual obliteration (Lo et al. 2011).

As with other situations of threat, the approach of the end of life activates attachment, such that proximity to caregivers, both formal and informal, is sought, often in an attempt to improve coping. Those with more secure attachment are better able to seek and receive practical and emotional assistance which help them to adapt to the reality of dying. Therefore, it is not surprising that those with greater attachment security experience less distress at the end of life. In those with advanced disease, greater attachment security is associated with less depressive symptoms, and, in addition, attachment security buffers the impact of physical distress on depressive symptoms. This protective effect is partially mediated through perception of social support (Rodin et al. 2007). Interestingly, older age is associated with less depressive symptoms in those with advanced cancer, and this relationship is partly accounted for by greater attachment security with increasing age (Lo et al. 2010).

Those with insecure attachment may have a more problematic course, having difficulty both accessing and experiencing support from formal and informal caregivers to manage the illness and its associated emotional distress. Those with a preoccupied attachment style may express more distress and fear of death, request more supports and display a lack of confidence in their ability to handle the challenges of dying. Those with a dismissing attachment style may avoid expression of distress and fear of death and may deny or refuse supports when they appear to be needed. Finally, those with a fearful or disorganized style may show both preoccupied and dismissing behaviours, doubting their own ability to manage the dying experience but also lacking confidence in the availability and trustworthiness of care providers. Research on patients with advanced cancer has shown that both preoccupied and dismissing attachment are associated with lower levels of emotional support, which in turn has a negative influence on patient affect, and that preoccupied attachment is directly associated with patient distress (Hunter et al. 2006). For people with advanced cancer, a more preoccupied attachment style has also been found to correlate with referral to psychosocial oncology services (Ellis et al. 2009), which is similar to the link between preoccupied attachment and greater use of health services in other populations.

In addition to helping understand differences in support seeking and distress at the end of life, attachment theory can illuminate several aspects of a patient's experience that are central to palliative care. With the rise of the palliative care and hospice movements, the concept of the 'good death' has received much attention. Experts have described the quality of dying and death as an evaluation of the dying experience as a whole according to one's expectations and values (Stewart et al. 1999). Research exploring this construct has revealed seven broad domains: physical experience, psychological experience, social experience, spiritual or existential experience, the nature of health care at the end of life, death preparation and life closure and the circumstances of death (Hales et al. 2008). However, research in different settings, from North America, Europe, Israel, Australia and Asia, has highlighted that evaluation of dying is subjective and there is no one consistent and universal understanding of a good death (Hales et al. 2008, 2010). For example, some patients express preferences for physical contact or closeness with family and friends at the end of life, while other patients place greater emphasis on maintaining independence and dignity. While numerous factors, including disease stage and culture, influence these preferences, it is likely that attachment style also shapes conceptualizations of the good death. For example, preoccupied patients would prioritize greater contact with close others, while dismissing patients would prioritize self-care and autonomy.

Dignity is another end of life concept much discussed in the palliative care literature and emphasized by some patients as essential to good quality of life at the end of life (Chochinov et al. 2002). Dignity is considered to be multidimensional, and research delineating the dignity construct has identified several attachment-related themes, including independence, autonomy and control, privacy boundaries, social support, care tenor and burden to others (Chochinov et al. 2002). It has been posited that those with a dismissing attachment style might experience loss of dignity more easily and find the loss more distressing (Tan et al. 2005).

Physician-assisted suicide, a frequently discussed and controversial topic (Lewis 2007; Vogel 2011), may also be informed by attachment theory. Research in Oregon, USA, where physician-assisted suicide is legal, found that requests for physician-assisted suicide were more strongly related to wanting control, fear of loss of independence and anticipated distress, than to pain or current distress (Ganzini et al. 2009). As with dignity-related concerns, patients with a more dismissing attachment style may be more likely to experience suicidal ideation in the face of their discomfort with anticipated dependency and loss of autonomy. For those who may be uncomfortable relying on others as a coping strategy, contemplation of suicide may be understandable as a one-person solution to manage anticipated distress.

7.2 The Caregiver Experience of the End of Life

The demands and threats experienced by caregivers while supporting a loved one with a life-threatening illness are different than those experienced by patients, but nonetheless important for clinicians to understand and acknowledge, given the

health care system's dependence on informal caregiving and the high morbidity and mortality associated with the caregiving experience (Gladjchen 2004; Grunfeld et al. 2004). Caregivers supporting a loved one with a life-threatening illness are called upon to aid in navigation of the health care system, access information, liaise with medical personnel and provide transportation, economic aid and physical and emotional support for patients. In addition to the stresses of providing care, the threat of their loved one's death may require the caregiver to prepare to lose an important attachment figure of their own. Theories of anticipatory grief highlight that caregivers of those with advanced disease may experience the competing demands of having to attend more closely to the needs of their loved one while at the same time psychologically distancing themselves, as they prepare for a life ahead without the loved one (Evans 1994; Parkes 1996; Johansson and Grimby 2012). In response to these multiple and conflicting stressors, some research indicates caregivers may experience more distress than advanced cancer patients and that insecure attachment styles are a predictor of depressive symptoms in caregivers, even after controlling for objective and subjective caregiving burden (Braun et al. 2007).

The caregiving behavioural system, which complements the attachment system, describes innate behavioural patterns exhibited in response to the needs of dependents in situations of threat. Ideally, caregivers are able to flexibly respond to their loved one and manage their own attachment needs while providing support that is both sensitive and responsive (Bowlby 1982). However, one's caregiving style is influenced by one's attachment style, and, not surprisingly, attachment insecurity can complicate caregiving. Research into adult attachment relationships has highlighted that those with secure attachment are more able to demonstrate the attunement and flexibility required for effective caregiving. Individuals with more dismissing attachment are less likely to provide care or will provide care that is insensitive and controlling, while those with preoccupied attachment tend to care 'compulsively', meaning to provide care driven by their own needs and anxieties rather than care attuned to the needs of the patient (Kunce and Shaver 1994). These caregiving patterns have been demonstrated in research studying advanced cancer patient-caregiver dyads (Braun et al. 2012).

In the case of life-threatening paediatric illness, where the dyad is parent and child, there may be a more intense unavoidable dilemma as parents are stimulated to care for and protect a child they cannot shield from danger, harm and ultimately death (Kearney and Byrne 2011). Research in the paediatric setting has found secure attachment to be associated with better parental coping. Parents with more secure attachment have been found to be more 'resolved' with respect to their child's diagnosis, by which they mean that these parents display an ability to move beyond the crisis of diagnosis, balance mourning with focus on the present and achieve greater acceptance. In contrast, parents who are less securely attached may be described as 'unresolved' with respect to the diagnosis, unable to move past the crisis of diagnosis, remaining overwhelmed, angry or in denial (Marvin and Pianta 1996).

The experience of grief and resolution of grief following the death of a loved one is also likely shaped by attachment. Bowlby theorized that reorganization of one's working models was necessary for successful adaptation to the loss of an

attachment figure and rigid models of attachment that preclude change of the internal working model could lead to pathological grief reactions such as chronic mourning or prolonged absence of conscious grieving (Bowlby 1980). Similarly, contemporary grief researchers have argued that attachment shapes grief behaviours (Shear and Shair 2005; Stroebe et al. 2005). It has been hypothesized that the death of a loved one creates a parallel to a child desperately searching for an absent parent. The bereaved person is preoccupied with thoughts of the lost attachment figure and searches his or her mind and external world for representations of the attachment figure, creating the phenomena of misperceptions and believed sightings of the deceased (Shear and Shair 2005). At the same time, the anxiety created by the loss further activates the attachment system creating a 'feed forward escalation of distress' (Shear and Shair 2005).

Attachment theory has informed the dual-process model of bereavement, which describes two categories of stressors that must be dealt with following the loss of an attachment figure. The first of these are 'loss-oriented' stressors which focus on the deceased and include experiencing grief symptoms and attending to bonds with the deceased. The second of these are 'restoration-oriented' stressors which focus on the indirect consequences of bereavement and include attending to life changes and building new identities and roles (Stroebe et al. 2005). In normal grief, bereaved individuals 'oscillate' between the loss-oriented and restoration-oriented stressors, while in complicated grief this pattern is disrupted. The developers of this model suggest that chronic grief tends to be focused on the loss orientation and delayed grief on the restoration orientation, while traumatic grief involves more intense, persistent and highly aroused oscillation between these orientations. They suggest attachment styles may map on to the grief reactions described by the dual-process model. Securely attached individuals may tend to display the normal oscillative pattern, preoccupied individuals may tend to display elevated or chronic grief and the loss-focused pattern, dismissing individuals may tend to display less or delayed grief and the restoration-focused pattern and fearful/disorganized individuals may tend to display traumatic grief and the highly oscillative pattern (Stroebe et al. 2005). Some preliminary research supports the relationship between attachment styles and these grief reactions. In a study of bereaved individuals following loss of a romantic partner, a greater focus on the restoration orientation partially mediated the link between attachment avoidance and less severe grief reactions, although dual-process model variables were not found to mediate attachment anxiety and elevated grief reactions (Delespaux et al. 2013). Bereavement interventions guided by the dual-process model encourage the bereaved to embrace flexibility and shift back and forth between loss-oriented and restoration-oriented tasks (Zech and Arnold 2011).

7.3 The Health Care Provider Experience of the End of Life

Health care providers who care for dying patients are also required to provide attuned and flexible care, while at the same time preparing for the inevitability of patient death. The dilemmas experienced by health care workers may be less intense than for family caregivers but their attachment orientations nonetheless inform their

experience and behaviours when caring for dying patients. Unfortunately, medical and health care training has not traditionally focused on these concepts nor emphasized the importance of health care providers distinguishing their own emotions and needs from those of patients and families (de Haes and Koedoot 2003). Treatment decision-making and communication about end of life can be understood as relational acts informed by the attachment orientations of those involved. For health care providers, an emphasis on aggressive life-sustaining treatment for patients with life-threatening disease may be interpreted as a kind of compulsive caregiving, characteristic of preoccupied attachment insecurity. Similarly, avoidance of patients' distress, or of discussions around advanced care planning or death preparation, obfuscation in response to direct questions about prognosis and seeing support for the dying as something better managed by another service may be understood as a more dismissing stance stemming from health care providers' discomfort with emotional dependence.

7.4 Mentalizing Death

The concept of mentalizing refers to the capacity to reflect on feeling states, to distinguish them from literal facts and to accept the possibility of multiple perspectives on events (Fonagy et al. 2002) (see Chap. 9). Given the strong negative emotions generated by thoughts of end of life, death may be a concept particularly difficult to mentalize. For many patients and families, reflections on dying and death are repeatedly silenced due to the terror that emerging feelings will not be tolerable or manageable. But if mentalizing is a process associated with greater attachment security, by which we can regulate affect, use of mentalizing can be seen as an important tool for patients, families and caregivers who face terminal illness.

Much of the literature encouraging open communication around dying within health care stems from a related premise, that practical planning and the process of considering and preparing for death, in the context of a supportive health care relationship, will improve coping at the end of life. A realistic goal of these communications may not be to eradicate fears of death but to tolerate these fears and accept that they can coexist with feelings of hope, joy and contentment. In other words, the process of mentalizing may help patients and families understand and accept the normal fluctuating, shifting and multiple experiences of dying which have been described in the palliative care literature as middle knowledge (Weisman 1972), the living-dying phase (Pattison (1977) or double awareness (Rodin and Zimmermann 2008).

7.5 Attachment-Based Interventions at the End of life

Attachment can help health care providers to understand and respond more effectively to the distress and behaviours of dying patients and families seen in clinics, in palliative care or in intensive care units (Petersen and Koehler 2006; Curtis et al. 2012). This involves first and foremost acknowledging the central role of attachment-driven attitudes and behaviours, and the family as the unit of care, and recognizing

the relational aspects of treatment decision-making and advanced care planning discussions. Attachment theory highlights that in the face of the fears associated with the end of life, patients and families benefit from the secure base and safe haven of a health care provider (see Chap. 2) who is attuned and responsive to their unique needs, recognizing these may change with growing threats and new challenges.

Patients with serious illnesses are often advised to think positively and maintain hope, but for those who are afraid and for whom death is not avoidable as they become more symptomatic, these strategies cannot be maintained. Rather than insisting on such an unobtainable state of mind, the individual can be encouraged to reflect on what they are experiencing, their fears, but also their wishes. This use of mentalizing, to reframe the task of dying as one of continued adaptation, allows a health care provider to explore the internal and relational experience of a dying person or their family member, providing support without presuming what constitutes their 'good' death. Within the infant-parent dyad, mentalizing is supported when the parent mirrors distress while communicating an incompatible affect (Fonagy et al. 2002). For the patient-health care provider dyad, mentalizing can be supported when health care providers empathize with death-related distress while communicating also resilience and strength. This approach can also be employed in family meetings regarding advanced care planning. Family members can be encouraged to consider multiple perspectives on the dying process, thus facilitating discussion of fears, hopes and possibilities and avoiding the terror and isolation of silence.

Formal therapies for those facing end of life that draw on attachment theory have been developed and studied. Emotionally focused therapy (EFT), based on systemic, experiential and attachment theories, is a couple's intervention to alleviate marital distress and support reciprocal caregiving. EFT has been adapted to the advanced cancer population and shown to improve marital functioning and patients' experience of caregiver empathic care (McLean et al. 2008, 2013). Managing Cancer and Living Meaningfully (CALM) (Hales et al. 2015) is a brief, semi-structured psychotherapy for patients with advanced disease that supports affect regulation, attachment security and reflective functioning. Over the course of three to eight sessions, four central themes are explored: symptom and disease management; changes in self and relationships with close others; spirituality and sense of meaning and purpose; and the future, hope and mortality. Preliminary evidence has shown that CALM therapy provides an opportunity for cancer patients to explore their fears, to be seen in human terms by a representative of the health care team and to face the challenges and threats of advancing disease (Nissim et al. 2012). It is associated with a reduction in depressive symptoms and death anxiety and an increase in spiritual wellbeing over time (Lo et al. 2014).

A Clinical Example of the Impact of Attachment Style on End of Life Care

Carla was a 57-year-old woman diagnosed with metastatic ovarian cancer. At her first oncology clinic appointment, she cried throughout, stating repeatedly 'I don't know what I'm going to do. I'm a goner.' She described the

experience of receiving her diagnosis as highly traumatic as it took place in a busy emergency room and was communicated by an unfamiliar clinician who 'dumped' the news on her without any support. She referenced similar experiences in the past within the health care system which she felt was, overall, impersonal and uncaring. At subsequent oncology appointments, when she was not highly distressed, she would appear cheerful and optimistic stating, 'I need to focus on the positive and stay hopeful.' She described episodes between appointments in which she would suddenly feel overwhelmed by a fear of dying and required the presence of family and friends to reassure her. When the team eventually tried to discuss advanced care planning, she was adamant that she wanted to think positively and was 'hoping for a miracle'. She stated, 'I absolutely do not want to discuss referral to palliative care', and this was noted on her chart and dissuaded clinicians from broaching the topic.

Carla is an example of a patient who exhibited behaviours possibly consistent with a preoccupied attachment style. With attachment figures, such as members of the health care team, she often expressed extreme distress, an inability to cope and the need for their proximity and assurances of ongoing support. She described an internal experience of moving back and forth between avoidance of emotional material and being flooded with her death-related fears. Her inability to regulate her distress challenged her ability to engage in the tasks of living with her advanced illness while also preparing for end of life. Considering her attachment style helped her health care team support Carla. They understood the extreme expressions of distress she sometimes displayed in clinic and knew that in response she required staff presence and validation.

One thoughtful trainee who came to know Carla, having seen the warning about discussions of palliative care noted in her chart, was curious enough to inquire 'what does discussion of 'palliative care' mean to you?' This simple question was an aid to Carla's mentalizing, as it supposed that there might be multiple meanings and interpretations of a referral to palliative care. Carla was able to say that she thought this would mean the team was 'giving up' on her which was a terrifying echo of her past experiences of seemingly uncaring health care providers. Thus, it became clear that treatment decision-making was also influenced by her attachment style.

Carla was eventually referred for psychotherapeutic support from the psychosocial oncology team. A developmental history revealed she had had a father who travelled for work and was often unavailable and a mother who was loving and supportive at times but suffered from depression and anxiety which left her often incapacitated or in hospital and unable to parent Carla. Early experiences of inconsistent caregiving left her worried that attachment figures might not be available to her in times of need. In addition, she lacked the consistent attunement and modelling from attachment figures to develop mentalizing functions, leaving her, in adulthood, often unable to self-regulate

her distress. Her therapist established a supportive relationship and was eventually able to interpret Carla's pattern of relational distress as linked to her past experiences of inconsistent caregiving and her fears of being overwhelmed by emotion, which were now impairing her ability to cope with anxieties about her advancing illness. Eventually in therapy, and with her oncology team, she came to tolerate articulating her fears while also acknowledging her hopes. She agreed to a palliative care consultation and began to anticipate and plan for future care needs while also being able to enjoy the health and abilities she still retained.

Conclusion

This chapter has emphasized the distress and threats associated with end of life but also highlighted that this phase can provide opportunities for growth and psychological development. As Yalom (1980) identified in his discourse on existential therapy, death presents a boundary experience that challenges patients and families to face existential threats. He described the sense of mastery individuals may experience facing this greatest fear, via an increased focus on the present and motivation to make change rather than postpone it, the revaluing of small pleasures and the dis-identification with previously long-held problematic identities and beliefs (Yalom 1980). This idea of life-threatening illness as a time of therapeutic opportunity is supported by research demonstrating the potential for psychological growth in the context of cancer and other life-threatening illnesses (Sumalla et al. 2009). Just as at the beginning of life, threats to attachment security at the end of life challenge the attachment system, but if those challenges can be met with flexibility, stronger individuals and relationships may emerge.

References

Bowlby J (1980) Attachment and loss: vol. III. Loss: sadness and depression. Basic Books, New York

Bowlby J (1982) Attachment and loss: vol. I. Attachment. Basic Books, New York

Braun M, Mikulincer M, Rydall A, Walsh A, Rodin G (2007) Hidden morbidity in cancer: spouse caregivers. J Clin Oncol 25:4829–4834

Braun M, Hales S, Gilad L, Mikulincer M, Rydall A, Rodin G (2012) Caregiving styles and attachment orientations in couples facing advanced cancer. Psychooncology 21:935–943

Chochinov HM, Hack T, McClement S, Kristjanson L, Harlos M (2002) Dignity in the terminally ill: a developing empirical model. Soc Sci Med 54:433–443

Curtis JR, Ciechanowski PS, Downey L, Gold J, Nielsen EL, Shannon SE, Treece PD, Young JP, Engelberg RA (2012) Development and evaluation of an interprofessional communication intervention to improve family outcomes in the ICU. Contemp Clin Trials 33:1245–1254

Delespaux E, Ryckebosch-Dayez AS, Heeren A, Zech E (2013) Attachment and severity of grief: the mediating role of negative appraisal and inflexible coping. Omega (Westport) 67:269–289
de Haes H, Koedoot N (2003) Patient centered decision making in palliative cancer treatment: a world of paradoxes. Patient Educ Couns 50:43–49
Ellis J, Lin J, Walsh A, Lo C, Shepherd FA, Moore M, Li M, Gagliese L, Zimmermann C, Rodin G (2009) Predictors of referral for specialized psychosocial oncology care in patients with metastatic cancer: the contributions of age, distress and marital status. J Clin Oncol 27:699–705
Evans AJ (1994) Anticipatory grief: a theoretical challenge. Palliat Med 8:159–165
Fonagy P, Gergely G, Jurist E, Target M (2002) Affect regulation, mentalization, and the development of the self. Other Press, New York
Ganzini L, Goy ER, Dobscha SK (2009) Oregonians' reasons for requesting physician aid in dying. Arch Intern Med 169:489–492
Gladjchen M (2004) The emerging role and needs of family caregivers in cancer care. J Support Oncol 2:145–155
Grunfeld E, Coyle D, Whelan T, Clinch J, Reyno L, Earle CC, Willan A, Viola R, Coristine M, Janz T, Glossop R (2004) Family caregiver burden: results of a longitudinal study of breast cancer patients and their principal caregivers. CMAJ 170:1795–1801
Hales S, Zimmermann C, Rodin G (2008) The quality of dying and death. Arch Intern Med 168:1–7
Hales S, Zimmermann C, Rodin G (2010) The quality of dying and death: a systematic review of measures. Palliat Med 24:127–44
Hales S, Lo C, Rodin G (2015) Managing cancer and living meaningfully (calm) therapy. In: Holland JC, Breitbart WS, Jacobsen PB, Lederberg MS, Loscalzo MJ, McCorkle R (eds) Psycho-oncology, 3rd edn. Oxford University Press, New York
Hunter MJ, David PJ, Tunstall JR (2006) The influence of attachment and emotional support in end-stage cancer. Psychooncology 15:431–444
Johansson AK, Grimby A (2012) Anticipatory grief among close relatives of patients in hospice and palliative wards. Am J Hosp Palliat Med 29:134–138
Kearney JA, Byrne MW (2011) Planning with parents for seriously ill children: preliminary results on the development of the parental engagement scale. Palliat Support Care 9:367–376
Kunce LJ, Shaver PR (1994) An attachment-theoretical approach to caregiving in romantic relationships. In: Bartholomew K, Perlman D (eds) Attachment processes in adulthood. Advances in personal relationships, vol 5. Jessica Kingsley Publishers, London
Lewis MJ (2007) Medicine and care of the dying: a modern history. Oxford University Press, New York
Lo C, Lin J, Gagliese L, Zimmermann C, Mikulincer M, Rodin G (2010) Age and depression in patients with metastatic cancer: the protective effects of attachment security and spiritual well-being. Aging Soc 30:325–336
Lo C, Hales S, Zimmermann C, Gagliese L, Rydall A, Rodin G (2011) Measuring death-related anxiety in advanced cancer: preliminary psychometrics of the death and dying distress scale. J Pediatr Hematol 33(Suppl 2):S140–S145
Lo C, Hales S, Jung J, Chiu A, Panday T, Rydall A, Nissim R, Malfitano C, Petricone-Westwood D, Zimmermann C, Rodin G (2014) Managing Cancer And Living Meaningfully (CALM): a phase 2 pilot study of a brief individual psychotherapy for patients with advanced cancer. Palliat Med 29:238–242
Marvin RS, Pianta RC (1996) Mothers' reactions to their child's diagnosis: relations with security of attachment. J Clin Child Psychol 25:436–445
McLean LM, Jones JM, Rydall AC, Walsh A, Esplen MJ, Zimmermann C, Rodin GM (2008) A couples intervention for patients facing advanced cancer and their spouse caregivers: outcomes of a pilot study. Psychooncology 178:1152–1156
McLean LM, Walton T, Rodin G, Esplen MJ, Jones JM (2013) A couple-based intervention for patients and caregivers facing end-stage cancer: outcomes of a randomized controlled trial. Psychooncology 22:28–38

Nissim R, Freeman E, Lo C, Zimmermann C, Gagliese L, Rydall A, Hales S, Rodin G (2012) Managing Cancer And Living Meaningfully (CALM): a qualitative study of a brief individual psychotherapy for individuals with advanced cancer. Palliat Med 26:713–721
Parkes CM (1996) Bereavement. Studies in grief in adult life. Routladge, London
Pattison EM (1977) The experience of dying. Simon and Schuster, New York
Petersen Y, Koehler L (2006) Application of attachment theory for psychological support in palliative medicine during the terminal phase. Gerontology 52:111–123
Rodin G, Zimmermann C (2008) Psychoanalytic reflections on mortality: a reconsideration. J Am Acad Psychoanal Dyn Psychiatry 36:181–196
Rodin G, Walsh A, Zimmermann C, Gagliese L, Jones J, Shepherd FA, Moore M, Braun M, Donner A, Mikulincer M (2007) The contribution of attachment security and social support to depressive symptoms in patients with metastatic cancer. Psychooncology 16:1080–1091
Saunders C (1987) I was sick and you visited me. Christ Nurse Int 3:4
Shear K, Shair H (2005) Attachment, loss, and complicated grief. Dev Psychobiol 47:253–267
Stewart AL, Teno J, Patrick DL, Lynn J (1999) The concept of quality of life of dying persons in the context of health care. J Pain Symptom Manage 17:93–108
Stroebe MS, Schut H, Stroebe W (2005) Attachment in coping with bereavement: a theoretical integration. Rev Gen Psychol 9:48–60
Sumalla EC, Ochoa C, Blanco I (2009) Posttraumatic growth in cancer: reality or illusion? Clin Psychol Rev 29:24–33
Tan A, Zimmermann C, Rodin G (2005) Interpersonal processes in palliative care: an attachment perspective on the patient-clinician relationship. Palliat Med 19:143–150
Vogel L (2011) Dying a “good death”. CMAJ 183:2089–2090
Weisman A (1972) On dying and denying: a psychiatric study of terminality. Behavioral Publications, New York
Yalom ID (1980) Existential psychotherapy. Basic Books, New York
Yalom ID (2009) Staring at the sun: overcoming the terror of death. Jossey-Bass, San Francisco
Zech E, Arnold C (2011) Attachment and coping with bereavement: implications for therapeutic interventions with the insecurely attached. In: Neimeyer RA, Harris DL, Winokuer HR, Thornton GF (eds) Grief and bereavement in contemporary society: bridging research and practice. Routledge, New York

Part III

Interventions

On the Floor with C and L

8

Jonathan Hunter and Robert Maunder

The most common context for consultation-liaison psychiatry, often abbreviated as CL, is the general hospital medical or surgical inpatient ward. It is here that the 'C' in CL includes responding to colleagues' requests and questions, generating diagnoses and suggesting psychiatric strategies to manage symptoms and difficulties. This work requires a broad foundation of psychiatric competence. For instance, the consultation-liaison psychiatrist needs to be able to recognize delirium in all its forms, distinguishing hypoactive delirium from depression, or seeing beyond the obstreperous behaviour of a non-compliant patient recovering from surgery to recognize that the resistance is a fearful response to disorientation to person and place.

The best consultation-liaison work goes beyond these medically focused presentations, however, to the 'L' of collaborating with multidisciplinary teams to improve patient care, and especially modifying interactions between a patient and his or her hospital environment to bolster coping and to help the patient to meet the adaptive challenges posed by disease and its treatment (Hunter et al. 2007). A CL psychiatrist can often help to ensure that patients facing these challenges get the right care, for example, advocating for a patient so that interpersonal tensions that arise between the patient and health-care providers neither results in premature discharge motivated by frustration nor over-investigation because of contagious anxiety. An attachment perspective adds value to many of these interventions. To understand how, we will examine the typical challenges that arise for patients and clinicians with each attachment style. Much of this material has been derived from clinical experience and should be taken as a starting point for testing hypotheses in clinical research and for generating interventions in one's own practice that fit with the clinical context and the people involved.

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8.1 The Secure Patient

Beth ignored the pain in her knee for several months, presuming it was related to the constant bending and squatting that was required for her toddler's care. However, once the pain started keeping her up at night, she made an appointment to see her family doctor. Beth's doctor also started with the impression that the pain was due to musculoskeletal strain. However, because Beth was a very reliable patient, who rarely complained of health concerns unnecessarily, he decided to order an X-ray. The X-ray revealed a tumour that looked malignant, possibly an osteogenic sarcoma, so he quickly referred Beth to the local cancer centre, where she was admitted for an open biopsy and treatment planning. The oncologists' work-up revealed several pulmonary metastases. Suddenly, Beth was confronted by the very real possibility that she could die of cancer.

The treatment team appreciated how shocking and sudden this news was for Beth and wanted to help this young woman with an active baby and concerned spouse in any way they could, so they asked the psychiatrist to see her. They met and the psychiatrist determined that Beth had little psychiatric history, other than some generalized anxiety that flared up for her from time to time. She had no trouble conveying what her life had been like up to that point, although she did tear up and stumble for words a bit when she told the story of the death of her father, just before her baby was born. After a brief pause she regained her composure and accepted the psychiatrist's offer of a low-dose sleeping medication to help her manage the long nights in the hospital. Beth then asked if there was a team member who could see her husband, as she could tell he was very scared, but didn't want to worry her with his fears.

Secure attachment is the most favourable position from which to address adversity and so is rarely, in itself, the cause of management problems. A description of a secure patient's response to health challenges, however, provides a contrast for the descriptions of patients with insecure attachment styles which will follow. The secure patient experiences relatively little attachment anxiety or avoidance (see Fig. 2.2). This means that Beth finds it easy to trust the members of the treatment team and also has confidence in her own ability to manage challenges. Her clinical situation maybe dire, but the treatment team is unlikely to experience her as interpersonally difficult.

From the perspective of attachment functions, an individual with secure attachment like Beth has strong narrative coherence. She describes her history with a clear timeline and a listener can readily identify and distinguish the various characters in her story. Misunderstandings are temporary and easily clarified, and when moments

of strong affect (the death of her father) introduce some incoherence, the thread of the narrative isn't lost. She is also effective at mentalizing, appreciating her own state of mind and also what members of her family, or even members of the treatment team, may be thinking and feeling. Beth may be sad or worried, but her affect is within expected bounds of intensity and feels congruent with her circumstances. Even when she is angry, an individual with secure attachment is typically able to address the issue in a way that invites one to join in solving the problem rather than to defend oneself or acquiesce. A health-care provider is likely to feel a pull to help and support. These are the patients for whom a team often willingly goes the extra mile.

A consultation-liaison psychiatrist who is called to consult on a patient with secure attachment can often respond to the reason for referral directly, without having to take extra steps to account for interpersonal dynamics. If the patient has a psychiatric illness, it can be managed in a typical fashion. Health-care providers will usually find it unproblematic to support the patient and her family in coping with their adaptation to her illness. Helping the team to metabolize an unhappy outcome can be accomplished with typical liaison strategies, such as multidisciplinary team rounds. In all, a consultation with a secure individual, and the associated liaison with the team, proceeds in a clear, forthright manner, even if the situation is medically unfavourable or complex.

8.2 The Preoccupied Patient

Ahmed has presented repeatedly to the emergency room with severe abdominal pain. He has a history of inflammatory bowel disease, so his complaint can't be dismissed, but his history of present illness is hard to follow and the details of his pain are difficult to understand. The junior resident that sees him isn't actually sure how many admissions Ahmed's had or even who acts as the 'Most Responsible Physician', because Ahmed has seen several gastroenterologists over the last several years and is following advice from them all, albeit in a piecemeal, fragmented fashion. Eventually the resident decides to admit Ahmed to hospital, thinking that it is better to be safe than sorry. After all, Ahmed's current care is inadequate and it will be helpful to determine the degree of inflammation in his bowel and organize a cogent plan for treatment. When the resident tells Ahmed that he will be admitted, Ahmed weeps and thanks him so profusely that the resident goes from feeling good about his decision to being slightly embarrassed. The nurses on the floor curtly tell him he should've asked them before admitting Ahmed, because Ahmed has been there frequently and doesn't benefit from hospitalization.

An adult with preoccupied attachment experiences intense attachment anxiety. His internal working model predicts that others will respond inconsistently or reject him, and he fears being alone. This combination generates hyperactivated

attachment signalling in a desperate attempt to gain and hold the attention of the caregiver, which he has learned will waver otherwise. This style of interpersonal communication is based on developmental precedents and so is not readily modified by the actual behaviour of others in the here-and-now. His perception of others' attitudes, based more on his expectations than on current observations, demonstrate poor mentalizing.

From the preoccupied patient's perspective, the point of reporting his history is to keep the listener engaged and committed to sticking with him, rather than to communicate his medical problem clearly. Not surprisingly, intense affect and inattention to details that identify individuals and clarify timelines make the narrative incoherent. Although a health-care worker may be flooded with detail, it is hard to organize these fragmented facts into a timeline or determine their significance. Dramatically expressed affect typically creates strong interpersonal pulls. Although initially health-care providers feel drawn to provide support (as the junior resident did when assessing Ahmed for the first time), unrelenting neediness often results in distancing or rejection (as it has done for the nurses who are more familiar with Ahmed). When others distance themselves, it elicits more abandonment anxiety, which amplifies fear and increases the incoherence of his narrative. The scene is set for escalating tension between the patient and health-care workers and ultimately an unrewarding interaction.

In hospital, a typical consult request for a preoccupied patient like Ahmed emphasizes that the team experiences him as difficult, primarily because of his persistent signalling of need and inability to be reassured. Ahmed presses the call bell frequently, importunes staff with a variety of needs, and settles only briefly when he is seen. His anxiety and incoherence challenges the communication that is required to receive hospital care. It can be difficult to obtain a clear history and health-care providers may even be uncertain whether or not he has provided fully informed consent for treatment. If the preoccupied patient is angry, a health-care worker can be drawn into identifying with him in such a way that overzealous advocacy for the patient raises tensions with other team members. Alternatively, the health-care worker may identify with the aggressor in the patient's story and feel pulled to minimize the legitimacy of the patient's complaint. Within a health-care team, these opposing interpersonal pulls provide a set-up for splitting, as some team members take the patient's side of the story, while others see him as 'too needy'.

The role of the consultation-liaison psychiatrist or mental health clinician in this instance is to recognize the patient's underlying attachment insecurity and the extent of his fear, in order to reduce the negative impact of the patient's maladaptive, but automatic, coping style. Intervening here requires work with both Ahmed and the team caring for him.

8.2.1 Helping the Patient

The critical step in providing hospital care for a preoccupied patient like Ahmed is to recognize his need for someone to provide a *safe haven* function. In the absence of a family member who serves this need, Ahmed may search desperately for a

substitute, imposing his need for a safe haven on a succession of health-care providers. Although others can serve this function, a mental health clinician is often best equipped to provide acceptance and solace (consistent with a safe haven) and simultaneously to appreciate that Ahmed cannot trust a person in that role, at least not initially, even if support is effectively provided. In order to feel more secure, a preoccupied individual needs to learn that he is in a safe place with care providers who will be consistent and predictable. A CL psychiatrist can help the team to provide the desired consistency and support by helping the patient to 'turn down the volume' on his attachment signalling.

This view leads to a simple, attachment-informed formulation that can be presented to both the patient and the treatment team in the same terms: The patient's fear that he will be abandoned and inadequately supported in his illness has led him to maintain an almost constant distress signal, and, as reasonable as that is from the perspective of his past experience, it is maladaptive in the hospital. This is because responding to poorly defined but intense distress and neediness actually distracts health-care workers from the tasks that will most help the patient.

A first priority in correcting this difficult situation is to collaboratively generate—with the treatment team, the consultation-liaison team, and Ahmed—a strategy to manage, and hopefully reduce, the patient's hyperactivated attachment signalling. The preoccupied patient's internal working model drives him to plead for support and contact, all the more so when he is scared, in pain, or left alone, which are common experiences when ill in hospital. This behaviour is not available for interpretation and explanation, because it occurs precisely during a non-reflective frame of mind, driven by fear, in which automatic enactment of the internal working model schemata takes precedence over learning.

Since interpretation is unhelpful, a consultation-liaison psychiatrist in this situation turns to a behavioural intervention. The goals are to pre-empt the distress call and to break the contingency by which declaring distress is linked to receiving care. So long as that contingency exists and is reinforced, a preoccupied patient will continue to signal distress excessively. To break the contingency, a team member, often the nurse, needs to approach the patient to provide care without respect to the distress signal, typically on a schedule of frequent, brief interactions. So, rather than only seeing the patient when the call bell is pushed and progressively withdrawing from him as his neediness increases, the staff member arrives in the room with high consistency, independent of (and often prior to) the request for attention, every 30 minutes, for instance. When the patient calls in between these 'appointments', the nurse is obliged to check but defers all but the most urgent care to the next scheduled time. Eventually, even during a brief hospitalization, patients can learn that staff responds reliably, and from that reassured position can become less demanding. When that happens, positive social reinforcement by the staff, such as spending more time with the patient when he is calm than when he is distressed, strengthens the more adaptive behaviour. Of course, acute medical and surgical issues need to take appropriate precedence if they arise.

This formulation also requires that we provide clear role definitions for different people to the patient, especially given the large number of staff encountered in a

typical hospitalization. Ahmed's fear precludes the thoughtful reflection about staff that would allow him to realize that someone who was supportive yesterday is assigned to different patients today and so is no longer available. Telling Ahmed who his 'primary' nurse is at the beginning of each shift, for example, can help him to seek help from the right person, rather than calling out indiscriminately. The individual filling this role may change, but the function of the role remains constant. Ahmed can then be redirected to his primary nurse, rather than to a particular person. Empathically appreciating how his fear impairs mentalizing, one can essentially provide structure that accommodates to his present incapacity, decreasing the need for Ahmed to have cognitive flexibility that is beyond his capacity when stressed.

Arguably, the most important role assignment is the person who helps Ahmed with coping and managing his emotions. Ahmed can and should use a mental health professional to regulate his emotional distress and allow the other health-care workers to focus on their primary jobs, such as performing investigations, dispensing medications or planning treatments. Other clinicians can then defer discussion of upset feelings to the next visit of the mental health clinician. It is more consistent, and therefore more effective, to have one designated staff take the lead in managing the emotional distress.

As the staff member primarily focused on mental distress, a mental health clinician conveys consistency, positive regard and competence, to maximize his or her utility as a safe haven and reduce Ahmed's fear. For instance, one schedules contacts in a more consistent way than is typical of much consultation-liaison work, in order to maximize reliability. Given that a preoccupied patient may be disabled by fear, it is also helpful to use other behavioural and pharmacological strategies to reduce anxiety. For instance, benzodiazepines, given judiciously during hospitalization, preemptively before a threatening procedure, or to sleep at night, can allow for Ahmed to experience his fear as manageable. Simple meditative or relaxation techniques can often be taught with positive impact and carry the helpful embedded message that Ahmed can manage some distress on his own, and so move him in the direction of greater independence. Interestingly, one often encounters an anecdote from the patient's personal history that indicates that he has a greater capacity to cope than he realizes. Reframing such an episode as evidence that Ahmed can be competent and strong (helping him self-mentalize accurately by appreciating that he underestimates his own capacity) can lay the foundation for more self-directed and active coping.

In one-to-one sessions, the mental health clinician empathizes with Ahmed's fears, rather than attempting to correct his perception in a misguided attempt to reduce distress. A patient such as Ahmed will often experience well-meaning efforts to correct his perceptions as an indication that he has been misunderstood and his concerns have been minimized and invalidated. The mental health clinician's job is not, at least initially, to convince Ahmed to see the situation differently but to recognize that his need to have someone close by overwhelms his capacity to thoughtfully reflect on the facts at hand. Given that Ahmed is likely to have experienced insufficient empathetic attunement in the past, one works to demonstrate ongoing interest,

concern, and accurate empathy. Appreciating the difficulty of Ahmed's dilemma and reframing his behaviour as an understandable attempt to recruit help contribute to the therapeutic alliance that is required for any effective psychotherapeutic contact. When achieved, this alliance allows one to help Ahmed by regulating affect and increasing trust.

8.2.2 Helping the Team

Effective and reliable liaison is crucial. Ahmed's intense neediness is provocative and evokes different reactions from different team members. Often, team members have not reflected upon these reactions, which may match the patient's in intensity. Consider team members in this situation to be 'pulled' by the patient's distress and therefore challenged in their ability to regulate their own affect. The mental health clinician's task is therefore to provide a *secure base* function for the team—essentially providing the security and constancy that allows team members to detoxify their reactions. When a mental health clinician provides the team with a formulation, he or she models mentalizing. Essentially we contain, explain, and reduce the team's reactions to the patient. Providing clarity around role expectations puts team members solidly back in the realm of their professional competency, which reduces their anxiety about responding to the unclear yet intense needs expressed by Ahmed. This helps the team diminish enactments that will drive Ahmed's fear and hyperactivated signalling even higher.

In our hands, the interprofessional position that works best when dealing with a team caring for a preoccupied patient is one of 'coaching'. The coaching perspective prevents the mental health clinician from becoming perceived as either a heroic rescuer of either Ahmed or the team or a higher authority who is failing the team by not ridding them of the troublesome patient. It allows everyone's professional expertise to be acknowledged and respected, maintains a team approach to the management of Ahmed and tends to avoid evoking a power hierarchy that can further entrench unhelpful reactions.

Simple suggestions, such as a coach might make to a skilled athlete, especially around communication, can allow the team to regain their sense of mastery. For instance, it is routinely helpful to have a designated medical person communicate with the patient in a predictable manner. This needs to be someone who has the regard of the team, and enough seniority and understanding of the illness and hospital protocols, that they can make simple decisions in conversation with the patient. Typically this role is filled by the senior resident. However, decisions should be discussed beforehand within the team to ensure that uncertainty or second guessing will not undermine the safe haven function that is being provided for Ahmed. The discussions that lay out clinical findings and plan next steps should occur collaboratively with Ahmed, his family, and relevant members of the team present in order to have less confusion and increased consistency of messaging. These strategies of intra-team collaboration, transparency, and open communication reduce the

opportunity for splitting and reassure Ahmed that the treatment 'family' is cohesive and reliable, in contrast to his family of origin.

Given the tension present among team members, the team leader asked a consultation-liaison psychiatrist to see Ahmed. Ahmed was reluctant because in a previous admission a different psychiatrist told him he was depressed and needed to take a drug, but wasn't able to reassure Ahmed about possible interactions between the medication and his inflammatory condition that Ahmed feared would be toxic. That doctor had simply dismissed his fears and told Ahmed not to worry about what he'd read on the Internet.

On this occasion, the consultation-liaison psychiatrist took over an hour carefully listening to Ahmed before asking questions that focused on Ahmed's perception of his illness and on his own strengths and vulnerabilities much more than they did on his symptoms of depression and anxiety. The psychiatrist seemed sympathetic, and she wondered aloud about how he had managed such an unpredictable illness as well as he had for so long, only coming into hospital in the last year of his 15-year-long course. Ahmed was left feeling a bit perplexed by how different the interview had been, but better by the end of their talk.

The psychiatrist came back after an hour, as she had promised. She had met with the doctors and nurses in the nursing station and recommended a meeting with his other doctors and representatives from nursing and social work, to see if they could all plan out, with Ahmed, how long he would be in the hospital, what would happen on this stay and how they could best address his top concerns and not just 'run a bunch of tests'. That night Ahmed was able to take the sleeping pill she had suggested, watch TV and slept most of the night, even though he had some bad cramps.

8.3 The Dismissing Patient

Fong hadn't been to a doctor for several years and had lost touch with her previous family doctor. Recently, she had been working long days since she went out on her own as a consultant, trying to get a new business off the ground. She attributed her fatigue to the long hours and thought her ankle

swelling was because of all the walking she was doing to solicit clients. By the time she became short of breath, Fong had trouble getting to the emergency room. She was triaged quickly to an examination room, even though she protested that she was 'just a little tired'. It became clear she was in acute kidney failure and would need an admission for a thorough work-up and at least a short course of dialysis. Fong responded to this news with sceptical protest and eventually silent withdrawal.

Whereas a preoccupied patient has a fear of abandonment, the internal working model of a dismissing patient like Fong predicts that expressions of need or weakness are likely to be met with shaming, humiliation, disapproval or indifference from others. A dismissing patient's developmental experience has taught her that the best way to obtain others' support is to diminish overt distress and appear to be self-reliant. She minimizes exposing herself to health-care providers by offering an abbreviated history of present illness, and especially of personal history, compared to the secure individual. The dismissing individual guards against communicating vulnerability by giving few details and by speaking in cliché's and generalities, rather than mentalizing accurately about what the health-care worker needs to know in order to help her. Her narrative becomes incoherent because of its lack of detail, its inattention to the relevance of individuals and its reliance on conventional, clichéd expressions. Affect is typically over-regulated, with little emotional depth. When disagreement occurs with health-care providers, a dismissing patient's finely argued criticism of the institution or the care provided may hint at underlying anger or a need for control.

Self-reliance and refusing to complain are often seen as virtuous, so dismissing patients may not be perceived as difficult patients. However, when an individual who privileges self-determination is obligated to acquiesce to a hospital system that presumes compliance, even with inefficiencies like long waiting times or constantly changing staff, conflicts can occur. Should such a person have the misfortune of developing a chronic condition that requires ongoing care, she will find it hard to maintain her preferred strategy of independence, without undermining good medical care. At such times, clinicians may experience a pull to distance themselves from a dismissing patient who is experienced as non-collaborative.

The mental health clinician who is called into a situation like this needs to help the team with a patient who is caught between the opposing pulls of obligatory care, due to illness, and obligatory independence, due to her internal working model. Fundamentally, the patient's internal working model's emphasis on independence is directing her to behave maladaptively in the current context. This patient does not have the flexibility of the secure patient to accommodate to the new environment that illness imposes. Helpful strategies can once again be divided up into those that address the patient directly and those that optimize team functioning.

8.3.1 Helping the Patient

An attachment-based formulation recognizes that Fong is likely to be as scared as anyone else would be in her situation, even if she has learned not to show it. Furthermore, although she does not ask for help because it activates an expectation of being humiliated or disappointed, Fong is in a challenging position and can benefit from support, as long as that support can be offered in a manner that avoids shame.

To accomplish this goal, the following strategies are useful. First, a mental health clinician seeks to maintain Fong's identity as a strong and capable person (i.e. her identity in the community rather than her identity as a patient). This can serve to reassure Fong that she is not perceived as 'weak' even though she is in the hospital. Addressing Fong by her title, deferentially asking for permission to speak with her and sitting down in order to avoid taking a physically dominant position all telegraph one's respect and preclude her need to reassert her authority. Second, involving Fong as an equal partner in planning demonstrates respect for her self-determination. This may mean some 'inefficiency' in planning, as a patient may take some time to arrive at a conclusion, but rushing her is likely to be experienced as overpowering, and can lead to resistance or non-adherence. Third, realizing that Fong's internal working model makes expressions of need unlikely, one should schedule follow-up appointments with clarity and reliability, rather than suggesting that she only return when she feels the need. With inpatients, negotiate with the person a fixed schedule for medications and avoid prn or 'as needed' dosing of pain or anxiolytic drugs, as the same automatic behaviour of non-complaint tends to lead to under-use of required medication. Fourthly, it is often helpful to describe necessary interventions as the quickest route back to independence. Re-framing unpleasant procedures in this way can diminish power struggles and uses the patient's drive for independence in the service of completing medical procedures, rather than interfering with them.

8.3.2 Helping the Team

Fong's need to assert independence in a way that makes her less cooperative with ward procedures typically creates a struggle with the team, and health-care workers may enact an interpersonal pull to withdraw from Fong by becoming less engaged in her care. If she is critical and angry, some staff may be pulled to a submissive position while others may match her aggression, and patient care will suffer as a result.

The formulation that Fong values independence highly and is scared and stressed by her current illness can render her more understandably human in the eyes of staff. A well-chosen vignette of personal strength in a context of lack of support, if known from Fong's developmental history, can serve the same goal. Once Fong is experienced as a multidimensional individual with both strengths and maladaptive behaviours, health-care staff can relate to her with less fear, defensiveness or

dismissiveness. There is a mentalizing task here for staff as well: if they understand the intent of the patient's criticism is to defend herself from an internal sense of inadequacy and shameful neediness, than the barbs are less likely to be taken personally and the pull to distance oneself from her is diminished.

Ultimately the hospital remains a provocative setting for patients with dismissing insecurity. Advocating for the soonest medically appropriate discharge removes the patient from a conflict as quickly as possible and can be taken as a 'good faith' gesture that contributes to a therapeutic alliance. Ground given at the start of the doctor-patient relationship, by diminishing the obligation to conform to hospital systems in a way that activates a self-perception of dependency, often leads to an increased alliance in the long haul of a chronic condition. Modelling respect, concern, patience, and tolerance can be utilized in the future for the good of Fong, as she is helped to negotiate the tough task of adapting to an illness that limits her capacity to be as self-reliant as she would prefer.

Fong was quickly labelled a tough patient on the ward, complaining about the poor cell phone reception, stating 'I'm trying to run a business here, you know', and disparagingly pointing out inefficiencies and inconsistencies to her nurse. She insisted on going to the bathroom on her own, making the 24-h urine collection unreliable, even though the need for it was explained to her.

It didn't take long before the team asked consultation-liaison psychiatry to see her, but they 'forgot' to tell Fong the consultation was pending, so she reacted with alarm when the psychiatrist arrived. They got past that, but Fong was guarded enough that the history obtained, although factually accurate, was short, lacking in detail and without any emotional colour. Fong framed her kidney disease as simply a pragmatic problem to be solved and didn't see what role psychiatry could play in her care. It took less time than usual to do the consult, but the psychiatrist stated that two assessment appointments were standard care and that he would return the next day.

On that occasion Fong was a little more at ease, and the psychiatrist took a position that although Fong didn't have a psychiatric disorder and was obviously a self-reliant and capable person, there might be some things he could suggest to make her time in hospital as brief and tolerable as possible. This led to a plan that they worked on together, wherein Fong structured some of her day the way she wanted, kept her street clothes on, and saved her venting about the inevitable inefficiencies of hospital care for her visits with the psychiatrist. It became clear to Fong that she wasn't being seen as 'weak', and

from that vantage point she was able to accept some more direct personal advice from the psychiatrist, much in the way one might appreciate input from a veteran business colleague. Her capacity to tolerate the ward procedures grew, and the staff was able to find some common ground with her as she became less prickly.

When she was discharged she agreed to return to the psychiatrist as an outpatient in order to figure out how she would manage her need for ongoing dialysis. The suggestion that being able to do her own peritoneal dialysis to keep her as independent as possible and less restricted than hemodialysis seemed likely to be the direction they would pursue.

8.4 The Disorganized/Fearful Patient

When Maria saw that she was bleeding again, her heart caught in her throat. She knew this was the kind of thing she should go to the doctor for, but every time she tried to go to the family practice clinic, she found the pace of the office overwhelming, and the rushed physician was impatient with her stumbling over her story. It always ended up with the doctor insisting on an internal examination anyway, and Maria just couldn't tolerate that, so she fled before the exam happened.

The bleeding didn't stop however, so she took herself to the emergency room, figuring that dealing with a stranger was preferable than seeing her family doctor again. The triage nurse was impatient too, but the medical student who saw her seemed kind and got her an ultrasound instead of an internal. She calmed down enough to agree to come into the hospital because the student told her she would feel much better after some blood transfusions.

Maria didn't get to see that student again, however. Making matters worse, the other patient in Maria's room wandered around at night, muttering to herself. Maria didn't know what to say to her, but she was afraid the confused woman would come over to her bed, so she didn't sleep even though she was exhausted. When she asked the nurse for help, he told her 'Oh, that's just the

way Edith is' so Maria snapped at him about being unhelpful and went to spend the night in the patient lounge. At that point, Maria stopped talking to any staff, even if they offered to help her, because she knew none of them cared. The first call the charge nurse made after hearing about this at morning report was to the psychiatry consult service.

Although disorganized or fearful attachment is the least common pattern in the general population, patients with these styles typically account for a great deal of the work of consultation-liaison psychiatry because they are so distressed and so distressing when they are ill. Recall that the developmental experience of these patients is that they were likely to have had a frightening or frightened parent (Lyons-Ruth et al. 1999) and as a result grew up in a an environment that felt unpredictable and unsafe. The developmental experience of fear without solution (Lyons-Ruth and Jacobvitz 2008) has left a person with this attachment style without a consistent strategy to have their attachment needs met, and when those needs are amplified by pain, illness or disability, they are in a terrible bind—they need help, aren't clear about how to get it and can't trust care providers not to harm them. Historically, the unmanageable intensity of Maria's affect has frequently led to the use of external regulators of affect, such as drugs, alcohol, overeating and sexual activity, all of which confer significant disease risks in and of themselves. This means that the very individuals who carry a substantial risk of requiring hospital care are most challenged by it.

The constant state of threat preoccupies Maria when she is physically well but becomes overwhelming when she feels further compromised by illness. Her hypervigilance limits interpersonal interaction to scanning for threat. She has no capacity to mentalize about others beyond categorizing them as safe or unsafe, and she is biased towards understanding them to be unsafe. Maria's ability to regulate affect is not well developed and so she experiences intense and unpredictable states of emotion, including flashes of anger, in a way that health-care workers find mysterious at best and upsetting at worst. The lack of a consistent strategy for achieving attachment goals leads to a fraught interpersonal experience for everyone involved. Patients such as Maria may manifest the clinginess of the preoccupied patient or the aloofness of the dismissing patient or convey both behaviours almost simultaneously or even rapidly alternate between these states. Given the overlap between disorganized/fearful attachment and consequences of developmental trauma, it may also be heuristically useful to keep in mind a 'trauma triangle' in which it is understood patients may occupy, or project onto others, the roles of victim, perpetrator or rescuer, often inconsistently, with overlapping or alternating attributions (Herman 1992). Interpersonally this combination of intensity and inconsistency is highly activating for the hospital staff and pulls for extreme reactions, which can be as changeable as the patient's internal state of mind.

Fundamentally, standard health care presumes that a reliable feedback loop exists between providers and patients. For example, health-care workers assess a

condition, give a pain medication, and ask the patient for its effectiveness, trusting that the response can be used as an accurate reflection of the impact of the medication. It is precisely this loop that is disrupted with the disorganized/fearful patient; Maria is simply too scared to respond reliably from a reflective place. Her response is as likely to be determined by a reactivated fear as it is by the pharmacological activity of the medicine. Therefore, a basic assumption of hospital care is no longer accurate; the communication with our patient has become unreliable, on the basis of hypervigilance for threat.

The result is that hospitalizations become an inevitable reenactment of a chaotic interpersonal storm, which both Maria and ward staff will find challenging to contain and manage. This is a context that requires high consultation-liaison activity, in order for both the patient and the staff to maintain their focus on the necessary medical or surgical goals. Responding to the needs of Maria as a mental health clinician requires compensatory flexibility, high presence and activity and assumption of some key responsibilities, in order to keep the intense affect and the equally intense responses it generates under control.

8.4.1 Helping the Patient

There is always a role for direct, supportive patient contact, but the likelihood of establishing shared goals and a strong therapeutic alliance with a disorganized/fearful patient over the course of an often-brief hospitalization is lower than with other patients. She may simply be too scared to achieve the reflective frame of mind that a collaborative, therapeutic discussion requires. Even if this is the case, a consultation-liaison psychiatrist cannot let the chaos prevent an adequate psychiatric assessment, as patients like Maria are at increased risk for other psychiatric disorders, including posttraumatic stress disorder, substance use, personality disorders, suicidality and self-harm (Bakermans-Kranenburg and van Ijzendoorn 2009; Levy 2005). The consultation-liaison psychiatrist strives to understand these vulnerabilities and accepts responsibility for managing them. Direct work with Maria should often focus on the here-and-now (e.g. asking ‘what can we do together to help you feel safer?’) because dwelling on developmental experiences is more likely to activate fear or memories of trauma. Rather, it is helpful to see the primary (and possibly only) goal as increasing perceived security, working with Maria to reduce the sense of threat that undermines her functioning in the hospital. For instance, if Maria finds a shared room intolerably provocative of past trauma, one can helpfully advocate for a single room, on the basis of specific psychiatric need, not as an entitlement.

8.4.2 Helping the Team

The majority of the management with patients like Maria is with the staff. One strives to help the team maintain an approximation of their normal functioning, notwithstanding the intensity of Maria’s presentation. Because the psychological and interpersonal issues are too far outside the purview of medical-surgical ward

staff to manage constructively, active mental health team liaison, support and containment are required. In our setting the availability of a psychiatric nurse clinical specialist to consult with their medical-surgical nursing colleagues to provide guidance and mentorship has been invaluable in refining ward procedures ad hoc to aid staff in supporting patients like Maria.

The crucial message to convey to staff is a reminder of their fundamental competence, as it is typically undermined by the no longer reliable feedback loop with the patient, coupled with the intense abrupt swings of affect. The advice to 'adhere to our usual excellent standard of care' is typically experienced by a medical-surgical team as a helpful reminder of their core competence and grounds them back in the expert role in which they can feel more secure and thereby function more consistently and reliably.

In order to help them tolerate the difficult behaviour, it is also helpful to offer an explanatory model for Maria's behaviour—not because one is encouraging them to deal with Maria psychotherapeutically, but rather to help them access empathy for a difficult and disruptive patient. The helpful formulation here is that Maria has been previously so badly mistreated that she is preemptively attacking, to prevent the harm that she anticipates is inevitable. This is akin to the behaviour of a mistreated dog that will snap at any hand that reaches out to it, regardless of benign or even kind intent. Maria's behaviour is therefore acknowledged to be difficult and upsetting and at times in need of containment for everyone's safety. However, Maria should not be blamed for the mistreatment she suffered in the past, but rather kindly and safely contained so she can acquire the health care she deserves, even when she is frightened, hypervigilant and defensive. Ultimately, admission will remain a disturbing context for the disorganized/fearful patient, and once again a planned, safe but rapid discharge is often indicated, to extract them from a threatening environment.

It is important to recognize that distancing with anger, as portrayed here, is only one of many ways that one can express the conflicting interpersonal strategies and emotions that are the essence of fearful or disorganized attachment. Some patients who are more fearful present a different set of challenges. These individuals may also delay seeking care until they have to come to the emergency department, but their fear is then so overwhelming that they adopt a withdrawn, frightened, passive position in response to almost all interpersonal contact. The team must work to convey to a patient in this state that the situation is safer than the patient perceives it to be. Much of this effort depends on strategies designed to build trust. It usually is helpful to limit the number of staff involved, which allows the patient to concentrate on developing a few important treatment relationships. Additionally, procedures should be fully explained and made as predictable as possible, to prevent sudden, rushed or unanticipated events that will activate a fearful patient's hypervigilance for further threats. For example, this is a situation where it is harmful to offer the false assurance 'this won't hurt a bit' before a painful procedure. Lastly, the team may be seen as more trustworthy if it is collaborating (or at least endorsed) by trusted members of the patient's community contacts, such as close family members, friends or clergy. Individuals with fearful or disorganized attachment will almost inevitably experience the hospital as a high stress environment, so when it is

safe to do so, early discharge to the safe haven of their own home, with the support of community health-care workers, may be a better alternative for some.

Maria was as reluctant to speak with psychiatry staff as she was with the nurses, so the psychiatrist offered to try and help her with some basic needs until they could talk at more length. Maria did express a wish to have a vegetarian breakfast rather than the food she had been sent, so that was arranged. Simultaneously the psychiatry clinical nurse specialist debriefed the nurses, and an impromptu team meeting led to a pretty clear understanding of Maria as likely to be a disorganized/fearful person. The consultation-liaison team was able then to organize an approach to her care with the multidisciplinary team, minimizing the number of individuals she had to deal with and giving her clear information about the plan for the day and why she needed blood drawn, etc. After another night, this time in a single room, Maria was more settled and was able to provide the psychiatrist with a brief description of her abusive childhood, the domestic violence she had recently extracted herself from and her overall distrust of hospitals, amplified by the apprehension by Children's Aid of her baby when it was born. Social work met with her to maximize her access to benefits and adequate shelter, in an attempt to increase the security of her living arrangements in the community. Daily team meetings were held to ensure everybody was fully informed of the plan and that Maria did not get confusing or conflicting information.

The gynaecology team was able to establish that Maria required a hysterectomy for a suspicious uterine mass. Maria was actually not surprised by this and asked for the surgery to happen as soon as possible. The surgical and psychiatric team advocated for her being considered an emergency case, on the basis of the strain she felt in hospital and the likelihood of her leaving against medical advice should her treatment be delayed. Maria was able to be discharged home 4 days after she presented to the emergency room, having had definitive surgical treatment. Although offered, it was unclear if she would return for follow-up.

8.5 Summary

This chapter details the individual and team approaches suggested by an attachment framework for patients with different attachment styles (summarized in Table 8.1). Across the categories, certain principles are consistently found:

Table 8.1 The variations in aspects of attachment-related behaviours and processes that are associated with secure, preoccupied and dismissing styles of attachment (derived from Maunder and Hunter 2009)

	Secure attachment	Preoccupied attachment	Dismissing attachment
Attachment signalling and behaviour	Signalling is context-dependent, based on positive expectations about the responsiveness of others, and appropriate self-confidence – Interpersonal flexibility – Realistic appraisal of circumstances	Hyperactivated signalling leads to intense expressions of neediness and clinging behaviour – Poor self-confidence – Inflexible, hard to sooth – Prone to catastrophizing	Deactivated signalling leads to diminished expressions of need, even if in difficult circumstances – Conveys self-reliance and independence – Inflexible, doesn't appear to need soothing
Narrative coherence	Narrative is coherent – Clear identification of people and roles – Timelines make sense – Nuanced, complex descriptions of others – Specific examples that aptly illustrate generalizations	Narrative is incoherent – Intense affect and urgency obscure facts, timelines and identities – Many words, few conclusions	Narrative is incoherent – Communication is used to close down enquiry rather than to explain self – Use of conventional descriptions and clichés – Few words, little affect – Conclusions are presented with sparse evidence and few examples
Mentalizing	Able to reflect on one's own state of mind – Identifies mixed feelings and inconsistent beliefs – Internal experiences perceived as subjective Able to appreciate others' states of mind – Recognizes that others' intentions may differ from behaviour – Recognizes the limits on ability to understand others – Expresses concern for others	Poor sense of one's own mind and the minds of others – Presumption that the other is inconsistently attentive and desires separation – Impaired sense of how much detail or organization a listener needs to appreciate speaker's state of mind	Tends to convey that reflection is unnecessary or pointless – Incurious about intentions – Overreliance on observable behaviour

(continued)

Table 8.1 (continued)

	Secure attachment	Preoccupied attachment	Dismissing attachment
Affect regulation	Soothes self effectively using both support of others and internal resources – Rarely overwhelmed by affect for long; re-equilibrates effectively – Appropriately assertive. Expresses anger and will engage in problem solving	Emotion is intense and unregulated – Has a quality of desperation – The perceived source of emotional comfort is located in the other person – Anger can be intense, with self frequently depicted as a victim	Appears to have well-controlled or over-controlled affect – Vital signs or insomnia may suggest unexpressed tension or fear is present – Denies need for comfort from another. Perceived source of consolation is self
Interpersonal pulls	Flexible – Easily affiliates – Promotes cooperation – Negotiates conflicts, power-differentials without excessive hostility or passivity	Intensely affiliative – Pulls for responsiveness – Health-care provider may feel frustrated or withdraw when responsiveness does not reduce appeals for support Passive or submissive – Pulls health-care provider to increase activity as rescuer or by taking (punitive) control	Non-affiliative, distancing – Pulls for non-affiliation. Health-care provider may feel there is little need for care Dominant – May lead to 'butting heads' when relationship is obligatory, such as during hospital stay

Note. Fearful and disorganized attachment is not included in this table because attachment-related behaviours and processes are inconsistent in these patterns of insecure attachment. In general both hyperactive signalling and deactivation of signally are present, and narrative coherence and mentalizing are maximally impaired in fearful and disorganized attachment

1 Understanding patient behaviour in the hospital from an attachment perspective provides the clinician with a rapid formulation that increases understanding of individuals and their behaviour. Patients stressed by illness and hospitalization are understood to be functioning from a position of insecurity and fear, which leads them to manifest characteristic attachment behaviour. For insecure patients, this behaviour, albeit adaptive in their developmental years, is a poor fit with the hospital environment and does not increase security, rendering their behavior maladaptive.
2 This formulation helpfully and quickly organizes responses to the individual, directly and via liaison, that can contain the negative consequences of the archaic attachment behaviour driven by the internal working model, and increase the likelihood of more adaptive behaviours occurring.

3 The goal is not to change the attachment style, but to work creatively within its limitations to find the best possible strategies for this patient, in this circumstance, at this time.
4 Understanding the patient is in a position that promotes feeling insecure and that the team is in a situation that reduces their capacity to provide care can lead the mental health clinician to provide attachment functions, such as providing a secure base and safe haven, and promote functions that enhance feeling secure, such as mentalizing or affect regulation, in order to diminish the patient's need for less adaptive attachment behaviour.
5 Attachment theory provides one explanatory model and language that can be used with staff, the patient and the family, due to the absence of pejorative terms. This increases transparency and de-pathologizes individuals struggling with fear and a lack of security.

References

Bakermans-Kranenburg MJ, van Ijzendoorn MH (2009) The first 10,000 adult attachment interviews: distributions of adult attachment representations in clinical and non-clinical groups. Attach Hum Dev 11(3):223–263, available from: PM: 19455453

Herman J (1992) Trauma and recovery. Basic Books, New York

Hunter JJ, Maunder RG, Gupta M (2007) Teaching consultation-liaison psychotherapy: assessment of adaptation to medical and surgical illness. Acad Psychiatry 31:367–374

Levy KN (2005) The implications of attachment theory and research for understanding borderline personality disorder. Dev Psychopathol 17(4):959–986, available from: PM: 16613426

Lyons-Ruth K, Jacobvitz D (2008) Attachment disorganization: genetic factors, parenting contexts, and developmental transformation from infancy to adulthood. In: Cassidy J, Shaver PR (eds) Handbook of attachment: theory, research and clinical applications, 2nd edn. Guilford, New York, pp 666–697

Lyons-Ruth K, Bronfman E, Parsons E (1999) Atypical attachment in infancy and early childhood among children at developmental risk. IV. Maternal frightened, frightening, or atypical behavior and disorganized infant attachment patterns. Monogr Soc Res Child Dev 64(3):67–96, available from: PM: 10597543

Maunder RG, Hunter JJ (2009) Assessing patterns of adult attachment in medical patients. Gen Hosp Psychiatry 31(2):123–130

An Integrative, Attachment-Based Approach to the Management and Treatment of Patients with Persistent Somatic Complaints

9

Patrick Luyten and Peter Fonagy

Many patients seen in clinical practice present with fatigue and pain-related problems either as a primary complaint or secondary to medical or psychiatric conditions (Fischhoff and Wessely 2003). These complaints are often labeled as *psychosomatic* or *somatoform*. However, these terms inappropriately emphasize the primacy of psychological factors or attributions in the causation of these disorders. They are also based on obsolete models of the relationship between body and mind and often rightfully meet with resistance in patients (Dimsdale et al. 2013; Luyten and Van Houdenhove 2013; Luyten et al. 2013). For the same reason, the notion of "medically unexplained syndromes" is not really helpful for most patients, particularly because a wide range of biological and psychosocial factors have been shown to be involved in the etiology and pathophysiology of these syndromes. The introduction in DSM-5 of the category of somatic symptom disorder (SSD) represents a major leap forward in this area (Dimsdale et al. 2013), although its definition still emphasizes disproportionate cognition and affect of the patient with regard to his or her symptoms; these may in fact not always be that disproportionate as they may reflect an understandable response to persistent and often insufficiently understood symptoms. The notion of functional somatic disorders (FSDs) is often used in this context, and to good avail, as patients with these conditions show dysregulations of neurobiological systems and neural circuits involved in fatigue and pain processing, dysregulations which may become chronic. For clinical purposes, it may be

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preferable simply to refer to these patients as *patients presenting with persistent somatic complaints that have not responded to treatments and/or that have been insufficiently understood*.

Patients presenting with these problems are often considered to be difficult to treat, but it is important to realize that this patient group is very heterogeneous. Furthermore, as we will argue in this chapter, current evidence-based treatments often do not adequately take into account existing knowledge concerning interpersonal and attachment issues in the treatment of these disorders; this is not only of psychological importance, as there is an intrinsic relationship between stress regulation and the attachment system. In this chapter, we present an integrative, broad attachment-based approach to the understanding, management, and treatment of these disorders.

Recent research on stress has led to renewed attention to the importance of early adversity and later stress in these patients. This research has also led to a new focus on what clinicians often find to be the most important issue for many of these patients – their interpersonal problems, both in relationships with significant others and with healthcare professionals. Contemporary attachment theory provides a theoretical framework that not only helps us to understand these issues but, more importantly, also provides important leads with regard to management and intervention. The take-home message of this chapter is that contemporary attachment theory helps us to understand these patients better. This helps us to establish a better relationship with these patients, which in turn leads patients to better understand what is happening to them. This greatly increases adherence to treatment, with consequent effects on the course of the patients' presenting problems and how they influence their lives.

This chapter begins by outlining a broad attachment-based approach to these patients. We focus on three specific features of patients who present with persistent somatic complaints: (a) attachment issues; (b) problems related to (embodied) mentalizing, that is, the capacity to reflect on their own embodied self and others; and (c) problems with epistemic trust – the capacity to trust others as a source of knowledge about the world and, in particular, about their presenting problems. We then discuss the implications of this attachment-based approach for intervention, considering general management principles as well as more specialized treatment approaches that have evolved from a base of contemporary attachment approaches.

9.1 Classification and Diagnosis

The disorders that can be considered to be FSDs comprise a wide variety of conditions affecting different body systems, which may be seen by healthcare professionals in different medical specialties. These conditions include, but are not limited to, chronic fatigue syndrome (CFS; internal medicine), fibromyalgia (rheumatology), irritable bowel syndrome (IBS; gastroenterology), chronic pelvic pain (gynecology), noncardiac chest pain (cardiology), tension headache (neurology), hyperventilation syndrome (respiratory medicine), and multiple chemical sensitivity (internal

medicine) (Fischhoff and Wessely 2003; Wessely and White 2004). There is considerable controversy regarding whether these disorders are indeed distinct entities or represent different presentations of a common functional somatic syndrome and whether they are caused purely by biological factors or by a combination of biological and psychological factors. These debates, which are based more on ideological than scientific arguments, have done little to improve our knowledge of the etiology, course, and treatment of the FSDs.

While the disorders listed above have different characteristic presentations, there is considerable evidence to suggest that the FSDs are not individual isolated disorders. There is both high comorbidity among these disorders and high familial coaggregation (i.e., it is relatively common to find members of the same family showing symptoms of the same or different FSDs) (Aggarwal et al. 2006; Anda et al. 2006). In addition, the high comorbidity between FSDs and affective disorders such as depression and anxiety (Arnold et al. 2006; Pae et al. 2008) has led to the suggestion that the FSDs are also part of a spectrum of affective disorders (Hudson et al. 2003, 2004; Hudson and Pope 1996).

Taken together, FSDs are highly prevalent. The prevalence of FSDs in the general population is estimated to be 4 %, and up to 9 % of patients in tertiary care present with more than one FSD (Bass and May 2002). For individual disorders, estimates of prevalence range between 0.5 and 2.5 % for CFS (Afari and Buchwald 2003; Reeves et al. 2007), approximately 5 % for fibromyalgia (Branco 2008; Lawrence et al. 2008; Spaeth 2009), and as high as 11.2 % for IBS (Lovell and Ford 2012). The true prevalence of the FSDs remains unknown, as they are diagnosed on the basis of consensus diagnostic categories. However, the medical, economic, and psychosocial costs associated with these disorders are known to be significant (Afari and Buchwald 2003; Annemans et al. 2008, 2009; Sicras et al. 2009; Spaeth 2009).

Current evidence-based treatments for FSDs lead to improvements in core symptoms and general functioning (Hauser et al. 2009; Malouff et al. 2008; NICE 2007; van Koulil et al. 2007). However, treatment has only limited benefit in a relatively large number of patients, particularly in those whose symptoms are most severe (Luyten et al. 2009; Van Houdenhove and Luyten 2007, 2008). We consider that an attachment-based approach to the management and treatment of these patients may be most helpful as it offers a comprehensive approach that takes into account the biological, psychological, and social/contextual factors that have been implicated in the development and course of these disorders.

9.2 A Contemporary Attachment-Based Approach to FSD

9.2.1 Introduction

There is now good evidence to suggest that FSDs are associated with often severe stress dysregulation as a result of complex interactions between genetic and environmental factors (Ablin et al. 2012; Heim et al. 2009; Tak and Rosmalen 2010). This leads to a state of *allostatic load* (McEwen 2007), which disrupts the dynamic

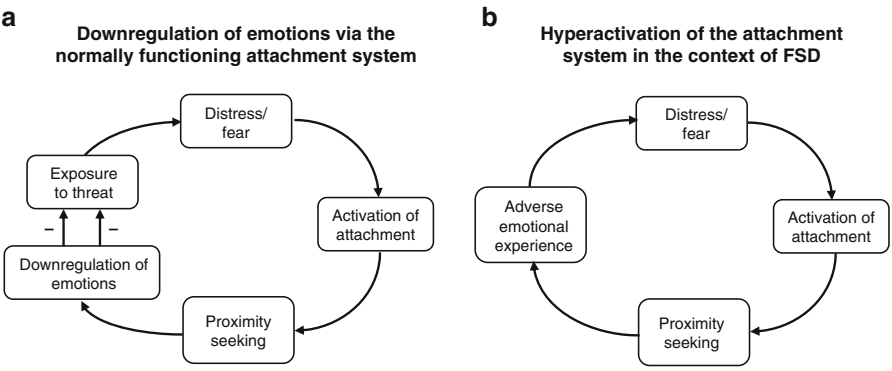

Fig. 9.1 The relationship between the attachment and stress regulation systems

equilibrium that normally characterizes stress regulation systems and related neurobiological systems such as the immune and pain-regulating systems. This is expressed in dysfunctions of the hypothalamic–pituitary–adrenal (HPA) axis – the main stress regulation system – that are typically associated with FSDs (Heim et al. 2009; Powell et al. 2013; Tak and Rosmalen 2010; Van Houdenhove et al. 2013). Immune system dysfunctions are often apparent as abnormal inflammatory activity. Proinflammatory cytokines have been shown to play a role in feelings of lethargy, increased stress and pain sensitivity, mild fever, and cognitive problems (e.g., loss of concentration) – the so-called "sickness response" that is typically observed in many FSD patients (Dantzer et al. 2008; Watkins and Maier 2005).

The disturbance of allostasis and accompanying biological and subjective responses represent a serious burden to the individual and his/her relationships, particularly as their complaints are often met with suspicion or disbelief by others, including health professionals. The individual's experience of the physical and psychological symptoms of FSD and the associated distress activate his/her attachment system; this is a biologically pre-wired system that has a key role in the regulation of stress and affect and the restoration of allostasis. Activation of the attachment system involves seeking proximity to attachment figures, which, when achieved successfully, typically leads to effective downregulation (see Fig. 9.1). However, in the context of FSD, in which the complaints may be persistent and often lack a clear explanation of cause or prospect of cure, the normal process of co-regulation of stress and arousal in attachment relationships easily spirals out of control. This breakdown is often further reinforced by the inability of health professionals to provide relief, particularly when these professionals respond insufficiently to the emotional needs, and needs for validation in particular, of patients with these complaints.

As a result, these patients have to resort to excessive use of so-called secondary attachment strategies, that is, stress or affect regulation strategies that are used when normative stress regulation fails. These strategies involve hyperactivation or deactivation of the attachment system (or a combination of both) in response to stress. As

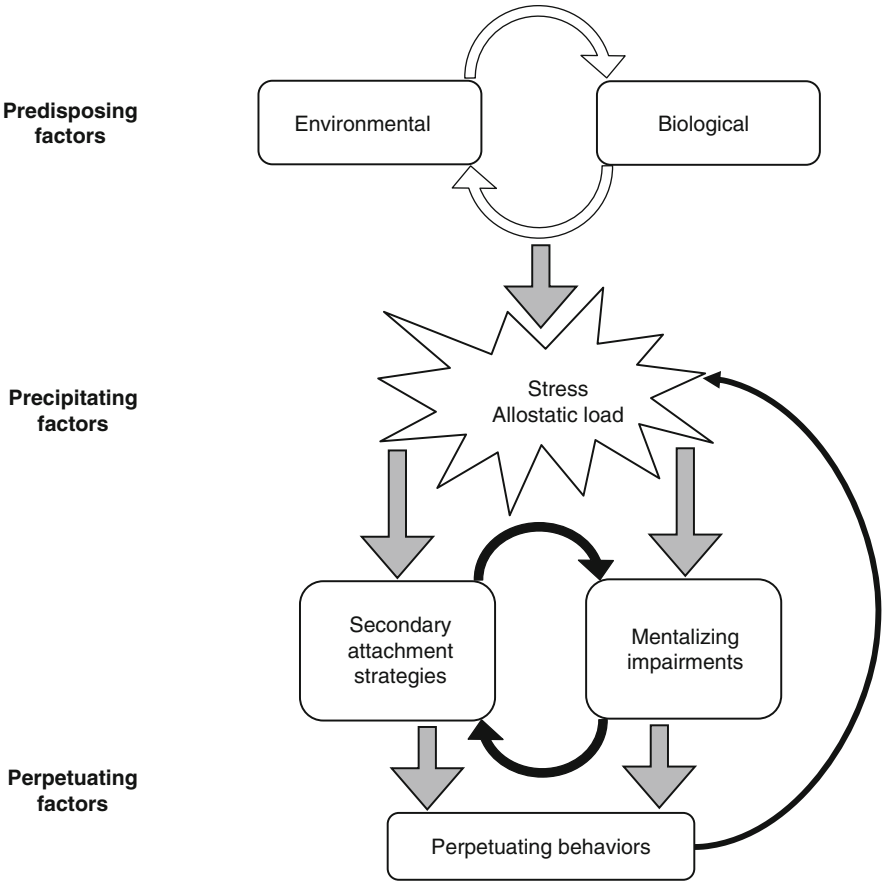

Fig. 9.2 Putative roles of attachment problems and mentalizing impairments in individuals with functional somatic disorders

we will explain in more detail below, these strategies lead to further stress dysregulation because, as well as their high associated metabolic costs, they are associated with impairments in mentalizing – the capacity to interpret the self and others in terms of intentional mental states (i.e., feelings, wishes, desires, goals, etc.) – with consequent interpersonal costs, as these strategies give rise to (interpersonal) behaviors that perpetuate complaints.

The end result, particularly in patients whose symptoms have become chronic, is a severe state of stress dysregulation and allostatic load, high symptomatic distress, serious impairment in mentalizing capacities, and considerable interpersonal problems (see Fig. 9.2). Repeated experiences of invalidation also lead to a state of epistemic distrust, characterized by an almost complete distrust of the medical profession, which may explain the "difficult to treat" character of many of these patients. As we will argue, however, these patients are not so much "difficult to treat" as "difficult to

reach" because of their repeated experiences of invalidation. Hence, their distrust of health professionals reflects an understandable strategy, rather than a deficit or unwillingness to be treated or to be open to other perspectives.

Importantly, these patients' attachment and mentalizing problems were not necessarily present premorbidly, but may often be a result of persistent somatic complaints and continuing allostatic load. Of course, some patients with FSDs do have attachment and mentalizing problems before the onset of their FSD; for these patients, their symptoms and complaints and repeated experiences of invalidation further exacerbate these problems, often posing considerable challenges for management and intervention. In what follows, we discuss issues regarding attachment, (embodied) mentalizing, and epistemic distrust in relation to FSDs.

9.2.2 Attachment and FSD

Research in humans and animals has amply demonstrated the key role that secure attachment experiences play in the development and regulation of the stress system. The attachment system has direct effects on both the subjective and the neurobiological stress response (Gunnar and Quevedo 2007). These findings are of central importance for FSDs because, as we describe above, stress dysregulation is a common feature of these disorders.

Attachment theory allows a deeper understanding of these patients' responses when faced with stress and affect dysregulation. Increasing distress may activate different strategies in the individual in an attempt to deal with this dysregulation, depending on the individual's attachment history.

An individual with a *secure attachment strategy* typically seeks proximity to attachment figures (either real or internalized), which results in downregulation of stress. Stress regulation thus always involves the co-regulation of stress in relation to attachment figures (Diamond et al. 2003; Luyten et al. 2015; Sbarra and Hazan 2008). This process has a strong neurobiological basis, involving, for instance, the neuropeptide oxytocin, which is known to have a key role in fostering attachment and regulating stress (Fonagy and Luyten 2009; Neumann 2008). Activation of the attachment system leads to (a) activation of a mesocorticolimbic, dopaminergic "reward" system (Insel and Young 2001), (b) downregulation of neuroendocrine stress regulation systems (the HPA axis and sympathetic nervous system), and (c) activation of neural systems that have been found to be involved in mentalization (Fonagy and Luyten 2009; Lieberman 2007). These include the lateral and medial prefrontal cortex, lateral parietal cortex, medial parietal cortex, medial temporal lobe, and rostral anterior cingulate cortex.

High mentalizing capacity, particularly when an individual is under high levels of stress, has been associated with resilience (Fonagy et al. 1994). This association seems to operate through so-called "broaden-and-build" (Fredrickson 2001) cycles of attachment security, in which feelings of secure attachment and agency, and effective stress and affect regulation ("build"), "pull" the individual into more adaptive environments ("broaden"), further fostering feelings of agency, trust, and

security (Hauser et al. 2006; Mikulincer and Shaver 2007). In summary, secure attachment experiences, through their (neurobiologically) rewarding nature, reinforce affiliative behavior and mentalizing and so foster the ability to regulate stress.

However, when an individual is faced with ongoing distress – as is typical in patients with persistent somatic complaints – even secure attachment strategies will eventually tend to fail, leading to the excessive use of secondary attachment strategies in an attempt to downregulate stress and arousal. There is good evidence to suggest that at least a subgroup of patients with FSD has a history of insecure and often severely disrupted attachment (Afari et al. 2014; Borsini et al. 2014; Kempke et al. 2013; Luyten et al. 2006; Maunder and Hunter 2008; Waller and Scheidt 2006). Early adversity has been shown to be associated with greater vulnerability to stress-related symptoms in both animals (Champagne and Curley 2009; Neumann 2008) and humans (Bakermans-Kranenburg et al. 2008; Gunnar and Quevedo 2007). However, as noted earlier, not all patients with FSDs have a history of insecure attachment experiences or early adversity that might be responsible for premorbid mentalizing impairments. Rather, many patients' overreliance on secondary attachment strategies, and their impairments in mentalizing, may be a consequence of the disorder; for other patients, existing problems with attachment and mentalizing may be exacerbated by the experience of FSD. This has important implications for the treatment of these individuals (Luyten et al. 2012b; Luyten and Van Houdenhove 2013).

Clinical experience and research findings suggest that, in an attempt to cope with their distress, some patients begin to rely excessively on *attachment-deactivating strategies*. These patients will often completely deny any attachment needs and will assert their autonomy and attempt to demonstrate independence and strength (Cassidy and Kobak 1988; Mikulincer and Shaver 2007). However, while these individuals may appear to be independent and resilient, this is a cover for their vulnerability (Van Houdenhove and Luyten 2008). Studies suggest that the use of attachment deactivation strategies is often found in individuals who also show high levels of self-critical perfectionism and associated features such as persistence, overactivity, and so-called "all-or-nothing" behavior (Creed 2007; Luyten et al. 2011). These features reflect defensive attempts to affirm the self and soothe negative introjects. There is increasing evidence to suggest that these features are also related to FSD in a subset of patients (Luyten et al. 2011).

The tendency to use attachment-deactivating strategies is associated with considerable interpersonal and metabolic costs in the long term. These strategies – in particular, those associated with high levels of self-critical perfectionism – have been shown to lead to increasing isolation and loneliness (Mikulincer and Shaver 2007), while suppression of distress is associated with increasing allostatic load, which eventually results in hypoactivity of the HPA axis as a consequence of the "wear and tear" of chronic stress (Hill-Soderlund et al. 2008; Miller et al. 2007; Wirtz et al. 2008), and impaired immune system function (Gouin et al. 2009). In addition, under increasing stress, attachment-deactivating strategies tend to progressively fail, resulting in heightened feelings of stress and insecurity (Mikulincer et al. 2004).

In some patients, particularly those with a history of serious early adversity and/or those who show features of dependent or borderline personality disorder comorbid with their FSD, *attachment-hyperactivating strategies* are predominant. These strategies manifest as anxious efforts to find support and relief from an attachment figure, often through demanding, clinging, and claiming behavior (Waller and Scheidt 2006). As for deactivating strategies, attachment-hyperactivating strategies are associated with high interpersonal and metabolic costs. Demanding behavior often leads to frustration and antipathy in others, which confirms the individual's worst fear of being misunderstood and rejected. This pattern is not restricted only to close attachment figures: the patient's relationships with (mental) health professionals tend to show a similar pattern. As a consequence, the "broaden-and-build" cycles that would promote resilience and feelings of security are inhibited. There is no effective downregulation of distress, and allostatic load increases (McEwen 2007). This leads to a vicious cycle, as these patients tend to respond to increased stress and anxiety with even greater reliance on attachment-hyperactivating strategies in an attempt to find relief, support, and understanding from others (Maunder and Hunter 2008; Maunder et al. 2006).

9.2.3 Embodied Mentalizing and FSD

Attachment issues provide only a partial explanation of the presenting symptoms and complaints of patients with FSDs.

The symptoms of the disorder and the resulting excessive use of secondary attachment strategies in patients with FSD also have a negative effect on patients' mentalizing abilities. This leads to the (re)emergence of nonmentalizing modes (see Fonagy et al. 2002) that in turn lead to behaviors that further perpetuate symptoms and exacerbate problems in interpersonal relationships (see Fig. 9.2). As we noted earlier in this chapter, mentalizing impairments are often a consequence of FSD or are exacerbated by the distress and interpersonal problems associated with the disorder.

Indeed, FSD symptoms can be perceived as an "attack" from within on the individual's capacity to reflect, particularly on the individual's capacity to see the body as a "lived body" that he/she owns, a body that is the seat of his/her relationships with others. For instance, Driver (2005) described the "otherness of the illness" in patients with CFS, in whom this "otherness" led to regressive fears and fantasies. Schattner et al. (2008) reported that it is common for patients with a chronic illness to treat the illness as an "internal object" that the patient perceives as a constant threat that needs to be negotiated with and soothed. As we described earlier, chronic somatic complaints increase stress, which further impair and/or exacerbate impairments in (embodied) mentalizing. This is consistent with studies showing an inverse relationship between stress and mentalizing (Fonagy and Luyten 2009; Luyten et al. 2012a).

Earlier formulations focused on these patients' high levels of alexithymia (i.e., problems with being aware of and describing emotions) (Pedrosa Gil et al. 2008a, b;

Subic-Wrana et al. 2010). However, evidence suggests that only a fairly small proportion of patients with FSD (15–22 %) show clinically elevated levels of alexithymia and lack of emotional awareness (Pedrosa Gil et al. 2008a, b; Waller and Scheidt 2006). Furthermore, these features are not specific to FSD, but appear to reflect the effects of trauma and emotional neglect experienced by these individuals in early life. Hence, although patients with these issues are often seen in tertiary care, their premorbid deficits in mentalizing cannot be generalized to all patients with FSD. However, it is important not to underestimate the impact of FSD (and negative responses to the patient by their attachment figures and health professionals) on mentalizing, as many of these patients are caught up in vicious interpersonal cycles for many years, often compounded by issues such as loss of the ability to work.

The mentalization-based approach that we propose suggests that, rather than being generally "alexithymic," patients with FSDs often have impairments in (embodied) mentalizing that are much more specific – that is, they are related to specific experiences and symptoms. Furthermore, these impairments are related to (interpersonal) situations and symptoms that result in high arousal or stress (Luyten et al. 2012c).

Clinical experience and research have shown that many of these patients interchangeably exhibit excessive mentalizing (*hypermentalizing*), expressed in apparently highly sophisticated narratives that lack any grounding in subjective experience, as well as *hypomentalizing* – that is, almost complete denial of the importance of inner mental states. In addition, many of these patients are unable to link their own emotional states to their own body, rather than showing a general "global" impairment in emotional awareness (Oldershaw et al. 2011; Stonnington et al. 2013; Subic-Wrana et al. 2010). Studies have suggested that patients with FSDs are less likely to describe physical sensations in terms of negative emotional states (Dendy et al. 2001); they are also less interoceptively accurate, particularly in contexts related to physical symptoms (Bogaerts et al. 2008, 2010). Patients with FSDs also tend to have negative beliefs about their own emotions, in particular, regarding the expression of emotions (Hambrook et al. 2011). Furthermore, they tend to show a strong need to control thoughts and feelings (Maher-Edwards et al. 2012; Rimes and Chalder 2010) rather than exhibiting "deficits" in processing emotions.

Context-specific impairments in (embodied) mentalizing lead to the reemergence of three so-called nonmentalizing modes that perpetuate the patient's symptoms and interpersonal problems (see Box 9.1).

Box 9.1. Three nonmentalizing modes in patients with functional somatic disorders and their management in therapy

Psychic equivalence mode

- Patients equate inner (mental) reality with outer reality ("mind–world isomorphism"). Because of this, the internal has the same power as the external.
- Intolerance of alternative perspectives leads to "concrete" understanding.

- Managed in therapy by the therapist avoiding being drawn into nonmentalizing discourse: validate the patient's thoughts and feelings, but suggest alternative perspectives.

Teleological mode
- Extreme exterior focus.
- Patients cannot accept anything other than an obvious, observable change or action as a true indicator of the intentions of the other.
- Managed in therapy by validation, then switch focus to how this makes the patient feel, and how these feelings are connected with current (interpersonal) problems.

Pretend mode
- Ideas form no bridge between inner and outer reality; the patient's mental world (thoughts and feelings) is decoupled from external reality.
- In extreme, may manifest as "dissociation" of thought (hypermentalizing or pseudomentalizing).
- Managed in therapy by interrupting nonmentalizing processes and moving back ("rewinding") to when the patient was mentalizing.

In the *psychic equivalence mode*, patients equate inner and outer reality. Because of this, what is thought or felt is experienced as completely real, and there is no possibility of an alternative interpretation. In patients with FSD, this mode is often accompanied by a lack of ability or desire to explore inner mental states. This is particularly the case in patients who primarily use attachment-deactivating strategies, and this may also explain these patients' difficulties in accepting help and believing that health professionals are genuinely concerned about them. In psychic equivalence mode, psychological pain and physical pain, and emotional and physical exhaustion, are equated, so that, for example, psychological pain may be experienced as bodily pain. This may help to explain the high comorbidity that has been reported to exist between pain, fatigue, and depression (Hudson et al. 2004; Van Houdenhove and Luyten 2008). This mode also underlies patients' resistance toward acknowledging the role of psychological factors in their disorder ("I am exhausted, not depressed"). One consequence of this mode is helplessness, which often arises in combination with catastrophizing ("I think there is something terribly wrong with me, so there is something terribly wrong with me [psychic equivalence], but no one pays attention [feeling of invalidation], I must have a terrible, incurable disease [catastrophizing]"). Psychic equivalence also has a negative influence on relationships: to the patient, *thinking* that others do not care means that they *actually* do not care. Being rejected hurts (Eisenberger et al. 2003), but for patients in the psychic equivalence mode often only the physical pain they feel in association with rejection seems to be real.

Finally, and importantly, in psychic equivalence mode, the patient's body starts to feel like an "alien self-part." The body is no longer felt like "me," it is

increasingly seen and felt as a dysfunctioning set of organs and systems. The patient feels under constant pressure to externalize these alien self-parts in a defensive attempt to remove painful feelings of helplessness and disintegration in an attempt to restore the coherence of the self. We are all familiar with this tendency to evacuate self-states when we can no longer bear them (e.g., when we are ill) – by complaining to others and by becoming overcritical and hypersensitive to even minor noises, for instance. The consequence is that others are made to feel what we feel; yet, when extreme, this often has a destructive influence on the patient's relationships, including relationships with health professionals.

In a *teleological mode*, the patient recognizes that mental states drive behavior, but this understanding is limited to those mental states that have clearly observable causes (i.e., observable activities that reflect rational, goal-directed behaviors and/or material causes). Many patients with FSD believe that only rational, goal-directed behaviors and actions can be effective; this belief underlies their tendency to be excessively concerned with finding objective "proof" that their illness exists. When dealing with a patient in a teleological mode, health professionals may be drawn into endless discussions about the roles of biological versus psychosocial factors as the cause of the patient's FSD.

This tendency for patients to ruminate about the causes of their disorder often leads to hypermentalizing – or "mentalization on the loose" – in an *extreme pretend mode*. In this mode of experiencing subjectivity, the relationship between thoughts and feelings and reality is typically severed. Overly analytical, cognitive, and repetitive narratives follow that lack any grounding in real affective experiences. The patient also typically is unable to switch perspectives, and attempts to switch his/her perspective are often met with fierce resistance ("I don't see why I should think about what he wants, I am the one who is ill!").

9.2.4 Epistemic Distrust and FSD

Patients with FSD are often considered to be difficult to treat (Fischhoff and Wessely 2003). We believe that this label is neither accurate nor helpful. Many patients with FSD feel severely misunderstood and stigmatized, and for good reason. In the face of their own continuing distress, for which they can find little or no relief, they are often met with disbelief and skepticism from others. Their feelings of stigma and not being understood are often reinforced by mental health professionals' use of unhelpful diagnostic labels, obsolete theories about the cause of FSDs that imply a mind–body dualism, and provision of a pessimistic prognosis (Rudich et al. 2008, 2010). Furthermore, many health professionals underestimate these patients' need for validation that their problems are both distressing and real. This further fosters the feelings of invalidation and embitterment that have been demonstrated in patients with FSDs (Blom et al. 2012; Kool et al. 2009).

Not surprisingly, these patients frequently have turbulent relationships with the health professionals treating them. The patient may cling on to a medical specialist, whom they idealize and believe to be a "last resort" who will cure them. Often, of

course, this rapidly leads to disappointment on the part of the patient and reproach. This, in turn, tends to induce feelings of contempt and rejection in the professionals treating the patient; even if these feelings are not communicated explicitly, they can be demonstrated nonverbally, for example, through facial expressions of affect (Rasting et al. 2005). These negative interaction patterns are likely to reduce the patient's response to treatment, particularly if the dynamics between patient and health professional are not appropriately addressed.

We believe that many iatrogenic effects of treatment in these patients are due to the dynamics outlined above (Luyten and Abbass 2013). We therefore believe it is crucially important for the management and treatment of patients with FSDs to understand that these patients often suffer from severe problems with *epistemic trust*. These problems may have been premorbidly present, originating from disrupted attachment experiences, and/or may arise from or be reinforced by negative relational experiences, including experiences in relationships with health professionals (Luyten et al. in press).

Epistemic trust is, in essence, the capacity to trust others as a reliable source of knowledge about the world. This capacity first develops in young children in the context of their relationships with attachment figures. Individuals who experienced attachment disruptions in early life often have problems not just with trusting others on an emotional level but also with epistemic trust. These difficulties with epistemic trust may, when severe, be expressed in cycles, from being overtrustful of others to complete epistemic distrust, expressed in *epistemic hypervigilance*. The individual is constantly on his/her guard: "Can I trust the advice or opinion of others?" Epistemic distrust is particularly prevalent among individuals with dismissive and disorganized attachment styles; these attachment styles are commonly found in patients with FSDs, as we have outlined above (Waller and Scheidt 2006). Epistemic distrust impairs patients' capacity to form a therapeutic alliance with health professionals and to accept help from others more generally. It may also explain the attitude of some of these patients toward health professionals, which can verge on paranoia.

Another facet of this distrust is patients' tendency to ruminate on what they experience as others' unwillingness to believe that they are actually ill (Van Houdenhove and Luyten 2008). Studies have shown this tendency to be related to these patients' feelings of invalidation, loneliness, and sometimes embitterment (Kool et al. 2009). Thinking in psychic equivalence mode, "I feel as if nobody cares about me and my illness, therefore nobody does care," only tends to reinforce these feelings, and this often escalates to distrust in the medical profession and even to beliefs that, as well as not wanting to help, medical professionals want to harm the patient. Restoring epistemic trust through validation and communicating understanding is therefore a prerequisite for any treatment of these patients.

9.3 Management and Treatment

Management of patients with FSDs needs to take into account three core features of these patients from an attachment perspective: (a) their overreliance on secondary attachment strategies, (b) their mentalizing problems, and (c) their difficulties with

epistemic trust. These three features, particularly when excessively present, may seriously impede the patient's ability to form a working relationship and thus is likely to reduce the benefit of any treatment.

A clinical approach that validates these patients' suffering may counter their epistemic distrust and recover their capacity to mentalize. This will open up patients' capacity to consider alternative perspectives regarding their complaints and their own developmental history and future. These are necessary prerequisites for any treatment to be successful. This is often a slow process that requires considerable empathy and tolerance of negative affect on the part of the clinician.

It is particularly important for clinicians to be constantly aware of the potential for their interventions to be iatrogenic, given how common it is for these patients to use secondary attachment strategies/nonmentalizing modes either as a cause or a consequence of their symptoms. This frequently leads to high rates of dropout and/or stormy transference and countertransference issues that are difficult to resolve even in long-term treatment (e.g., idealization–denigration cycles, regressive dependency, sadomasochistic transferences, etc.) (Luyten and Abbass 2013).

Interventions based on these and related assumptions have been shown to be effective in the treatment of these patients. A meta-analysis by Abbass et al. (2009) of 23 studies of short-term psychodynamic psychotherapy for people with FSDs (13 randomized controlled trials and 10 case series with pre–post outcome assessment) reported significant effects for physical symptoms, psychiatric symptoms, and social adjustment; these effects were maintained at long-term follow-up. Brief dynamic treatment was found to be associated with a 54 % greater treatment retention rate compared to control treatments; this suggests that this type of treatment can address many of the interpersonal issues that render these patients difficult to "reach" and treat successfully. Notably, even very brief treatments have been associated with considerable improvement. Recent research evidence also suggests that psychodynamic treatments influence the neurobiological circuits involved in stress, affect regulation, and mentalizing (Abbass et al. 2014), congruent with the views advanced earlier in this chapter.

For patients whose FSD is more severe, longer-term, multicomponent interventions may be indicated. Recently, Koelen et al. (2014) published a meta-analysis of ten randomized controlled trials and six nonrandomized trials, with a total of 890 patients receiving psychotherapy and 548 patients receiving treatment as usual (TAU). They reported that multicomponent treatment was more effective than TAU for physical symptoms ($d=0.80$ vs. 0.31, $p<.05$) and functional impairment ($d=0.45$ vs. 0.15, $p<.01$), but not for psychological symptoms ($d=0.75$ vs. 0.51, $p=.21$). Importantly, these effects were maintained at long-term follow-up.

The formulations put forward in this chapter are in line with the core tenets of more interpersonally oriented psychodynamic treatments for patients with FSDs, such as brief interpersonal psychotherapy (Guthrie et al. 1999; Sattel et al. 2012; Thomas et al. 2009) and dynamic interpersonal therapy (DIT) (Lemma et al. 2010). These treatments focus on the here and now, placing greater emphasis on *current* interpersonal issues and their relation to the patient's presenting symptoms rather than the patient's history, and focusing on the process of reflecting on the connections between interpersonal problems and symptoms. In DIT in particular, the focus

is often more on the *process* of mentalizing than the *content*, as focusing on content (e.g., the connection between the patient's presenting symptoms and interpersonal issues he/she has experienced, whether in the present or the past) often exceeds these patients' mentalizing abilities, particularly in the early stages of treatment and in patients with chronic or multiple FSDs.

Conclusions

This chapter presents a contemporary attachment-based approach to the conceptualization and management of patients with persistent somatic complaints. The central assumption of this chapter is that contemporary attachment approaches provide the clinician with a broad, evidence-based theoretical framework that helps to understand the connections between the patient's presenting problems, his/her subjective responses to these complaints, and his/her developmental history. These formulations also have clear implications for the management of these patients regardless of the specific treatment approach used – for instance, the importance of health professionals being keenly aware of the importance of distinguishing between premorbid vulnerability and the patient's response to his/her complaints and the potential for iatrogenesis in treatment, given these patients' impairments in epistemic trust and mentalizing.

References

Abbass A, Kisely S, Kroenke K (2009) Short-term psychodynamic psychotherapy for somatic disorders. Psychother Psychosom 78:265–274

Abbass A, Nowoweiski SJ, Bernier D, Tarzwell R, Beutel M (2014) Review of psychodynamic psychotherapy neuroimaging studies. Psychother Psychosom 83:142–147

Ablin JN, Buskila D, Van Houdenhove B, Luyten P, Atzeni F, Sarzi-Puttini P (2012) Is fibromyalgia a discrete entity? Autoimmun Rev 11:585–588

Afari N, Buchwald D (2003) Chronic fatigue syndrome: a review. Am J Psychiatry 160:221–236

Afari N, Ahumada SM, Wright LJ, Mostoufi S, Golnari G, Reis V, Cuneo JG (2014) Psychological trauma and functional somatic syndromes: a systematic review and meta-analysis. Psychosom Med 76:2–11

Aggarwal VR, McBeth J, Zakrzewska JM, Lunt M, Macfarlane GJ (2006) The epidemiology of chronic syndromes that are frequently unexplained: do they have common associated factors? Int J Epidemiol 35:468–476

Anda R, Felitti V, Bremner J, Walker J, Whitfield C, Perry B, Dube S, Giles W (2006) The enduring effects of abuse and related adverse experiences in childhood. Eur Arch Psychiatry Clin Neurosci 256:174–186

Annemans L, Wessely S, Spaepen E, Caekelbergh K, Caubere JP, Le Lay K, Taieb C (2008) Health economic consequences related to the diagnosis of fibromyalgia syndrome. Arthritis Rheum 58:895–902

Annemans L, Le Lay K, Taeb C (2009) Societal and patient burden of fibromyalgia syndrome. Pharmacoeconomics 27:547–559

Arnold LM, Hudson JI, Keck PE, Auchenbach MB, Javaras KN, Hess EV (2006) Comorbidity of fibromyalgia and psychiatric disorders. J Clin Psychiatry 67:1219–1225

Bakermans-Kranenburg MJ, Van Ijzendoorn MH, Mesman J, Alink LRA, Juffer F (2008) Effects of an attachment-based intervention on daily cortisol moderated by dopamine receptor d4: a

randomized control trial on 1- to 3-year-olds screened for externalizing behavior. Dev Psychopathol 20:805–820
Bass C, May S (2002) Chronic multiple functional somatic symptoms. Br Med J 325:323–326
Blom D, Thomaes S, Kool MB, Van Middendorp H, Lumley MA, Bijlsma JWJ, Geenen R (2012) A combination of illness invalidation from the work environment and helplessness is associated with embitterment in patients with fm. Rheumatology 51:347–353
Bogaerts K, Millen A, Li W, De Peuter S, Van Diest I, Vlemincx E, Fannes S, Van Den Bergh O (2008) High symptom reporters are less interoceptively accurate in a symptom-related context. J Psychosom Res 65:417–424
Bogaerts K, Van Eylen L, Li W, Bresseleers J, Van Diest I, De Peuter S, Stans L, Decramer M, Van Den Bergh O (2010) Distorted symptom perception in patients with medically unexplained symptoms. J Abnorm Psychol 119:226–234
Borsini A, Hepgul N, Mondelli V, Chalder T, Pariante CM (2014) Childhood stressors in the development of fatigue syndromes: a review of the past 20 years of research. Psychol Med 44:1809–1823
Branco J (2008) Milnacipran for the treatment of fibromyalgia syndrome: a European multicenter, double-blind, placebo-controlled trial. Eur Neuropsychopharmacol 18:S574–S575
Cassidy J, Kobak RR (1988) Avoidance and its relation to other defensive processes. In: Belsky J, Nezworski T (eds) Clinical implications of attachment. Routledge, London
Champagne FA, Curley JP (2009) Epigenetic mechanisms mediating the long-term effects of maternal care on development. Neurosci Biobehav Rev 33:593–600
Creed F (2007) Cognitive behavioural model of irritable bowel syndrome. Gut 56:1039–1041
Dantzer R, O'Connor JC, Freund GG, Johnson RW, Kelley KW (2008) From inflammation to sickness and depression: when the immune system subjugates the brain. Nat Rev Neurosci 9:46–56
Dendy C, Cooper M, Sharpe M (2001) Interpretation of symptoms in chronic fatigue syndrome. Behav Res Ther 39:1369–1380
Diamond D, Stovall-McClough C, Clarkin JF, Levy KN (2003) Patient-therapist attachment in the treatment of borderline personality disorder. Bull Menninger Clin 67:227–259
Dimsdale JE, Creed F, Escobar J, Sharpe M, Wulsin L, Barsky A, Lee S, Irwin MR, Levenson J (2013) Somatic symptom disorder: an important change in DSM. J Psychosom Res 75:223–228
Driver C (2005) An under-active or over-active internal world? J Anal Psychol 50:155–173
Eisenberger NI, Lieberman MD, Williams KD (2003) Does rejection hurt? An fMRI study of social exclusion. Science 302:290–292
Fischhoff B, Wessely S (2003) Managing patients with inexplicable health problems. Br Med J 326:595–597
Fonagy P, Luyten P (2009) A developmental, mentalization-based approach to the understanding and treatment of borderline personality disorder. Dev Psychopathol 21:1355–1381
Fonagy P, Steele M, Steele H, Higgitt A, Target M (1994) The theory and practice of resilience. J Child Psychol Psychiatry 35:231–257
Fonagy P, Gergely G, Jurist E, Target M (2002) Affect regulation, mentalization, and the development of the self. Other Press, New York
Fredrickson BL (2001) The role of positive emotions in positive psychology. The broaden-and-build theory of positive emotions. Am Psychol 56:218–226
Gouin J-P, Glaser R, Loving TJ, Malarkey WB, Stowell J, Houts C, Kiecolt-Glaser JK (2009) Attachment avoidance predicts inflammatory responses to marital conflict. Brain Behav Immun 23:898–904
Gunnar M, Quevedo K (2007) The neurobiology of stress and development. Annu Rev Psychol 58:145–173
Guthrie E, Moorey J, Margison F, Barker H, Palmer S, Mcgrath G, Tomenson B, Creed F (1999) Cost-effectiveness of brief psychodynamic-interpersonal therapy in high utilizers of psychiatric services. Arch Gen Psychiatry 56:519–526

Hambrook D, Oldershaw A, Rimes K, Schmidt U, Tchanturia K, Treasure J, Richards S, Chalder T (2011) Emotional expression, self-silencing, and distress tolerance in anorexia nervosa and chronic fatigue syndrome. Br J Clin Psychol 50:310–325

Hauser S, Allen J, Golden E (2006) Out of the woods. Tales of resilient teens. Harvard University Press, London

Hauser W, Bernardy K, Arnold B, Offenbacher M, Schiltenwolf M (2009) Efficacy of multicomponent treatment in fibromyalgia syndrome: a meta-analysis of randomized controlled clinical trials. Arthritis Rheum 61:216–224

Heim C, Nater UM, Maloney E, Boneva R, Jones JF, Reeves WC (2009) Childhood trauma and risk for chronic fatigue syndrome: association with neuroendocrine dysfunction. Arch Gen Psychiatry 66:72–80

Hill-Soderlund AL, Mills-Koonce WR, Propper C, Calkins SD, Granger DA, Moore GA, Gariepy J-L, Cox MJ (2008) Parasympathetic and sympathetic responses to the strange situation in infants and mothers from avoidant and securely attached dyads. Dev Psychobiol 50:361–376

Hudson JI, Pope HG Jr (1996) The relationship between fibromyalgia and major depressive disorder. Rheum Dis Clin North Am 22:285–303

Hudson JI, Mangweth B, Pope HG Jr, De Col C, Hausmann A, Gutweniger S, Laird NM, Biebl W, Tsuang MT (2003) Family study of affective spectrum disorder. Arch Gen Psychiatry 60:170–177

Hudson JI, Arnold LM, Keck PE Jr, Auchenbach MB, Pope HG Jr (2004) Family study of fibromyalgia and affective spectrum disorder. Biol Psychiatry 56:884–891

Insel T, Young L (2001) The neurobiology of attachment. Nat Rev Neurosci 2:129–136

Kempke S, Luyten P, Claes SJ, Van Wambeke P, Bekaert P, Goossens L, Van Houdenhove B (2013) The prevalence and impact of early childhood trauma in chronic fatigue syndrome. J Psychiatr Res 47:664–669

Koelen JA, Houtveen JH, Abbass A, Luyten P, Eurelings-Bontekoe EH, Van Broeckhuysen-Kloth SA, Buhring ME, Geenen R (2014) Effectiveness of psychotherapy for severe somatoform disorder: meta-analysis. Br J Psychiatry 204:12–19

Kool MB, Middendorp HV, Boeije HR, Geenen R (2009) Understanding the lack of understanding: invalidation from the perspective of the patient with fibromyalgia. Arthritis Care Res 61:1650–1656

Lawrence RC, Felson DT, Helmick CG, Arnold LM, Choi H, Deyo RA, Gabriel S, Hirsch R, Hochberg MC, Hunder GG, Jordan JM, Katz JN, Kremers HM, Wolfe F, National Arthritis Data Workgroup (2008) Estimates of the prevalence of arthritis and other rheumatic conditions in the United States: Part ii. Arthritis Rheum 58:26–35

Lemma A, Target M, Fonagy P (2010) The development of a brief psychodynamic protocol for depression: dynamic interpersonal therapy (DIT). Psychoanal Psychother 24:329–346

Lieberman MD (2007) Social cognitive neuroscience: a review of core processes. Annu Rev Psychol 58:259–289

Lovell RM, Ford AC (2012) Global prevalence of and risk factors for irritable bowel syndrome: a meta-analysis. Clin Gastroenterol Hepatol 10:712–721.e4

Luyten P, Abbass A (2013) What is the evidence for specific factors in the psychotherapeutic treatment of fibromyalgia? Comment on "is brief psychodynamic psychotherapy in primary fibromyalgia syndrome with concurrent depression an effective treatment? A randomized controlled trial". Gen Hosp Psychiatry 35:675–676

Luyten P, Van Houdenhove B (2013) Common and specific factors in the psychotherapeutic treatment of patients suffering from chronic fatigue and pain disorders. J Psychother Integr 23:14–27

Luyten P, Van Houdenhove B, Cosyns N, Van Den Broeck AL (2006) Are patients with chronic fatigue syndrome perfectionistic – or were they? A case–control study. Pers Individ Diff 40:1473–1483

Luyten P, Kempke S, Van Houdenhove B (2009) Treatment of chronic fatigue syndrome: findings, principles and strategies. Psychiatry Investig 5:209–212

Luyten P, Mayes LC, Fonagy P, Van Houdenhove B (2015) The interpersonal regulation of stress: a developmental framework. Manuscript in preparation

Luyten P, Kempke S, Van Wambeke P, Claes SJ, Blatt SJ, Van Houdenhove B (2011) Self-critical perfectionism, stress generation and stress sensitivity in patients with chronic fatigue syndrome: relationship with severity of depression. Psychiatry Interpers Biol Processes 74:21–30

Luyten P, Fonagy P, Lowyck B, Vermote R (2012a) The assessment of mentalization. In: Bateman A, Fonagy P (eds) Handbook of mentalizing in mental health practice. American Psychiatric Association, Washington, DC

Luyten P, Mayes LC, Target M, Fonagy P (2012b) Developmental research. In: Gabbard GO, Litowitz B, Williams P (eds) Textbook of psychoanalysis, 2nd edn. American Psychiatric Press, Washington, DC

Luyten P, Van Houdenhove B, Lemma A, Target M, Fonagy P (2012c) An attachment and mentalization-based approach to functional somatic disorders. Psychoanal Psychother 26:121–140

Luyten P, Van Houdenhove B, Lemma A, Target M, Fonagy P (2013) Vulnerability for functional somatic disorders: a contemporary psychodynamic approach. J Psychother Integr 23:14–27

Luyten P, Beutel M, Shahar G (in press) Functional somatic disorders. In: Luyten P, Mayes LC, Fonagy P, Target M, Blatt SJ (eds) Handbook of psychodynamic approaches to psychopathology. Guilford Press, New York

Maher-Edwards L, Fernie BA, Murphy G, Nikcevic AV, Spada MM (2012) Metacognitive factors in chronic fatigue syndrome. Clin Psychol Psychother 19(6):552–557

Malouff JM, Thorsteinsson EB, Rooke SE, Bhullar N, Schutte NS (2008) Efficacy of cognitive behavioral therapy for chronic fatigue syndrome: a meta-analysis. Clin Psychol Rev 28:736–745

Maunder RG, Hunter JJ (2008) Attachment relationships as determinants of physical health. J Am Acad Psychoanal Dyn Psychiatry 36:11–32

Maunder RG, Lancee WJ, Nolan RP, Hunter JJ, Tannenbaum DW (2006) The relationship of attachment insecurity to subjective stress and autonomic function during standardized acute stress in healthy adults. J Psychosom Res 60:283–290

McEwen BS (2007) Physiology and neurobiology of stress and adaptation: central role of the brain. Physiol Rev 87:873–904

Mikulincer M, Shaver PR (2007) Attachment in adulthood: structure, dynamics and change. The Guilford Press, New York

Mikulincer M, Dolev T, Shaver PR (2004) Attachment-related strategies during thought suppression: ironic rebounds and vulnerable self-representations. J Pers Soc Psychol 87:940–956

Miller GE, Chen EY, Zhou ES (2007) If it goes up, must it come down? Chronic stress and the hypothalamic-pituitary-adrenocortical axis in humans. Psychol Bull 133:25–45

Neumann ID (2008) Brain oxytocin: a key regulator of emotional and social behaviours in both females and males. J Neuroendocrinol 20:858–865

NICE (2007) Chronic fatigue syndrome/myalgic encephalomyelitis (or encephalopathy): diagnosis and management of CFS/ME in adults and children. Clinical Guideline 53. National Institute of Health and Clinical Excellence, London

Oldershaw A, Hambrook D, Rimes KA, Tchanturia K, Treasure J, Richards S, Schmidt U, Chalder T (2011) Emotion recognition and emotional theory of mind in chronic fatigue syndrome. Psychol Health 26:989–1005

Pae CU, Luyten P, Marks DM, Han C, Park SH, Patkar AA, Masand PS, Van Houdenhove B (2008) The relationship between fibromyalgia and major depressive disorder: a comprehensive review. Curr Med Res Opin 24:2359–2371

Pedrosa Gil F, Scheidt CE, Hoeger D, Nickel M (2008a) Relationship between attachment style, parental bonding and alexithymia in adults with somatoform disorders. Int J Psychiatry Med 38:437–451

Pedrosa Gil F, Weigl M, Wessels T, Irnich D, Baumuller E, Winkelmann A (2008b) Parental bonding and alexithymia in adults with fibromyalgia. Psychosomatics 49:115–122

Powell DJH, Liossi C, Moss-Morris R, Schlotz W (2013) Unstimulated cortisol secretory activity in everyday life and its relationship with fatigue and chronic fatigue syndrome: a systematic review and subset meta-analysis. Psychoneuroendocrinology 38:2405–2422

Rasting M, Brosig B, Beutel ME (2005) Alexithymic characteristics and patient-therapist interaction: a video analysis of facial affect display. Psychopathology 38:105–111
Reeves W, Jones J, Maloney E, Heim C, Hoaglin D, Boneva R, Morrissey M, Devlin R (2007) Prevalence of chronic fatigue syndrome in metropolitan, urban, and rural Georgia. Popul Health Metr 5:5
Rimes KA, Chalder T (2010) The beliefs about emotions scale: validity, reliability and sensitivity to change. J Psychosom Res 68:285–292
Rudich Z, Lerman SF, Gurevich B, Weksler N, Shahar G (2008) Patients' self-criticism is a stronger predictor of physician's evaluation of prognosis than pain diagnosis or severity in chronic pain patients. J Pain 9:210–216
Rudich Z, Lerman SF, Gurevich B, Shahar G (2010) Pain specialists' evaluation of patient's prognosis during the first visit predicts subsequent depression and the affective dimension of pain. Pain Med 11:446–452
Sattel H, Lahmann C, Gundel H, Guthrie E, Kruse J, Noll-Hussong M, Ohmann C, Ronel J, Sack M, Sauer N, Schneider G, Henningsen P (2012) Brief psychodynamic interpersonal psychotherapy for patients with multisomatoform disorder: Randomised controlled trial. Br J Psychiatry 200:60–67
Sbarra DA, Hazan C (2008) Coregulation, dysregulation, self-regulation: an integrative analysis and empirical agenda for understanding adult attachment, separation, loss, and recovery. Pers Soc Psychol Rev 12:141–167
Schattner E, Shahar G, Abu-Shakra M (2008) "I used to dream of lupus as some sort of creature": chronic illness as an internal object. Am J Orthopsychiatry 78:466–472
Sicras A, Rejas J, Navarro R, Blanca M, Morcillo A, Larios R, Velasco S, Villarroya C (2009) Treating patients with fibromyalgia in primary care settings under routine medical practice: a claim database cost and burden of illness study. Arthritis Res Ther 11:R54
Spaeth M (2009) Epidemiology, costs, and the economic burden of fibromyalgia. Arthritis Res Ther 11:117
Stonnington CM, Locke DEC, Hsu C-H, Ritenbaugh C, Lane RD (2013) Somatization is associated with deficits in affective theory of mind. J Psychosom Res 74:479–485
Subic-Wrana C, Beutel ME, Knebel A, Lane RD (2010) Theory of mind and emotional awareness deficits in patients with somatoform disorders. Psychosom Med 72:404–411
Tak LM, Rosmalen JGM (2010) Dysfunction of the stress responsive systems as a risk factor for functional somatic syndromes. J Psychosom Res 68:461–468
Thomas H, Else G, Barbara T, Francis C (2009) Psychodynamic interpersonal therapy and improvement in interpersonal difficulties in people with severe irritable bowel syndrome. Pain 145:196–203
Van Houdenhove B, Luyten P (2007) Fibromyalgia and related syndromes characterized by stress intolerance and pain hypersensitivity: do we need a new nosology? Curr Rheumatol Rev 3:304–308
Van Houdenhove B, Luyten P (2008) Customizing treatment of chronic fatigue syndrome and fibromyalgia: the role of perpetuating factors. Psychosomatics 49:470–477
Van Houdenhove B, Luyten P, Kempke S (2013) Chronic fatigue syndrome/fibromyalgia: a "stress-adaptation" model. Fatigue Biomed Health Behav 1:137–147
Van Koulil S, Effting M, Kraaimaat FW, Van Lankveld W, Van Helmond T, Cats H, Van Riel P, De Jong AJL, Haverman JF, Evers AWM (2007) Cognitive-behavioural therapies and exercise programmes for patients with fibromyalgia: state of the art and future directions. Ann Rheum Dis 66:571–581
Waller E, Scheidt CE (2006) Somatoform disorders as disorders of affect regulation: a development perspective. Int Rev Psychiatry 18:13–24
Watkins LR, Maier SF (2005) Immune regulation of central nervous system functions: from sickness responses to pathological pain. J Intern Med 257:139–155
Wessely S, White P (2004) There is only one functional somatic syndrome. Br J Psychiatry 185:95–96
Wirtz PH, Siegrist J, Rimmele U, Ehlert U (2008) Higher overcommitment to work is associated with lower norepinephrine secretion before and after acute psychosocial stress in men. Psychoneuroendocrinology 33:92–99

Attachment Style in Bariatric Surgery Care: A Case Study

10

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In this chapter, we will summarize an approach to using attachment-informed care in the Toronto Western Hospital (TWH) Bariatric Surgery Program as an illustrative case example of how attachment style can be integrated into the clinical care of patients in medical settings. We begin with an overview of the impact of attachment style on obesity and bariatric surgery care, followed by details on the integration and application of attachment theory on bariatric surgery patients.

10.1 Insecure Attachment in Bariatric Care

Direct and indirect evidence implicate insecure attachment as a predisposing factor for obesity. Starting with correlational evidence, early childhood physical and verbal abuse, which increases vulnerability to insecure attachment, is associated with obesity (D'Argenio et al. 2009). Furthermore, mothers of obese children are more likely to have an insecure attachment style than mothers of non-obese children (Trombini et al. 2003), suggesting a role of relational dynamics in the development of obesity.

Looking more closely at disordered eating behavior, approximately 60–70 % of patients suffering from severe obesity (body mass index >35) have a lifetime history of a psychiatric disorder, with eating disorders (predominantly binge eating disorder) being especially common (Mitchell et al. 2012; Sockalingam et al. 2011a; Strimas et al. 2014). About 13–27 % of candidates for bariatric surgery have had binge eating disorder during their lifetime (Mitchell et al. 2012; Sockalingam et al. 2011a). Attachment theory is a valuable framework for understanding eating

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pathology because the difficulties with emotion regulation that are common in insecure attachment are also a core component of binge eating and emotional eating. High attachment anxiety is associated with disinhibited eating and may mediate the relationship between disordered eating and body mass index (Wilkinson et al. 2010). Tasca and Balfour reviewed the literature on attachment theory and eating disorders and concluded that attachment insecurity is not necessarily related to a specific eating disorder diagnosis, but rather attachment insecurity and particularly attachment anxiety are associated with more severe eating disorder symptoms (Tasca and Balfour 2014). In a study of 1388 bariatric surgery candidates from the TWH Bariatric Surgery Program, both attachment avoidance and attachment anxiety were significantly associated with binge eating disorder, and this association was mediated by emotion regulation (Shakory et al. 2015).

Attachment avoidance has been shown to adversely affect bariatric surgery outcomes and treatment adherence. Poor mental quality of life in bariatric surgery patients was associated with depressive symptoms and attachment avoidance (and not attachment anxiety, low social support, age, body mass index, or eating psychopathology) (Sockalingam et al. 2011b). Similarly, only attachment avoidance and older age were significant predictors of not attending appointments 12 months after bariatric surgery after controlling for distance patients traveled to care and other demographic variables (Sockalingam et al. 2013b).

Given the potential for psychosocial complications after bariatric surgery, which range from nonadherence to diet to exacerbation of mood disorders and suicide risk, attention to attachment style is important to increase engagement in ongoing monitoring and support after surgery. Bariatric clinicians should consider the attachment style of patients presenting for bariatric surgery to aid in understanding the causes for obesity and to support patients with long-term weight loss after surgery.

10.2 The TWH Bariatric Surgery Program

The TWH Bariatric Surgery Program (TWH-BSP) is one of two assessment centers within the six-hospital University of Toronto Bariatric Surgery Collaborative. TWH assesses potential bariatric surgery patients for three hospitals and all pre- and post-surgery assessments occur at this center. The TWH-BSP is one of the largest bariatric surgery programs in Canada and has a comprehensive multidisciplinary assessment protocol for all surgical candidates. The program's assessment pathway and tools are based upon recommendations from the Ontario Bariatric Surgery Network (developed by the province's Ministry of Health and Long Term Care) and best practice guidelines. The TWH-BSP assessment team includes a diverse interprofessional team consisting of nurse practitioners, nurses, social workers, psychologists, dieticians, psychiatrists, an internist, and surgeons. The program provides psychosocial assessment and education, performs surgery on over 700 patients annually, and follows these patients for 5 years after surgery.

We have previously described the comprehensive assessment pathway for bariatric candidates (Pitzul et al. 2014). Following orientation and additional information

about surgical procedures, approximately 50 % of patients do not continue with bariatric surgery assessment. Those patients who continue are assessed at least four times by program team members before surgery, including a psychiatric evaluation.

Following surgery, patients receive routine self-report questionnaires to monitor psychosocial status at month 3, 6, and annually thereafter until 5 years postsurgery. Additional supports are provided by individual TWH-BSP team members based on patients' needs. All patients will receive psychiatric treatment within the program for identified psychopathology during the presurgical and postsurgical phase. Finally, psychosocial supports after surgery range from individual cognitive behavioral therapy (CBT), supportive psychotherapy, biweekly support groups, and an 18-month CBT and mindfulness group.

10.3 The Role of Psychosocial Assessment in Bariatric Surgery

Although obesity itself is associated with high lifetime rates of psychiatric illness, current psychiatric disorders are present in almost 40 % of candidates presenting for bariatric surgery (Kalarchian et al. 2007). Approximately 30 % of candidates report clinically significant major depression. Moreover, 20 % of patients in the preoperative phase suffer from binge eating disorder, and 5–20 % may also meet criteria for night eating syndrome (de Zwann et al. 2003; Allison et al. 2006). These conditions often co-occur with other psychiatric disorders, with nearly 50 % and 30 % of patients also suffering from comorbid depression and personality disorders (mainly narcissistic and borderline personality disorders), respectively (Allison and Stunkard 2005). Furthermore, approximately 1 in 3 patients presenting for bariatric surgery have a lifetime history of a substance use disorder and should be screened and managed appropriately in the preoperative phase to mitigate potential relapse postsurgery.

Given the high rates of psychiatric illness in patients undergoing bariatric surgery, evidence supports the need for psychiatric intervention delivered in an integrated team setting. Weight loss postsurgery should not be considered a substitute for the treatment of major depression or other disorders in a multidisciplinary team (Wadden et al. 2007).

Programs using psychological evaluation have estimated that 15–18 % of referred patients are excluded or delayed for surgery based on psychiatric reasons (Pawlow et al. 2005). The most common reasons for exclusion or delay are significant psychopathology, active disordered eating, and lack of understanding of the surgery (Pawlow et al. 2005; Merrell et al. 2012). In our own sample of 367 individuals who were referred to our program, posttraumatic stress disorder, generalized anxiety disorder, and substance use disorder were the most common reasons for patients not completing the assessment component of the bariatric surgery process (Sockalingam et al. 2013a).

Attrition for those referred for bariatric surgery is quite high. In reviewing the charts of 1237 patients referred to our program, 61 % elected to remove themselves

from the program and only 36 % underwent surgical treatment (Pitzul et al. 2014). Reasons for self-removal are often unknown and require further study. Nonetheless, low engagement of patients with psychopathology and perhaps insecure attachment style have been purported as potential reasons leading to surgery noncompletion during this presurgery assessment process (Sockalingam et al. 2013a, b).

10.4 The Rationale for Postoperative Mental Health Services

The impact of psychiatric history and active psychiatric disorders on weight loss after surgery is not known at this time. Therefore, the rationale for postoperative mental health services relates to the significant physical and mental impairment that may manifest in patients more than 2 years after surgery (Karlsson et al. 1998). At 4-year follow-up, bariatric surgery patients have demonstrated increases in mood and anxiety symptoms compared to 1-year postoperative levels (Karlsson et al. 2007). Serious psychiatric adverse events are rare, but anecdotal cases of suicide post-bariatric surgery highlight the need for screening and treating uncontrolled, severe depression in the pre- and postoperative phases of follow-up (Omalu et al. 2005). Alcohol use disorders can also emerge after bariatric surgery and warrant ongoing monitoring and education to minimize this complication in at-risk patients (King et al. 2012). Furthermore, undiagnosed and untreated anxiety and depression will impair adherence to prescribed diet and exercise regimens necessary for maintaining weight loss in the postoperative phase. This could be exacerbated by avoidant attachment style, which has been shown to be a risk factor for poor medication and self-care adherence (Ciechanowski et al. 2004; Sockalingam et al. 2013b).

Although eating psychopathology such as binge eating decreases after surgery, 46 % of patients report a recurrent loss of eating which could lead to weight regain in a subset of patients (Kalarchian et al. 2002). Moreover, postoperative loss of control over eating can impair long-term quality of life and result in weight regain after surgery (White et al. 2010). Therefore, appropriate services and psychosocial support in the postoperative phase are needed to minimize binge eating, substance use, and impulse control behaviors in bariatric surgery patients.

10.5 Choosing Attachment and Psychosocial Measures in the TWH-BSP

The TWH Bariatric Surgery Program was developed with a focus on monitoring patient outcomes from its inception. Given the role of attachment style and effects on obesity and bariatric surgery outcomes, the measurement of attachment style was felt to be instrumental to the program's psychosocial quality of care "dashboard." Principles for selecting psychosocial measures to be used in clinical care consisted of the following: (1) current evidence exists for its use in bariatric surgery or other medically ill patient populations; (2) questionnaire length is such that it increases the likelihood of completion by patients; and (3) there is a high probability of use by an interprofessional team to identify and track patient outcomes.

Using these three principles, we selected the following measures to monitor patient outcomes longitudinally after bariatric surgery for the 5-year follow-up. First, we chose a measure of attachment style. A self-report measure was required due to the high volume of patients seen in the program (over 1000 patients per year). In examining self-report measures, the Relationship Questionnaire developed by Bartholomew and Horowitz was the briefest measure (Bartholomew and Horowitz 1991); however, a dimensional approach was preferred to measure the full range of anxious and avoidant attachment in bariatric patients. In an effort to balance length of the attachment measure and dimensional assessment across anxious and avoidant domains, we opted to use the 16-item modification of the Experiences in Close Relationships scale (ECR-16), which was validated in a medically ill patient population (Lo et al. 2009). A 12-item version of the ECR is also available and could have been used in our setting (Wei et al. 2007). In addition, we measured three health outcomes: disability (Sheehan Disability Scale) (Leon et al. 1997), depressive symptoms (Patient Health Questionnaire-9) (Kroenke et al. 2001), and anxiety symptoms (Generalized Anxiety Disorder-7) (Kroenke et al. 2010). All measures were incorporated as part of presurgery assessments and at major follow-up milestones, such as 6 months postsurgery and annual follow-up until 5 years after surgery. Given the brevity of the tools, they were readily utilized in clinical practice and provided real-time information to guide clinical care.

10.6 Attachment Theory in the Clinical Practice of Bariatric Surgery

Because the data from our bariatric surgery program indicated that attachment avoidance was associated with both quality of life prior to surgery and adherence to appointments after surgery (Sockalingam et al. 2011b, 2013b), we developed an interprofessional approach to managing patients with insecure attachment, which aimed to improve engagement, treatment adherence, and psychosocial outcomes. This approach consisted of teaching the attachment model to all program team members, developing a menu of treatment options that could be adapted to attachment subtypes and teaching patients about attachment style.

10.6.1 Preparing the Team to Use the Attachment Model

Early in the development of the bariatric surgery program, we introduced all team members to attachment theory, using data from our program to guide our discussions. Nurses, social workers, psychologists, psychiatrists, surgeons, and dietitians and all other team members were educated about attachment theory as part of different professional development rounds and team retreats. Moreover, a range of team members participated in research initiatives examining the impact of attachment style on bariatric patient outcomes, which increased team engagement and application of this model. Soon after this early education initiative, weekly case review rounds with the interprofessional team included discussions of patients'

attachment anxiety or avoidance in relation to engagement with the treatment team and the ability to adhere to nutritional changes postsurgery. Over time, the team began using attachment theory within their repertoire of skills in assessing patients and identifying potential relational risk factors for nonadherence and psychological distress. Following our development of team competency in applying attachment theory, we developed a menu of treatment options to support patients with insecure attachment. We will use the example of Mary to illustrate how attachment theory is used in our program.

Case of Mary

Mary was a 48-year-old female with a body mass index of 44 who was referred to our clinic for bariatric surgery by her endocrinologist because of "uncontrolled diabetes." Her diabetes team had been having difficulties with Mary's problematic blood sugar control and high HbA1c as a result of nonadherence to her diabetic regimen of medications and recommended diabetic diet. Mary told the team that she wanted to undergo bariatric surgery because she was "fed up with her pills and injections." She also expressed frustration with the diabetes care providers. She was concerned about her diabetes team whom she felt "keeps prescribing me medications that cause me more problems and weight gain."

During her assessment, Mary reported coping with stress by resorting to food for comfort. She endorsed a history of binge eating that dated back to her adolescent years.

Mary described how she currently worked as a receptionist in a legal office and tended to keep to herself at work. She had limited recreational activities and spent most nights at home alone. She did not have many friends and did not keep in touch with family members. She prided herself on "being self-reliant." In addition, Mary had ended a relationship with her boyfriend of 1 year only 3 months prior to our assessment. She ended this relationship because of his infidelity. She talked about her dissatisfaction with two previous relationships with men "who wanted to control me."

Although Mary had made changes in her diabetes management and diet before surgery, she was required to work with the TWH-BSP team members, specifically the nurses and dietitians, to improve her diabetes control and her diet prior to surgery. Initially, she would not respond to emails or phone calls from the team; however, she eventually engaged with two team members who remained supportive despite her early ambivalence.

After surgery, Mary remained distant from team members and missed several appointments. She stopped her vitamins for the first few months after surgery and then presented in need of urgent care for iron deficiency. She met with the same nurse she had seen prior to surgery who had been supportive despite her challenges. At this point, Mary was willing to discuss restarting her vitamin supplements.

Mary was assessed with both the ECR-16 and through a detailed history of relationship patterns, coping, and emotion regulation (Gratz and Roemer 2004). When high attachment avoidance is identified, as it was in Mary, the team discusses the person to better understand how their attachment style could lead to decreased interaction with team members, which is a significant concern given that up to 75% of all patients do not follow up at 2 years postsurgery (Garb et al. 2009). In this case, most team members had found it difficult to engage with Mary; however, she was able to communicate regularly and more easily with the bariatric dietitian. Therefore, the team dietitian and nurse, who also had a good therapeutic alliance with Mary, formed Mary's core clinical team for longitudinal care. For situations where Mary needed more specialized care from other team members, her designated nurse and dietitian facilitated these interactions and in some cases would provide "friendly hand offs" in which they would accompany Mary as she was introduced to another team member. In addition, these two team members coordinating Mary's care would also receive team support and advice from the psychosocial team members when psychological and relational issues arose during Mary's care. Moreover, all team members involved in Mary's care were aware of her need for autonomy and self-control of her care. We reinforced and reiterated the need for consistent and empathic postoperative care by all team members.

In addition, patients identified as having high attachment avoidance are provided with the option of arranging telephone or online CBT (Cassin et al. 2013), before or after surgery based on their schedule and need. Mary's care included a referral for telephone CBT to a psychologist in the program who was introduced through a friendly hand off. The use of online or telephone modalities for CBT can provide patients with avoidant attachment with more autonomy in their psychological treatments because appointments can be scheduled at their convenience. Furthermore, the lack of face-to-face interaction may allow for a greater engagement for those with dismissing attachment, who favor less interpersonal closeness. In addition, dietitians provide these patients with e-mail access during the postoperative phase to facilitate greater long-term engagement in care.

Patients in our program with high attachment anxiety receive a similarly proactive approach to care involving, for example, a schedule of regularly follow-up appointments with core team members. This structure mitigates the anxious signaling of attachment needs, such as frequent e-mails or telephone calls. Patients with high attachment anxiety who have difficulty maintaining control over eating or have trouble adhering to postsurgery diet regimens are assigned to a specific dietitian to meet with them more frequently than the routine six- or twelve-month follow-up. Dietitians are trained in CBT techniques and use these skills to educate patients about emotional factors contributing to eating psychopathology, as well as introducing common coping strategies and behavioral modifications. Additional appointments with psychologists or psychiatrists in the program are scheduled to address more significant affect dysregulation exacerbating eating behaviors in the context of attachment anxiety.

The relevance of relationship styles to bariatric care has also been shared with patients in our program's biweekly bariatric surgery support group. Healthcare

professionals in our program facilitate these groups with the goal of imparting information, fostering interpersonal learning, and promoting universality in the participants' experience of managing psychosocial issues related to bariatric surgery. As part of our psycho-educational group sessions, attachment theory is introduced to patients, and patients are supported in reflecting on their own attachment patterns. Anecdotally, these sessions often include personal and shared insights into group members' pervasive anxious or avoidant styles. Moreover, these sessions generate a dialogue on attachment theory that links to their preferred care in the bariatric surgery program.

Long-term care with patients with insecure attachment styles, like Mary, can lead clinicians to experience frustration and a sense of helplessness as a result of pervasive relational patterns that disrupt care. Our surgical colleagues have observed that attachment theory has provided greater insights into problematic relationship patterns and allows them to better triage patients to appropriate supports within the program. Notably, recognizing attachment patterns has facilitated more open discussion of clinician's countertransference reactions in an effort to better manage these reactions to patients, who are quite challenging for most professionals.

10.7 Summary

This case study of the TWH-BSP demonstrates a multimodal approach to integrating attachment theory into clinical care, in this case an interprofessional bariatric surgery program. It is possible to structure clinical programs to routinely recognize insecure attachment styles that may compromise clinical care. Moreover, educating our interprofessional bariatric surgery program in attachment theory has fostered a unified language within our program across healthcare professions for describing, assessing, and treating attachment behaviors in a more cohesive manner. It is hoped that this case study exemplifies the use of attachment theory in programmatic improvements to patient care in a bariatric setting. Through our experience, we hope that this real-world example demonstrates how attachment theory can be practically implemented at key interfaces of clinical care in medical settings.

References

Allison KC, Stunkard AJ (2005) Obesity and eating disorders. Psychiatr Clin North Am 28:55–67

Allison KC, Wadden TA, Sarver DB, Fabricatore AN, Crerand CE, Gibbons LM, Stack RM, Stunkard AJ, Williams NN (2006) Night eating syndrome and binge eating disorder among persons seeking bariatric surgery: prevalence and related features. Obesity 14:77S–82S

Bartholomew K, Horowitz LM (1991) Attachment styles among young adults: a test of a four-category model. J Pers Soc Psychol 61:226–244

Cassin SE, Sockalingam S, Wnuk S, Strimas R, Royal S, Hawa R, Parikh SV (2013) Cognitive behavioral therapy for bariatric surgery patients: preliminary evidence for feasibility, acceptability, and effectiveness. Cognitive and Behavioral Practice 20:529–543

Ciechanowski P, Russo J, Katon W, Von Korff M, Ludman E, Lin E, Simon G, Bush T (2004) Influence of patient attachment style on self-care and outcomes in diabetes. Psychosom Med 66:720–728

D'Argenio A, Mazzi C, Pecchioli L, Di Lorenzo G, Siracusano A, Troisi A (2009) Early trauma and adult obesity: is psychological dysfunction the mediating mechanism? Physiol Behav 98:543–546

De Zwann M, Mitchell JE, Howell LM, Monson N, Swan-Kreimeier L, Crasby RD, SEIM HC (2003) Characteristics of morbidly obese patients before gastric bypass surgery. Compr Psychiatry 44:428–434

Garb J, Welch G, Zagarins S, Kuhn J, Romanelli J (2009) Bariatric surgery for the treatment of morbid obesity: a meta-analysis of weight loss outcomes for laparoscopic adjustable gastric banding and laparoscopic gastric bypass. Obes Surg 19:1447–1455

Gratz KL, Roemer L (2004) Multidimensional assessment of emotion regulation and dysregulation: development, factor structure, and initial validation of the difficulties in emotion regulation scale. J Psychopathol Behav Assess 26:41–54

Kalarchian MA, Marcus MD, Wilson GT, Labouvie EW, Broulin RE, Lamarca LB (2002) Binge eating among gastric bypass patients at long-term follow-up. Obes Surg 12:270–275

Kalarchian MA, Marcus MD, Levine MD, Courcoulas AP, Pilkonis PA, Ringham RM, Soulakova JN, Weissfeld LA, Roffey DL (2007) Psychiatric disorder among bariatric surgery candidates: relationship to obesity and functional health status. Am J Psychiatry 164:328–334

Karlsson J, Sjostrom L, Sullivan M (1998) Swedish obese subjects (SOS): an intervention study of obesity: two-year follow-up of health-related quality of life (HRQL) and eating behavior after gastric surgery for severe obesity. Int J Obes Relat Metab Disord 22:113–126

Karlsson J, Taft C, Ryden A, Sjostrom L, Sullivan M (2007) Ten-year trends in health-related quality of life after surgical and conventional treatment for severe obesity: the SOS intervention study. Int J Obes 31:1248–1261

King WC, Chen JY, Mitchell JE, Kalarchian MA, Stefeen KJ, Engel SG, Courcoulas AP, Pories WJ, Yanovski SZ (2012) Prevalence of alcohol use disorders before and after bariatric surgery. JAMA 307:2516–2525

Kroenke K, Spitzer RL, Williams JB (2001) The PHQ-9: validity of a brief depression severity measure. J Gen Intern Med 16:606–613

Kroenke K, Spitzer RL, Williams JBW, Lowe B (2010) The patient health questionnaire somatic, anxiety and depressive symptom scales: a systematic review. Gen Hosp Psychiatry 32

Leon AC, Olfson M, Portera L, Farber L, Sheehan DV (1997) Assessing psychiatric impairment in primary care with the Sheehan disability scale. Int J Psychiatry Med 27:93–105

Lo C, Walsh A, Mikulincer M, Gagliese L, Zimmerman C, Rodin G (2009) Measuring attachment security in patients with advanced cancer: psychometric properties of a modified and brief experiences in close relationships scale. Psychooncology 18:490–499

Merrell J, Ashton K, Windover A, Heinberg L (2012) Psychological risk may influence drop-out prior to bariatric surgery. Surg Obes Relat Dis 8:463–469

Mitchell JE, Selzer F, Kalarchian MA, Devlin MJ, Strain GW, Elder KA, Marcus MD, Wonderlich S, Christian NJ, Yanovski SZ (2012) Psychopathology before surgery in the longitudinal assessment of bariatric surgery-3 (LABS-3) psychosocial study. Surg Obes Relat Dis 8:533–541

Omalu BI, Cho P, Shakir AM, Agumadu UH, Rozin L, Kuller LH, Wecht CH (2005) Suicides following bariatric surgery for the treatment of obesity. Surg Obes Relat Dis 1:447–449

Pawlow LA, O'Neil PM, White MA, Byrne TK (2005) Findings and outcomes of psychological evaluations of gastric bypass applicants. Surg Obes Relat Dis 1:523–527; discussion 528–529

Pitzul KB, Jackson T, Crawford S, Kwong JC, Sockalingam S, Hawa R, Urbach D, Okrainec A (2014) Understanding disposition after referral for bariatric surgery: when and why patients referred do not undergo surgery. Obes Surg 24:134–140

Shakory S, van Exan J, Mills JS, Sockalingam S, Keating L, Taube-Schiff M (2015) Binge eating in bariatric surgery candidates: the role of insecure attachment and emotion regulation. Appetite 91:69–75

Sockalingam S, Hawa R, Wnuk S, Strimas R, Kennedy S (2011a) Weight loss following roux-en-y gastric bypass surgery: a systematic review of psychosocial predictors. Curr Psych Rev 7:226–233

Sockalingam S, Wnuk S, Strimas R, Hawa R, Okrainec A (2011b) The association between attachment avoidance and quality of life in bariatric surgery candidates. Obes Facts 4:456–460

Sockalingam S, Cassin S, Crawford SA, Pitzul K, Khan A, Hawa R, Jackson T, Okrainec A (2013a) Psychiatric predictors of surgery non-completion following suitability assessment for bariatric surgery. Obes Surg 23:205–211

Sockalingam S, Cassin S, Hawa R, Khan A, Wnuk S, Jackson T, Okrainec A (2013b) Predictors of post-bariatric surgery appointment attendance: the role of relationship style. Obes Surg 23:2026–2032

Strimas R, Dionne MM, Cassin SE, Wnuk S, Taube-Schiff M, Sockalingam S (2014) Psychopathology in severely obese women from a Canadian bariatric setting. Ethnicity and Inequalities in Health and Social Care 7:3–3

Tasca GA, Balfour L (2014) P Attachment and eating disorders: a review of current research. Int J Eat Disord 47:710–717

Trombini E, Baldaro B, Bertaccini R, Mattei C, Montebarocci O, Rossi N (2003) Maternal attitudes and attachment styles in mothers of obese children. Percept Mot Skills 97:613–620

Wadden TA, Sarver DB, Fabricatore AN, Jones L, Stack R, Williams NS (2007) Psychosocial and behavioural status of patients undergoing bariatric surgery: what to expect before and after surgery. Med Clin North Am 91:451–469

Wei M, Russell DW, Mallinckrodt B, Vogel DL (2007) The experiences in close relationship scale (ECR)-short form: reliability, validity, and factor structure. J Pers Assess 88:187–204

White MA, Kalarchian MA, Masheb RM, Marcus MD, Grilo CM (2010) Loss of control over eating predicts outcomes in bariatric surgery patients: a prospective, 24-month follow-up study. J Clin Psychiatry 71:175–184

Wilkinson LL, Rowe AC, Bishop RJ, Brunstrom JM (2010) Attachment anxiety, disinhibited eating, and body mass index in adulthood. Int J Obes 34:1442–1445

Part IV

The Future

The Psychobiology of Attachment and the Aetiology of Disease

11

Tara Kidd

In any good story there has to be a who, what, and why. So far, the preceding chapters have dealt with the who and what parts of our story with a comprehensive overview of attachment and its applicability to medical settings, in particular how attachment is involved in affect regulation for people with different attachment styles (who) and subsequent patterns of behaviours (what) are used to cope with chronic illness, self-management, and doctor-patient interactions.

The purpose of this chapter is to examine whether adult attachment insecurity confers a risk to physical health by examining the physiological components of the stress experience. It will focus primarily on the association between attachment and physiological stress responses as one potential mechanism that may explain "why" individual differences in regulatory strategies may be implicated in aetiology of disease. We begin by providing a brief overview of stress and health, then describe the impact of attachment processes on stress response, integrate these findings into the broader context of the stress literature, and end by mapping out future directions for contributing research.

11.1 Background

The idea that stress influences the aetiology and maintenance of illness has spawned a vast literature over the years. Stress can be defined as a "real or interpreted threat to the physiological or psychological integrity of an individual that results in physiological and/or behavioural responses" (McEwen 2000a p. 508). Stress results when the demands of internal or external events exceed available resources (Lazarus

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and Folkman 1984). These demands can be diverse, ranging from physical challenges to real or perceived psychological threats. Despite much evidence demonstrating that stress is associated with a wide range of physical disorders (Cohen et al. 2012; Juster et al. 2010; Steptoe and Kivimäki 2012), the underlying mechanisms linking stress to health are still not fully understood (Segerstrom and O'Connor 2012; Steptoe 1991).

Current understanding of the biological responses associated with stress centres on the allostatic model (McEwen 2007). Allostasis refers to the process whereby an organism maintains physiological stability by promoting changes that improve one's ability to adjust to environmental demands and increase survival during an acute challenge (Sterling and Eyer 1988). The physiological response to an acute stressor consists of two parts: initiation and cessation.

Initiation involves a threat being detected in neocortical and limbic centres in the brain and the activation of the hypothalamic-pituitary-adrenal (HPA) axis. In brief, the hypothalamus releases corticotropin-releasing factor (CRF) and vasopressin into the anterior pituitary, stimulating the release of adrenocorticotropic hormone (ACTH), which then triggers the adrenal cortex to release the glucocorticoid, cortisol. Acute release of cortisol has numerous effects on the body including mobilisation of energy to muscle, enhancing cardiovascular responsiveness, inhibition of reproductive physiology, decreasing appetite, and increasing cognition (Sapolsky et al. 2000). The hypothalamus also activates the adrenal medulla, as part of the sympathetic branch of the autonomic nervous system (ANS) response, resulting in the release of the catecholamines epinephrine and norepinephrine. The release of this cascade of hormones enables energy to be provided to support a "fight-or-flight" response.

There is also a complex interactive relationship between the brain and endocrine and immune systems (Bilbo and Schwarz 2012; Irwin and Cole 2011). The immune system can signal the brain using chemical messengers called cytokines (e.g. IL-1, IL-6). Cytokines can alter the activity of neurotransmitters in the brain, most notably CRF, which stimulates the hypothalamus and the production of cortisol. In turn, the immune function can be modified via the HPA axis and the various hormones secreted by the pituitary, adrenal, and endocrine organs. In addition, the sympathetic nervous system activates the innate immune response of inflammation, whereas HPA axis activation results in increased levels of circulating concentration of corticosteroids which inhibits various immune activities, such as cell-mediated acquired immunity. These actions are designed to rapidly defend the body from immediate injury or infection (Sapolsky et al. 2000; Segerstrom and Miller 2004). Importantly, in healthy humans, once the perceived stress has passed, cortisol levels negatively feed back to the brain causing the cessation of CRF, which in effect turns off the HPA axis and returns the body to a resting state.

The allostatic systems promote adaptation to stressful events and are most useful when mobilised and terminated swiftly. Over time, frequent activation can lead to excessive strain on the body and pathophysiological alterations in stress-sensitive neuroendocrine, cardiovascular, and immune systems. These include structural and functional abnormalities in key stress-sensitive regions in the brain (McEwen 2000b). These consequences are termed allostatic load (McEwen 1998). Allostatic load is one pathway that may explain a direct link between stress and physical health.

One consequence of pathophysiological alterations is dysregulation in stress system responses. For instance, hyperreactivity, or the tendency to respond to an acute stressor with an abnormally large physiological response, has frequently been invoked to explain the link between biological stress response and health (Chida and Hamer 2008). Support comes from a wide variety of sources including acute laboratory studies where individuals with particular disorders, such as chronic inflammatory conditions, display hyperreactive HPA responses to an acute stressor (Whitworth et al. 2005). Hyperreactivity has also been associated with the initiation of down-regulation of key anti-inflammatory pathways leading to the development of a chronic inflammatory state (Nijm and Jonasson 2009). Similarly, it is thought that alterations in the glucocorticoid-cytokine feedback loop may be responsible for chronic inflammatory disease (Kunz-Ebrecht et al. 2003).

Causal certainty about this hypothesis would require prospective data of initially healthy individuals who developed such diseases, but is unavailable for many clinical conditions. However, heightened biological responses did predict future hypertension and progression of subclinical cardiovascular disease (Hamer et al. 2012). Hamer et al. (2012) also observed an association between cortisol reactivity and incident hypertension, with a 59 % increase in the odds of hypertension per standard deviation change in cortisol responsivity during an acute laboratory stressor.

The assumption underlying acute stress studies is that a person who reacts with a heightened response in the lab will experience repeated episodes of heighted biological activity in everyday life, causing a cumulative effect that will impact on their health over time (Kidd et al. 2014a). A major limitation within the stress literature is that there is no explanation of why some individuals experience heightened responsivity and subsequently poorer health outcomes but others do not (Steptoe 1991). Conventionally, these individual differences are explained by the genetic and biological predisposition of the person (Juster et al. 2010). These factors are certainly important in explaining differences in response, but they are limited in their ability to account for susceptibility. An alternate explanation in determining vulnerability or resilience to stress-related diseases is to examine individual differences in the brain's interpretations of a perceived threat and the subsequent response to the threat (Lupien and McEwen 1997).

If we can understand individual differences in threat appraisal and response, we may start to understand the underlying mechanisms linking stress and health. The hypothesis we now explore is that attachment dimensions that influence threat perception and response account for this individual susceptibility and may contribute to the aetiology and maintenance of illness.

11.2 Attachment and Physiology

The attachment system was originally conceived of as a psychobiological process selected for by evolution because of its utility in ensuring the survival of an infant, by reinforcing basic capacities to respond to danger or potential threat (Bowlby 1969). Bowlby (1969/2005) believed that three different types of threat activated the attachment system: personal stressors (hunger, pain, illness), environmental

stressors (frightening, challenging, or dangerous events), and relationship threat (conflict, lack of proximity, death). In infants, both emotional and physiological arousal are regulated by the response of the caregiver during a threat. Repeated interactions between an infant and caregiver result in the infant learning to regulate him- or herself independent of the attachment figure, by developing internal working models. Internal working models consist of a set of expectations related to threat, strategies to express or inhibit emotions, and the capacity to mount a physiological response to a perceived threat (Hazan and Shaver 1987). Anxious attachment expectations are based on inconsistent care during infancy; such individuals are hypervigilant to potential threat and distress is amplified to ensure care is provided. Avoidant attachment expectations are that care will not be available and so deactivating strategies that promote autonomy are favoured (Fraley et al. 1998; Mikulincer et al. 2003).

These early interactions are also believed to be crucial in the development of brain regions associated with the regulation of stress systems (Teicher et al. 2003). In particular, this applies to those regions critically involved in the regulation of the HPA axis such as the hippocampus (Sanchez et al. 2001; Teicher et al. 2003). Considerable evidence suggests that consistently responsive caregiving is associated with attenuated stress reactivity throughout the lifespan, which promotes adequate biobehavioural regulation (Gunnar 1998). Conversely, insensitive or non-responsive caregiving has been linked to increased stress responsivity (Lupien et al. 2009; Repetti et al. 2002). This has led many researchers to believe that attachment processes may "fine-tune" the HPA axis.

11.3 Early Life and the Stress Response

There is a wide literature that supports the existence of a relationship between early caregiving experience and HPA axis dysregulation in animals and humans, whereby adverse early life experience stimulates up- or downregulation of adult cortisol stress response. As a consequence, the ability of stress systems to function and respond normally becomes compromised (Carpenter et al. 2009; Heim et al. 2000; Lueken and Lemery 2004; Lupien et al. 2009). Research has largely examined these processes in groups that have experienced trauma or abuse (Repetti et al. 2002; Taylor 2010). However, non-traumatic, lower level stress in infancy, such as non-nurturing and non-responsive caregiving, can also compromise functioning of the HPA axis (Taylor 2010). A review by Chorpita and Barlow (1998) reported that families characterised by low levels of warmth and controlling parenting had children with a hyperreactive cortisol response to stress. Over time it is believed that repeated activation of stress systems gives way to hypocortisolism as the HPA axis loses its resilience, alongside mounting increases in allostatic load (McEwen 1998). Accordingly, the early environment may influence the HPA stress response across a spectrum of environment quality, involving multiple parameters of the HPA axis, as well as alterations in functioning over time. Importantly for our purposes, attachment insecurity has also been associated with adverse early life experience (Quirin

et al. 2008). It has been suggested that attachment relationships in humans may function to modulate physiological reactions to distress in both children (Gunnar et al. 1996) and adults (Carpenter and Kirkpatrick 1996; Maunder et al. 2006; Pierrehumbert et al. 2009).

11.4 Reactivity and Regulation: The Role of Emotion in Stress Response

It is believed that the internal working models of attachment formed in infancy remain linked to the psychological and biological systems that regulate threat (stressor) appraisal, response, and recovery (Bowlby 1969). In particular, individual differences in the propensity for threat detection (emotional reactivity) and the strategies used to minimise distress (emotional regulation) have received support in the literature as the underlying core structure of working models of attachment that may explain individual difference in stress responsivity (Pietromonaco et al. 2006). The implication is that individuals who are more emotionally reactive will have a greater sensitivity to threat across more contexts, because they see a wider range of events as being threatening (Mikulincer et al. 2002). The result is a higher frequency of activation of the attachment system and a greater need to regulate feelings of distress. Indeed a relatively robust finding is that individuals who are anxiously attached self-report greater and more frequent episodes of distress (Davis et al. 2003; Kidd and Sheffield 2005; Maunder et al. 2010).

In contrast, attachment avoidance is organised around deactivating strategies of affect regulation, which prevent the activation of the attachment system by inhibiting appraisal and monitoring of threat, suppression of distress-related thoughts, and inhibition of proximity-seeking behaviours (Dewitte et al. 2008; Fraley et al. 1998). To a large extent, studies have shown that avoidance is associated with low subjective reports of distress (Fraley and Shaver 1997; Kidd et al. 2013). However, interpretation of these findings has become complicated by research that has demonstrated that attachment avoidance strategies are not always effective, particularly during chronic stress, or when task demands inhibit the person's ability to control responses (Mikulincer et al. 1998). In fact, several studies have shown that avoidant individuals actually report greater emotional distress (Dewitte et al. 2010; Goldberg et al. 1994).

11.5 Attachment and Cortisol Response to Acute Stress

Unlike subjective reports, physiological responses are automatic and occur below conscious awareness; they can provide a different insight into affective responses than those revealed through subjective reports or more controllable responses and thus may contribute to our understanding of how attachment may confer risk to physical health (Dickerson and Kemeny 2004).

Work that has examined attachment and acute stress responses has focused on cortisol, because it is believed that the HPA axis is particularly sensitive to attachment processes as it responds in situations that evoke social-evaluative threat specifically (Blascovich and Tomaka 1996; Dickerson and Kemeny 2004; Denson et al. 2009), is sensitive to interpersonal situations (Diamond 2001; Kirschbaum et al. 1995), and shows individual variation in response (Gerra et al. 2001).

The majority of studies have focused on examining attachment and physiological responses to interpersonal acute stress tasks in the laboratory. Overall, HPA axis reactivity appears to be modulated by attachment insecurity, although the type of insecurity varies between studies. Rifkin-Graboi (2008) found that attachment avoidance in young male college students was associated with increased cortisol reactivity, when they were asked to visualise and respond to hypothetical situations concerning loss, separation, and abandonment.

A more frequently used technique is to examine romantic couples in the laboratory and monitor their cortisol response while they engage in a discussion. Typically, conflict within the relationship has been the preferred context for assessment; the couple identifies an area of disagreement and then proceeds to discuss it for a specific period of time, during which stress responsiveness is evaluated. For example, Powers, Pietromonaco, Gunlicks, and Sayer (2006) obtained saliva samples from 124 young dating couples, before, during, and after a conflict discussion. Higher levels of attachment anxiety or fearful attachment in males were associated with increased cortisol levels and longer recovery, whereas females with high levels of avoidant attachment had higher levels of cortisol before and during the task but reduced significantly once the task was finished. Similarly, attachment anxiety predicted cortisol reactivity and recovery in both males and females during a conflict negotiation task (Laurent and Powers 2007).

The finding that anxious attachment is associated with increased physiological response to an acute stressor appears to be relatively consistent within the interpersonal literature (Powers et al. 2006) and is in accordance with the emotional reactivity literature (Davis et al. 2003; Kidd and Sheffield 2005). The observed responses are not confined to conflict resolution tasks; similar outcomes are reported when the stressful condition is a discussion on personal concerns and tasks around jealousy. For example, Brooks, Robles, and Dunkel Schetter (2011) recruited 30 couples who completed two 20-min discussions. During one session couples were asked to discuss things about themselves they wished to change, and the other session was a conflict session. Men with anxious attachment insecurity had higher cortisol responses across both discussion tasks. Dewitte, De Houwer, Goubert, and Buysse (2010) examined attachment distress in 68 heterosexual couples by telling participants their partner would be interviewed by an attractive interviewer of the opposite sex about intimate details of the partner's past and current romantic relationships. In addition, the couple would subsequently have to watch a video together of the interview. They found that anxiously attached males and females with fearful attachment showed the largest cortisol responses.

The predominance of research on attachment and cortisol has focused on interpersonal paradigms. Although the attachment system is also believed to be activated

by personal and environmental threat (Bowlby 1969; Fraley and Shaver 2000), the actual number of studies examining non-interpersonal tasks has been meagre. These non-interpersonal studies have produced less consistent associations between attachment insecurity and cortisol. For example, Quirin, Pruessner, and Kuhl (2008) examined cortisol response to a loud noise in a sample of 48 females and found anxious attachment and cortisol were positively associated. Some researchers have employed other commonly utilised methods from stress research, such as performing mental arithmetic to induce a stress response or the Trier Social Stress Test, where participants are asked to give a speech in front of a panel of people (Dickerson and Kemeny 2004). Non-significant associations for any type of insecure attachment were reported by Smeets (2010) and Ditzen et al. (2008) using the Trier Social Stress Test.

Tasks involving public speaking are perceived differently by people of different socioeconomic backgrounds and those who are accustomed to speaking in front of others compared with those who are not (Steptoe and Marmot 2002). In contrast, our group examined acute stress using the Stroop test (colour interference) and mental arithmetic in the Whitehall II study, as these types of tests have been appraised as similarly challenging and demanding by people across the socioeconomic spectrum (Steptoe and Marmot 2002). In contrast to earlier studies (Dewitte et al. 2010; Powers et al. 2006), we found fearful attachment was associated with a blunted cortisol response (Kidd et al. 2011).

The findings related to attachment avoidance are more difficult to reconcile than attachment anxiety, as one would expect those high in attachment avoidance to use deactivating strategies and consequently to have dampened physiological responses. What we actually find is that, in keeping with the range of literature on subjective distress, several studies find the complete opposite (Powers et al. 2006; Rifkin-Graboi 2008). What factors might explain this incongruence between studies of avoidant individuals and physiological response to stress? There are several possibilities, which are not mutually exclusive.

First, different types of tasks are used to induce stress. Research has shown that a stronger stress response can occur in avoidant individuals if the threat involved is an attachment-related threat, such as an inescapable conflict discussion (Pietromonaco et al. 2004). For a highly avoidant individual in such a paradigm, the optimal response would be to disengage by using strategies that decrease closeness and increase distance (DeWitte et al. 2008). If such an avoidant defence is prohibited by the laboratory situation, then distress is increased and there is a consequent increase in cortisol.

Second, there is no consistency in how attachment is measured in these studies, with both continuous measures of attachment avoidance and anxiety and discrete attachment style categories being reported. This makes comparison of results between studies very difficult, especially as it may be the interaction between anxiety and avoidance that is associated with cortisol response, as indicated in previous studies, rather than avoidance per se (Dewitte et al. 2010; Kidd et al. 2011; Powers et al. 2006).

Third, partner effects further complicate interpretation of these findings. This rapidly growing area of study has shown that partner effects may modulate

physiological responses to an acute stressor (Pietromonaco et al. 2013). Brooks and colleagues (2011) found that women with an avoidant partner produced a greater cortisol response. Powers and colleagues (2006) found that for men having an insecure partner was linked to higher cortisol than those with a secure partner. Studies have also examined the interaction of attachment style between partners. Beck, Pietromonaco, DeBuse, Powers, and Sayer (2013) described pairings where avoidant male partners with anxious wives were associated with increased cortisol in both dyad members in comparison to other pairings. Laurent and Powers (2007) found that avoidant females with avoidant partners had significantly larger cortisol responses during a conflict discussion. These authors suggested that a coupling with two avoidant members might interfere with co-regulatory functioning, resulting in a "standoff" during the interpersonal stress task. Moreover, females may experience pressure to conform to gender norms, where the woman is seen as responsible for negotiating relationship conflict, thereby generating a scenario where the female partner is not able to utilise habitual strategies of disengagement to regulate emotion, causing her own distress and cortisol response to increase.

Fourth, gender differences in physiological stress response have been demonstrated. Males and females differ in the contexts in which they show increased HPA axis activity (Stroud et al. 2002). Studies have also shown that men and women take on different roles when discussing a conflict with a romantic partner. Men are much more likely to wish to withdraw from the discussion and women are much more likely to initiate and try to resolve the conflict (Christensen and Heavey 1990). This may present problems for anxious men who may feel driven to discuss and resolve the relational issue but feel it would be "unmasculine". This conflict may lead to increased distress, with the opposite bind occurring for avoidant females, who would wish to leave the argument but feel compelled to try and resolve it. It is interesting to note that these gender differences in stress responsivity are much more pronounced during interpersonal acute stress tasks and take on a similar pattern as occurs with anxious men and avoidant women evidencing greater cortisol reactivity (Brooks et al. 2011; Dewitte et al. 2010; Powers et al. 2006). In view of this evidence, one can assume that the context in which acute stress tasks are set will play a key role in the emergence of gender and attachment differences.

Last, individuals with fearful attachment may vary in their stress response depending on when they are tested. These individuals with both high attachment anxiety and avoidance experience conflicting emotional regulatory strategies of approach and avoidance. It has been suggested that this type of conflict means that attachment systems are chronically activated as none of the attachment goals are consistently achieved (Dewitte et al. 2010; Pierrehumbert et al. 2009). Such cumulative exposure to stress increases allostatic load and results in a dysregulated HPA axis (Lupien et al. 2009). Research has shown that dysregulation can result in hyporeactive responses in older adults (Heim et al. 2000). These different patterns of dysregulation may reflect the point in the life trajectory when testing occurs (McEwen 2008), with hyperreactivity giving way to hyporeactivity as the condition becomes more chronic in some individuals. In accordance with this, fearful attachment may present as hyperreactivity in younger adults (Powers et al. 2006; Dewitte

et al. 2010), but over time the physiological stress system is no longer able to maintain responsiveness and hyporeactivity is detected (Kidd et al. 2013).

11.6 Attachment and Cortisol Across the Day

So far, we have examined the role of attachment in cortisol response to an acute laboratory stress. Naturalistic studies, however, have the scope to address some of the issues raised in the acute stress research related to context and gender. Perhaps more importantly, patterns observed in the laboratory need to be witnessed in everyday life if they are to be implicated in disease aetiology and progression (Kidd et al. 2014a). Moreover, examining daily responses of cortisol enables us to view the effects of chronic stress exposure and potential risk to health in different timeframes (Lupien and McEwen 1997; Lupien et al. 2009).

Cortisol may be particularly useful to study away from the lab as it has a particular pattern across 24 hours, making it easy to spot signs of HPA axis dysregulation. Briefly, cortisol is released across the day to ensure basal levels of hormone that are necessary for energy and optimal functioning, but it also follows a circadian rhythm, with higher levels in the morning, peaking at 30 min after awakening. The difference between initial waking levels and the peak at 30 min is called the cortisol awakening response (CAR) (Fries et al. 2009). Cortisol production then decreases over the day, reaching its lowest point at night. Evidence of HPA dysregulation can be seen if there is either enhanced cortisol release (hypercortisolism) or downregulation (hypocortisolism) over the day.

Several studies have examined the CAR in different attachment states. Hicks and Diamond (2011) found that quarrelling the previous evening was associated with a dampened CAR in highly anxiously attached females and higher sleep disturbance in anxiously attached individuals overall. An attenuated CAR in a women-only sample was also described by Quirin et al. (2008), who found that, compared to those with lower attachment anxiety, females with higher levels of attachment anxiety exhibited higher waking levels of cortisol and an attenuated cortisol peak at 30 minutes. It is believed in the general stress literature that the CAR may prime the brain for the expected demands of the day ahead (Fries et al. 2009), although the mechanisms for this are not known. Based on the results of Hicks and Diamond (2011) and Quirin et al. (2008), it is possible that hypervigilant, threat-sensitive, anxiously attached individuals have attenuated CARs because they awake anticipating negative events to come.

Studies that have examined cortisol output over the day have found similar results in individuals with anxious attachment. Diamond et al. (2008) examined changes in day-to-day HPA activity prompted by a physical separation, such as a business trip, from a romantic partner. Only those individuals with high levels of attachment anxiety had heightened HPA axis activity across the day. Similarly Jaremka et al. (2013) found that anxious attachment predicted higher cortisol levels across the day following discussion of marital problems. Interestingly, neither study reported gender differences in cortisol response.

Our group examined attachment and cortisol across the day in the Whitehall II cohort and found that those with preoccupied attachment had the greatest cortisol response across the day and that their cortisol response did not follow the usual pattern of decline in the evening – the cortisol levels remained relatively high. Those with fearful attachment had the lowest overall cortisol output across the day (Kidd et al. 2013). Gender differences were detected in this investigation. Males with preoccupied attachment had the highest cortisol output and flattest slope, while females with a fearful attachment had the lowest cortisol output. The results concerning attachment anxiety and the interaction between anxiety and avoidance (fearful attachment) seem to be relatively robust across many contexts.

Across all studies, high attachment avoidance was not associated with any of the cortisol parameters. This is in agreement with the attachment theory that strategies associated with attachment avoidance to regulate affect promote autonomy and subsequently reduce the physiological experience or expression of distress (Shaver and Mikulincer 2007). The studies outlined in this section are representative of an average day and consequently should reflect habitual regulatory responses of dismissive attachment. Attachment avoidance effects only became apparent when there was an interaction with attachment anxiety (Kidd et al. 2013). This suggests that caution must be applied when interpreting results from acute stress laboratory studies. The contradictory findings reported for attachment avoidance in acute stress studies may be related to gender and contextual factors, particularly so for interpersonal acute stress tasks (Laurent and Powers 2007). In fact it may be the case that attachment avoidance works to reduce an elevated stress response in a normal situation where the individual is free to use their habitual strategies to regulate distress.

11.7 Implications for Health

The patterns of dysregulation described here have important health implications. Both heightened and attenuated cortisol responses are associated with increased morbidity and mortality (McEwen 2007; Newell-Price et al. 2006; Raison and Miller 2003). Research in the Whitehall study has linked a flatter cortisol profile over the day and elevated evening levels of cortisol with increased cardiovascular mortality (Kumari et al. 2011). Both age and being male were also predictive of this association. In our study (Kidd et al. 2013), we found that older men with preoccupied attachment had a higher overall cortisol output and a flatter slope over the day, which may be relevant to cardiovascular health outcomes. Fearful attachment with low cortisol output across the day may predict non-cardiovascular health outcomes such as chronic fatigue syndrome and Cushing's disease (Fries et al. 2005).

11.8 Attachment, Acute Stress, and Immune Function

There appears to be abundant evidence for insecure attachment altering cortisol production. As cortisol also has a modifying effect on cellular immunity, it is not surprising that researchers have begun to investigate the possible effects of

attachment on immune function. Stress has been reliably associated with alterations in immune regulation, including total number of lymphocytes, proinflammatory cytokines, and subsequent inflammatory response. Studies have also demonstrated that some individuals are more prone to immunological changes than others during acute stress (Diamond 2001; Glaser and Kiecolt-Glaser 2005). Can attachment status explain that individual variation?

Currently, there are only a handful of studies that examine the role of attachment on immune functioning during an acute stress task. In a cross-sectional study of healthy women, attachment avoidance was associated with lower natural killer cells (Picardi et al. 2007). Gouin et al. (2009) examined 35 couples in the laboratory using a structured social support interaction and a marital conflict discussion task. They found that avoidant attachment was associated with an 11 % increase in total IL-6 production during the conflict task as compared to the social support interaction. Jaremka et al. (2013) found that attachment anxiety was associated with an increase in cortisol and a reduction in T helper cells and cytotoxic T cells. A gender effect was present for two of the T helper cell outcomes, with an inverse association between anxious women and T helper cells.

11.9 Attachment and Immune Functioning Away from the Laboratory

There are only two studies that examine immune function outside the laboratory. Fagundes et al. (2014) examined whether attachment anxiety predicted Epstein-Barr virus (EBV) activity in older aged individuals (mean age 55 years at visit 1) who were being tested for breast or colon cancer at baseline and one year follow-up. They found that anxious attachment was predictive of elevated titres at 1 year, which reflects poorer cellular immunity. Maladaptive immune alterations can enhance herpes virus reactivation and replication, which causes elevation in herpes virus titres (Glaser et al. 2006; Stassen et al. 2006). This has been linked to increased inflammation and poor health outcomes (Steptoe et al. 2007). No significant associations were found for avoidant attachment or gender effects. Fagundes et al. (2014) concluded that as attachment anxiety frequently activates biological stress systems, due to associated hyperactivating strategies, it should be considered a chronic stressor that may drive the link between stress and immune dysregulation.

Our latest study follows a similar paradigm where we attempted to observe a real-life acute stressor, namely, coronary artery bypass graft surgery, in older cardiac patients (Kidd et al. 2014b). Cardiac surgery provokes a vigorous inflammatory response (Biglioli et al. 2003), and there is significant unexplained variation in inflammation post-surgery (Sanders et al. 2009). We measured inflammatory markers of IL-6, TNF-alpha, and CRP as they are implicated in recovery from surgery and health outcomes (Kaptoge et al. 2013; Sanders et al. 2009). We found that attachment anxiety was associated with increased levels of IL-6 in our older sample, but attachment avoidance was not. As was the case with Fagundes et al. (2014), there were no gender differences on any outcome measure, thus providing further support that gender differences in attachment-related physiological responding may

be due to contextual factors and occur most within the confines of the laboratory setting.

These associations between attachment anxiety and increased immune function have potentially deleterious ramifications for health, particularly when one considers that they are likely to be occurring over many years. Inflammation is a robust and reliable predictor of all-cause mortality (Emerging Risk Factors Collaboration 2010; Harris et al. 1999) and is prognostic for cardiovascular disease, type II diabetes, arthritis, Alzheimer's disease, and cancer (Ershler and Keller 2000; Libby 2007).

11.10 Summary of Attachment, Cortisol, and Immune Function Studies

Despite the huge variation in study design and findings, the results are very encouraging. The findings presented in relation to cortisol and immune function support the hypothesis that susceptibility and response to stress may be one pathway through which attachment may confer health consequences (Maunder and Hunter 2001). Themes that emerge are relatively congruent with the original idea of Fraley et al. (1998) that attachment anxiety and avoidance are two separate constructs, where anxiety is responsible for maintaining emotional reactivity and avoidance responsible for emotional regulatory strategies. However these associations may be confounded by gender and contextual factors (Gouin et al. 2009; Laurent and Powers 2007).

It appears that across contexts, attachment anxiety is related to threat sensitivity and activation of the attachment and stress response systems, as evidenced by greater cortisol response and increased inflammation and decreased cellular immunity (Brooks et al. 2011; Kidd et al. 2013, 2014b; Fagundes et al. 2014; Jaremka et al. 2013; Powers et al. 2006). This supports the idea that attachment anxiety may be linked to chronic stress (Fagundes et al. 2014). Avoidance may be aligned with processes aimed at distress regulation, and it is when deactivating strategies are not a feasible possibility that cortisol or immune responses become heightened (Gouin et al. 2009; Powers et al. 2006). Additionally the interaction between these two constructs of anxiety and avoidance as occurs in fearful attachment may have important health consequences. In this case, the anxiety element promotes chronic activation of the attachment and stress systems, whereas the avoidant element attempts to regulate distress with deactivating strategies; this "countering" of strategies ensures that none of the attachment goals are achieved. In this case it appears that biological stress responses are chronically amplified and likely to contribute to allostatic load over time.

11.11 Attachment and Physical Health

Measures of the HPA axis and immune function are not health outcomes by themselves and do not equate with clinical outcomes. However, evidence from the wider stress literature appears to support the conjecture that dysregulated biological

responses may be implicated in the development and progression of disease (Hamer et al. 2012; McEwen 2008). In addition, the links between interpersonal functioning and physical health have long been established with several large-scale epidemiological studies reporting associations between adverse early life experiences and health outcomes (Felitti et al. 1998).

Relatively little is known about attachment and physical health in this regard. Several studies show that attachment insecurity is greater in a variety of disease populations than in healthy controls (Maunder et al. 2005). McWilliams and Bailey (2010) investigated associations between attachment ratings and a wide variety of health conditions using data from the National Comorbidity Survey Replication. Avoidant attachment was associated with conditions defined primarily by pain, for example, conditions such as migraine. Attachment anxiety was associated with a greater range of health conditions, particularly those associated with the cardiovascular system, such as stroke, hypertension, and cardiac arrest. Studies have also looked at how attachment may influence the course of an illness via an impact on self-management behaviour, such as decreased adherence to recommendations around medication, diet, exercise, and smoking (Ciechanowski et al. 2004). Cross-sectional studies of this nature are informative but are limited as no causality can be implied.

Puig, Englund, Simpson, and Collins (2013) addressed some of these issues with a prospective study predicting physical illness in adults based on patterns of infant attachment; 163 individuals were examined from birth over a period of 32 years. The results showed that insecure attachment was generally associated with greater reports of physical illness in adulthood. Unfortunately the accounts of physical disorder were not validated against medical records of the individuals. Considering all the related evidence, including cortisol and immune function studies, support continues for the hypothesis that attachment insecurity is a risk factor for disease and chronic illness.

11.12 Future Directions

Where do we go from here? As it stands the research suggests that attachment states create differences in biological stress responses that may be one pathway that confers health risk. If we want to establish the role of attachment in the development and progression of disease over the life course, then we need to build a stronger research foundation. The first required element is proof that attachment insecurity creates a difference in responsivity to stress that exists at the individual level and across different contexts. This is important because in everyday life, people rarely confront one single stressor and usually face a multitude of different demands, from many sources, that vary in duration. The wider stress literature has emphasised that it is the frequency and magnitude of stress response system activation across different contexts that result in deleterious consequences to health (Lupien et al. 2009; McEwen 2008). In other words, if stress systems are only activated during conflict with a romantic partner, this alone is insufficient evidence to support the role of

attachment in disease aetiology. However, if we can demonstrate that attachment is integral to threat perception and regulation across different settings, we have a much stronger foundation to support the hypothesis that attachment is a chronic stressor. So far we have not yet established this with any real certainty within an attachment paradigm.

Moreover, if attachment is to be established as a chronic stressor and an independent predictor of disease aetiology, then we need to prove that these processes occur across the life course. Longitudinal studies examining infants growing into older age are highly desirable but realistically and logistically difficult to put into practice. An alternative approach is to examine different age cohorts. It may be particularly fruitful to examine older adults much more extensively than we have presently, as we would be more likely to witness evidence of dysregulation as a consequence of allostatic load processes.

Future research should also be directed at examining physiological reactivity across multiple physiological systems. Most studies look at individual biological systems such as the HPA axis, but these systems do not operate in isolation. A few notable studies have examined more than one marker of physiological stress, such as cortisol and cell-mediated immunity (Jaremka et al. 2013). More studies like this are needed whereby we investigate how different combinations of systems function, to help us understand the underlying mechanisms that may link attachment patterns to disease.

Naturalistic studies are the key to establishing creditability for our laboratory studies, perhaps none more so than for the results related to gender, context, and attachment avoidance. Attachment processes are thought to be similar for males and females, but gender differences are consistently reported during acute stress testing in the laboratory, especially during interpersonal tasks such as conflict resolution in couples (Jaremka et al. 2013; Laurent and Powers 2007; Powers et al. 2006). These findings are often not replicated in naturalistic studies, implicating the nature of the task context as a possible confounder (Diamond et al. 2008; Fagundes et al. 2014; Kidd et al. 2014b). Furthermore, cortisol response to non-interpersonal acute stress tasks measured in the laboratory has been shown to reflect cortisol response across an average day, independently of gender (Kidd et al. 2014a). This begs the question of the validity of the responses observed in the laboratory for attachment and gender during interpersonal tasks. If the interaction between gender and attachment is only evident in the laboratory context, what is the likelihood that this will contribute to a health outcome? Future studies that examine physiological responses in naturalistic settings may help clarify these results and their relevance for development of disease.

Relatedly, the disparate results reported for avoidant attachment in cortisol and immune function responses in laboratory and non-laboratory settings require further reflection and investigation (Gouin et al. 2009; Picardi et al. 2007; Powers et al. 2006; Rifkin-Graboi 2008). Reliance on avoidant strategies for distress reduction predicts that highly avoidant individuals would not put themselves in those types of situation we create in the laboratory but rather avoid them if at all possible, only being stressed if they are unable to employ their favoured avoidant defences (Dewitte et al. 2008). The impression given by naturalistic studies is that this may well be the

case (Fagundes et al. 2014; Kidd et al. 2014b). Future studies that examine dyadic interactions in a natural environment may help clarify how attachment needs of each partner coexist and interact normally, so we can begin to understand how these exchanges may confer risk to health. A further exciting area that has yet to be explored by attachment researchers is the effect of caregiving for a sick or dependent spouse on physiological stress systems in older adult dyads. Much evidence exists of the detrimental effects of caregiving on the health of the caregiver (Damjanovic et al. 2007). Attachment may offer a new perspective on why some individuals are more susceptible to negative health outcomes than others via vulnerability in their physiological stress mechanisms created by attachment insecurity.

We also need to delineate the emotional process that results in a stress situation. We have suggested that attachment anxiety may be relevant to emotional reactivity and attachment avoidance to regulatory processes, but this is just one interpretation of the data. We do not know objectively if individuals with attachment anxiety have a lower threshold for stress and greater threat appraisal than avoidant individuals. Future research should incorporate measures of threat appraisal, so that emotional reactivity and regulation and the underlying physiological mechanisms associated with them may be better understood.

Finally, this is only one of many possible interconnected pathways to disease vulnerability. The focus of this chapter has been on acute stress processes, but the role of restorative processes is equally important. Many restorative processes occur following the cessation of the stressor challenge. These include biological processes such as wound healing and sleep (Robles and Carroll 2011; Robles and Kane 2014). Similarly, behavioural lifestyle factors such as diet and exercise, which are established predictors of health (O'Donovan et al. 2010; Thorp et al. 2011), have been linked to insecure attachment (Feeney 1995).

In conclusion, despite this being a relatively new field of research, attachment theory offers a direct pathway explaining the association between stress and disease, something that has been missing in the stress literature. It offers the potential to explain both threat perceptions and regulatory processes which may influence susceptibility to disease. The individual differences in attachment security may also explain vulnerabilities to specific types of disease, whereby attachment anxiety may be related to cardiovascular outcomes, to give one example. This is an exciting, dynamic area for researchers, and by building upon what we have already learnt, and broadening our approach, we have a unique opportunity to uncover the reasons why some individuals get ill and others do not.

References

Beck LA, Pietromonaco PR, DeBuse CJ, Powers SI, Sayer AG (2013) Spouses' attachment pairings predict neuroendocrine, behavioral, and psychological responses to marital conflict. J Pers Soc Psychology 105(3):388–424

Biglioli P, Cannata A, Alamanni F, Naliato M, Porqueddu M, Zanobini M, Parolari A (2003) Biological effects of off-pump vs. on-pump coronary artery surgery: focus on inflammation, hemostasis and oxidative stress. Eur J Cardiothorac Surg 24(2):260–269

Bilbo SD, Schwarz JM (2012) The immune system and developmental programming of brain and behavior. Front Neuroendocrinol 33(3):267–286
Blascovich J, Tomaka J (1996) The biopsychosocial model of arousal regulation. Adv Exp Soc Psychol 28:1–51
Bowlby J (1969) Attachment and loss, vol. I. Attachment. Basic Books, New York
Bowlby J (2005) A secure base: clinical applications of attachment theory. Taylor & Francis, New York
Brooks KP, Robles TF, Schetter CD (2011) Adult attachment and cortisol responses to discussions with a romantic partner. Pers Relat 18(2):302–320
Carpenter EM, Kirkpatrick LA (1996) Attachment style and presence of a romantic partner as moderators of psychophysiological responses to a stressful laboratory situation. Pers Relat 3(4):351–367
Carpenter LL, Tyrka AR, Ross NS, Khoury L, Anderson GM, Price LH (2009) Effect of childhood emotional abuse and age on cortisol responsivity in adulthood. Biol Psychiatry 66(1):69–75
Chida Y, Hamer M (2008) Chronic psychosocial factors and acute physiological responses to laboratory-induced stress in healthy populations: a quantitative review of 30 years of investigations. Psychol Bull 134(6):829
Chorpita BF, Barlow DH (1998) The development of anxiety: the role of control in the early environment. Psychol Bull 124(1):3
Christensen A, Heavey CL (1990) Gender and social structure in the demand/withdraw pattern of marital conflict. J Pers Soc Psychol 59(1):73
Ciechanowski P, Russo J, Katon W, Von Korff M, Ludman E, Lin E, Bush T (2004) Influence of patient attachment style on self-care and outcomes in diabetes. Psychosom Med 66(5):720–728
Cohen S, Janicki-Deverts D, Doyle WJ, Miller GE, Frank E, Rabin BS, Turner RB (2012) Chronic stress, glucocorticoid receptor resistance, inflammation, and disease risk. Proc Natl Acad Sci 109(16):5995–5999
Damjanovic AK, Yang Y, Glaser R, Kiecolt-Glaser JK, Nguyen H, Laskowski B, Weng NP (2007) Accelerated telomere erosion is associated with a declining immune function of caregivers of Alzheimer's disease patients. J Immunol 179(6):4249–4254
Davis D, Shaver PR, Vernon ML (2003) Physical, emotional, and behavioral reactions to breaking up: The roles of gender, age, emotional involvement, and attachment style. Pers Soc Psychol Bull 29(7):871–884
Denson TF, Spanovic M, Miller N (2009) Cognitive appraisals and emotions predict cortisol and immune responses: a meta-analysis of acute laboratory social stressors and emotion inductions. Psychol Bull 135(6):823
Dewitte M, Houwer J, Buysse A, Koster EH (2008) Proximity seeking in adult attachment: examining the role of automatic approach–avoidance tendencies. Br J Soc Psychol 47(4):557–573
Dewitte M, De Houwer J, Goubert L, Buysse A (2010) A multi-modal approach to the study of attachment-related distress. Biol Psychol 85(1):149–162
Diamond LM (2001) Contributions of psychophysiology to research on adult attachment: review and recommendations. Pers Soc Psychol Rev 5(4):276–295
Diamond LM, Hicks AM, Otter-Henderson KD (2008) Every time you go away: changes in affect, behavior, and physiology associated with travel-related separations from romantic partners. J Pers Soc Psychol 95(2):385
Dickerson SS, Kemeny ME (2004) Acute stressors and cortisol responses: a theoretical integration and synthesis of laboratory research. Psychol Bull 130(3):355
Ditzen B, Schmidt S, Strauss B, Nater UM, Ehlert U, Heinrichs M (2008) Adult attachment and social support interact to reduce psychological but not cortisol responses to stress. J Psychosom Res 64(5):479–486
Emerging Risk Factors Collaboration (2010) C-reactive protein concentration and risk of coronary heart disease, stroke, and mortality: an individual participant meta-analysis. Lancet 375(9709):132

Ershler WB, Keller ET (2000) Age-associated increased interleukin-6 gene expression, late-life diseases, and frailty. Annu Rev Med 51(1):245–270
Fagundes CP, Jaremka LM, Glaser R, Alfano CM, Povoski SP, Lipari AM, Kiecolt-Glaser JK (2014) Attachment anxiety is related to Epstein–Barr virus latency. Brain Behav Immun 41:232–238
Feeney JA (1995) Adult attachment, coping style and health locus of control as predictors of health behaviour. Aust J Psychol 47(3):171–177
Felitti MD, Vincent J, Anda MD, Robert F, Nordenberg MD, Williamson MS, James S (1998) Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: the Adverse Childhood Experiences (ACE) Study. Am J Prev Med 14(4):245–258
Fraley RC, Shaver PR (1997) Adult attachment and the suppression of unwanted thoughts. J Pers Soc Psychol 73(5):1080
Fraley RC, Shaver PR (2000) Adult romantic attachment: theoretical developments, emerging controversies, and unanswered questions. Rev Gen Psychol 4(2):132
Fraley RC, Davis KE, Shaver PR (1998) Dismissing-avoidance and the defensive organization of emotion, cognition, and behavior. In: Simpson JA, Rholes WS (eds) Attachment theory and close relationships. Guilford, New York, pp 249–279
Fries E, Hesse J, Hellhammer J, Hellhammer DH (2005) A new view on hypocortisolism. Psychoneuroendocrinology 30(10):1010–1016
Fries E, Dettenborn L, Kirschbaum C (2009) The cortisol awakening response (CAR): facts and future directions. Int J Psychophysiol 72(1):67–73
Gerra G, Zaimovic A, Mascetti GG, Gardini S, Zambelli U, Timpano M, Brambilla F (2001) Neuroendocrine responses to experimentally-induced psychological stress in healthy humans. Psychoneuroendocrinology 26(1):91–107
Glaser R, Kiecolt-Glaser JK (2005) Stress-induced immune dysfunction: implications for health. Nat Rev Immunol 5(3):243–251
Glaser R, Litsky ML, Padgett DA, Baiocchi RA, Yang EV, Chen M, Williams MV (2006) EBV-encoded dUTPase induces immune dysregulation: implications for the pathophysiology of EBV-associated disease. Virology 346(1):205–218
Goldberg S, MacKay-Soroka S, Rochester M (1994) Affect, attachment, and maternal responsiveness. Infant Behav Dev 17(3):335–339
Gouin JP, Glaser R, Loving TJ, Malarkey WB, Stowell J, Houts C, Kiecolt-Glaser JK (2009) Attachment avoidance predicts inflammatory responses to marital conflict. Brain Behav Immun 23(7):898–904
Gunnar MR (1998) Quality of early care and buffering of neuroendocrine stress reactions: potential effects on the developing human brain. Prev Med 27(2):208–211
Gunnar MR, Brodersen L, Nachmias M, Buss K, Rigatuso J (1996) Stress reactivity and attachment security. Dev Psychobiol 29(3):191–204
Hamer M, Endrighi R, Venuraju SM, Lahiri A, Steptoe A (2012) Cortisol responses to mental stress and the progression of coronary artery calcification in healthy men and women. PLoS One 7(2), e31356
Harris TB, Ferrucci L, Tracy RP, Corti MC, Wacholder S, Ettinger WH Jr, Wallace R (1999) Associations of elevated interleukin-6 and C-reactive protein levels with mortality in the elderly. Am J Med 106(5):506–512
Hazan C, Shaver P (1987) Romantic love conceptualized as an attachment process. J Pers Soc Psychol 52(3):511
Heim C, Ehlert U, Hellhammer DH (2000) The potential role of hypocortisolism in the pathophysiology of stress-related bodily disorders. Psychoneuroendocrinology 25(1):1–35
Hicks AM, Diamond LM (2011) Don't go to bed angry: attachment, conflict, and affective and physiological reactivity. Pers Relat 18(2):266–284
Irwin MR, Cole SW (2011) Reciprocal regulation of the neural and innate immune systems. Nat Rev Immunol 11(9):625–632

Jaremka LM, Glaser R, Loving TJ, Malarkey WB, Stowell JR, Kiecolt-Glaser JK (2013) Attachment anxiety is linked to alterations in cortisol production and cellular immunity. Psychol Sci 24(3):272–279
Juster RP, McEwen BS, Lupien SJ (2010) Allostatic load biomarkers of chronic stress and impact on health and cognition. Neurosci Biobehav Rev 35(1):2–16
Kaptoge S, Seshasai SRK, Gao P, Freitag DF, Butterworth AS, Borglykke A, Danesh J (2013) Inflammatory cytokines and risk of coronary heart disease: new prospective study and updated meta-analysis. Eur Heart J. doi:10.1093/eurheartj/eht367
Kidd T, Sheffield D (2005) Attachment style and symptom reporting: examining the mediating effects of anger and social support. Br J Health Psychol 10(4):531–541
Kidd T, Hamer M, Steptoe A (2011) Examining the association between adult attachment style and cortisol responses to acute stress. Psychoneuroendocrinology 36(6):771–779
Kidd T, Hamer M, Steptoe A (2013) Adult attachment style and cortisol responses across the day in older adults. Psychophysiology 50(9):841–847
Kidd T, Carvalho LA, Steptoe A (2014a) The relationship between cortisol responses to laboratory stress and cortisol profiles in daily life. Biol Psychol 99:34–40
Kidd T, Poole L, Leigh E, Ronaldson A, Jahangiri M, Steptoe A (2014b) Attachment anxiety predicts IL-6 and length of hospital stay in coronary artery bypass graft surgery (CABG) patients. J Psychosom Res 77(2):155–157
Kirschbaum C, Klauer T, Filipp SH, Hellhammer DH (1995) Sex-specific effects of social support on cortisol and subjective responses to acute psychological stress. Psychosom Med 57(1):23–31
Kumari M, Shipley M, Stafford M, Kivimaki M (2011) Association of diurnal patterns in salivary cortisol with all-cause and cardiovascular mortality: findings from the Whitehall II study. J Clin Endocrinol Metab 96(5):1478–1485
Kunz-Ebrecht SR, Mohamed-Ali V, Feldman PJ, Kirschbaum C, Steptoe A (2003) Cortisol responses to mild psychological stress are inversely associated with proinflammatory cytokines. Brain Behav Immun 17(5):373–383
Laurent H, Powers S (2007) Emotion regulation in emerging adult couples: temperament, attachment, and HPA response to conflict. Biol Psychol 76(1):61–71
Lazarus RS, Folkman S (1984) Stress. Appraisal and coping 456
Libby P (2007) Inflammatory mechanisms: the molecular basis of inflammation and disease. Nutr Rev 65(s3):S140–S146
Lueken L, Lemery K (2004) Early caregiving and physiological stress response. Clin Psychol Rev 24(2):171–191
Lupien SJ, McEwen BS (1997) The acute effects of corticosteroids on cognition: integration of animal and human model studies. Brain Res Rev 24(1):1–27
Lupien SJ, McEwen BS, Gunnar MR, Heim C (2009) Effects of stress throughout the lifespan on the brain, behaviour and cognition. Nat Rev Neurosci 10(6):434–445
Maunder RG, Hunter JJ (2001) Attachment and psychosomatic medicine: developmental contributions to stress and disease. Psychosom Med 63(4):556–567
Maunder RG, Lancee WJ, Hunter JJ, Greenberg GR, Steinhart AH (2005) Attachment insecurity moderates the relationship between disease activity and depressive symptoms in ulcerative colitis. Inflamm Bowel Dis 11(10):919–926
Maunder RG, Lancee WJ, Nolan RP, Hunter JJ, Tannenbaum DW (2006) The relationship of attachment insecurity to subjective stress and autonomic function during standardized acute stress in healthy adults. J Psychosom Res 60(3):283–290
Maunder RG, Peladeau N, Savage D, Lancee WJ (2010) The prevalence of childhood adversity among healthcare workers and its relationship to adult life events, distress and impairment. Child Abuse Negl 34(2):114–123
McEwen BS (1998) Stress, adaptation, and disease: allostasis and allostatic load. Ann N Y Acad Sci 840(1):33–44
McEwen BS (2000a) Allostasis and allostatic load: implications for neuropsychopharmacology. Neuropsychopharmacology 22(2):108–124

McEwen BS (2000b) Effects of adverse experiences for brain structure and function. Biol Psychiatry 48(8):721–731
McEwen BS (2007) Physiology and neurobiology of stress and adaptation: central role of the brain. Physiol Rev 87(3):873–904
McEwen BS (2008) Central effects of stress hormones in health and disease: understanding the protective and damaging effects of stress and stress mediators. Eur J Pharmacol 583(2):174–185
McWilliams LA, Bailey SJ (2010) Associations between adult attachment ratings and health conditions: evidence from the National Comorbidity Survey Replication. Health Psychol 29(4):446
Mikulincer M, Florian V (1998) The relationship between adult attachment styles and emotional and cognitive reactions to stressful events. In: Simpson JA, Rholes WS, editors. Attachment Theory and Close Relationships. Guildford Press, New York, pp. 143–165
Mikulincer M, Gillath O, Shaver PR (2002) Activation of the attachment system in adulthood: threat-related primes increase the accessibility of mental representations of attachment figures. J Pers Soc Psychol 83(4):881
Mikulincer M, Shaver PR, Pereg D (2003) Attachment theory and affect regulation: the dynamics, development, and cognitive consequences of attachment-related strategies. Motiv Emot 27(2):77–102
Newell-Price J, Bertagna X, Grossman AB, Nieman LK (2006) Cushing's syndrome. Lancet 367(9522):1605–1617
Nijm J, Jonasson L (2009) Inflammation and cortisol response in coronary artery disease. Ann Med 41(3):224–233
O'Donovan G, Blazevich AJ, Boreham C, Cooper AR, Crank H, Ekelund U, Stamatakis E (2010) The ABC of physical activity for health: a consensus statement from the British Association of Sport and Exercise Sciences. J Sports Sci 28(6):573–591
Picardi A, Battisti F, Tarsitani L, Baldassari M, Copertaro A, Mocchegiani E, Biondi M (2007) Attachment security and immunity in healthy women. Psychosom Med 69(1):40–46
Pierrehumbert B, Torrisi R, Glatz N, Dimitrova N, Heinrichs M, Halfon O (2009) The influence of attachment on perceived stress and cortisol response to acute stress in women sexually abused in childhood or adolescence. Psychoneuroendocrinology 34(6):924–938
Pietromonaco PR, Greenwood D, Barrett LF (2004) Conflict in adult close relationships. In: Rholes WS, Simpson JA (eds) Adult attachment: theory, research, and clinical implications. Guilford, New York
Pietromonaco PR, Barrett LF, Powers SI (2006) Adult attachment theory and affective reactivity and regulation. In: Snyder DK, Simpson JA, Hughes JN (eds) Emotion regulation in families and close relationships: pathways to dysfunction and health. American Psychological Association, Washington D.C., pp 57–74
Pietromonaco PR, DeBuse CJ, Powers SI (2013) Does attachment get under the skin? Adult romantic attachment and cortisol responses to stress. Curr Dir Psychol Sci 22(1):63–68
Powers SI, Pietromonaco PR, Gunlicks M, Sayer A (2006) Dating couples' attachment styles and patterns of cortisol reactivity and recovery in response to a relationship conflict. J Pers Soc Psychol 90(4):613
Puig J, Englund MM, Simpson JA, Collins WA (2013) Predicting adult physical illness from infant attachment: a prospective longitudinal study. Health Psychol 32(4):409
Quirin M, Pruessner JC, Kuhl J (2008) HPA system regulation and adult attachment anxiety: individual differences in reactive and awakening cortisol. Psychoneuroendocrinology 33(5):581–590
Raison CL, Miller AH (2003) When not enough is too much: the role of insufficient glucocorticoid signaling in the pathophysiology of stress-related disorders. Am J Psychiatr 160(9):1554–1565
Repetti RL, Taylor SE, Seeman TE (2002) Risky families: family social environments and the mental and physical health of offspring. Psychol Bull 128(2):330

Rifkin-Graboi A (2008) Attachment status and salivary cortisol in a normal day and during simulated interpersonal stress in young men. Stress: The International Journal on the Biology of Stress 11(3):210–224

Robles TF, Carroll JE (2011) Restorative biological processes and health. Soc Personal Psychol Compass 5(8):518–537

Robles TF, Kane HS (2014) The attachment system and physiology in adulthood: normative processes, individual differences, and implications for health. J Pers 82(6):515–527

Sanchez M, Ladd CO, Plotsky PM (2001) Early adverse experience as a developmental risk factor for later psychopathology: evidence from rodent and primate models. Dev Psychopathol 13(03):419–449

Sanders J, Hawe E, Brull DJ, Hubbart C, Lowe G, Rumley A, Montgomery HE (2009) Higher IL-6 levels but not IL6–174G> C or− 572G> C genotype are associated with post-operative complication following coronary artery bypass graft (CABG) surgery. Atherosclerosis 204(1):196–201

Sapolsky RM, Romero LM, Munck AU (2000) How do glucocorticoids influence stress responses? Integrating permissive, suppressive, stimulatory, and preparative actions 1. Endocr Rev 21(1):55–89

Segerstrom SC, Miller GE (2004) Psychological stress and the human immune system: a meta-analytic study of 30 years of inquiry. Psychol Bull 130(4):601

Segerstrom SC, O'Connor DB (2012) Stress, health and illness: four challenges for the future. Psychol Health 27(2):128–140

Shaver PR, Mikulincer M (2007) Adult attachment strategies and the regulation of emotion. In: Gross JJ (ed) Handbook of emotion regulation. Guilford, New York, pp 446–465

Smeets T (2010) Autonomic and hypothalamic–pituitary–adrenal stress resilience: impact of cardiac vagal tone. Biol Psychol 84(2):290–295

Stassen FR, Vega-Córdova X, Vliegen I, Bruggeman CA (2006) Immune activation following cytomegalovirus infection: more important than direct viral effects in cardiovascular disease? J Clin Virol 35(3):349–353

Steptoe A (1991) Invited review: the links between stress and illness. J Psychosom Res 35(6):633–644

Steptoe A, Kivimäki M (2012) Stress and cardiovascular disease. Nat Rev Cardiol 9(6):360–370

Steptoe A, Marmot M (2002) The role of psychobiological pathways in socio-economic inequalities in cardiovascular disease risk. Eur Heart J 23(1):13–25

Steptoe A, Hamer M, Chida Y (2007) The effects of acute psychological stress on circulating inflammatory factors in humans: a review and meta-analysis. Brain Behav Immun 21(7):901–912

Sterling P, Eyer J (1988) Allostasis: a new paradigm to explain arousal pathology. In: Fisher S, Reason J, editors. Handbook of life stress, cognition and health. New York, John Wiley & Sons, p. 629–649

Stroud LR, Salovey P, Epel ES (2002) Sex differences in stress responses: social rejection versus achievement stress. Biol Psychiatry 52(327):318

Taylor SE (2010) Mechanisms linking early life stress to adult health outcomes. Proc Natl Acad Sci 107(19):8507–8512

Teicher MH, Andersen SL, Polcari A, Anderson CM, Navalta CP, Kim DM (2003) The neurobiological consequences of early stress and childhood maltreatment. Neurosci Biobehav Rev 27(1):33–44

Thorp AA, Owen N, Neuhaus M, Dunstan DW (2011) Sedentary behaviors and subsequent health outcomes in adults: a systematic review of longitudinal studies, 1996–2011. Am J Prev Med 41(2):207–215

Whitworth JA, Williamson PM, Mangos G, Kelly JJ (2005) Cardiovascular consequences of cortisol excess. Vasc Health Risk Manag 1(4):291

‘Tell Me What You Understand About Your Patient’: Applying Attachment Principles to Medical Education

12

Jonathan Hunter, Robert Maunder, Paula Ravitz, and Sophie Soklaridis

Throughout this book, we emphasize how the principles of attachment theory are applied to patients in medical and surgical contexts as they struggle with the fears and challenges of illness and treatment. We posit that the same principles can be usefully applied to the training of healthcare professionals. Attachment dynamics are expressed, in their simplest terms, as exploring until you feel scared and then returning to your safe haven until you are soothed and confident again. The learning process is much like attachment dynamics. During active learning or when discovering new knowledge, trainees find themselves ‘exploring’ in novel situations that often provoke anxiety and insecurity. Proper guidance to facilitate the trainee’s understanding of the novel situation, paired with constructive feedback, provides a secure learning environment (or safe haven), which in turn increases the trainee’s sense of security and confidence. Because educational experiences typically require a relationship between trainees and educators, an exploration of the role of attachment theory in teaching and learning provides valuable insights on how to optimize security in teaching relationships for educational benefit.

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For most trainees becoming a healthcare professional is unlike any previous experience, and learning the role can feel overwhelming (O'Brien et al. 2007; Westerman et al. 2010). Training often provokes anxiety, anxiety tends to impair both performance and the acquisition of knowledge and skills, and students are likely to 'solve' their anxiety using inherent defensive strategies, unless taught an alternative. A trainee's developmental trajectory ideally moves from a place of inexperience and uncertainty within the 'new world' of a healthcare profession to a place of independent and competent functioning. If we understand this educational trajectory as an exploration into a new realm of knowledge, skills and interpersonal experience, then applying the lessons learned from attachment theory to support the acquisition of educational maturation makes sense. Moreover, just as a maturing individual is motivated to explore and become more independent, trainees also have an intrinsic motivation to acquire a new competency. Our educational processes need to harness that drive.

This perspective is supported by the literature on education and self-determination theory. For instance, Niemiec and Ryan state "when students' basic psychological needs for autonomy, competence, and relatedness are supported in the classroom, they are more likely to internalize their motivation to learn and to be more autonomously engaged in their studies" (Niemec and Ryan 2009, p. 139). This suggests there is a necessary focus on the student's state of mind as opposed to the teacher's agenda. A wider view of this perspective is also intrinsic to 'student-centred learning' (O'Neill and McMahon 2005), which is associated with a conscious reframing of the teacher's role as a facilitator of knowledge acquisition rather than simply a presenter of information. It emphasizes active versus passive learning, deep versus superficial understanding and mutual respect and 'interdependence' between teacher and student. Allying student-centred learning with an attachment perspective minimizes the likelihood that a trainee will apply a single-minded interpersonal strategy, likely consistent with their internal working model, to all healthcare relationships and clinical challenges.

Additionally, health professions education has traditionally privileged the mastering of content knowledge as the primary goal of a curriculum. However, a trainee in the healthcare professions also has to learn to behave in new ways and learn new strategies for interpersonal interactions. The relevance of an effective 'bedside manner' is well recognized, but mastering the processes of interaction in professional relationships is often a 'hidden' aspect of training and therefore harder to grasp and practice (Hafferty 2015; Wear and Skillcorn 2009). Recognition of the importance of developing healthcare professionals with strong communication, teamwork, decision-making and critical thinking skills has led to new role definitions for some professional bodies. For example, several CanMEDS roles, specifically communicator, collaborator and health advocate, emphasize the interpersonal responsibilities of a physician (Frank 2005). Here attachment principles can also apply, as the trainee is learning about relationships.

The three basic tenets of this application of attachment theory to education are as follows:

1. The *problem* is that fear and anxiety create insecurity, which reduces exploration and impairs learning.

2. The *solution* is for the teacher to provide a secure base and safe haven to encourage exploration.
3. The *strategy* by which this occurs is mentalizing.

These three tenets are based on the premise that almost all teaching, learning and clinical practice occur within relationships. Relationship-centred care recognizes that emotion and affect are important in developing, maintaining and terminating relationships (Beach et al. 2006). Thus, in health professions education, the importance of respectfully reflecting on the experience of the patient and the trainee, the trainee's interaction with the patient and the interaction between the trainee and the teacher all contribute to a greater appreciation of the trainee's own contribution to these relationships. As we delve into these various domains, we frequently reference studies of trainee supervision within the psychotherapy literature, as it is the field that has been most attuned to these issues. This literature supports the notion that supervision is critical to role acquisition and surpasses didactic learning in this regard (Orlinsky et al. 2001).

12.1 The Problem: Fear and Anxiety Reduce Learning

Acquiring a large amount of quickly evolving content knowledge and simultaneously developing new role performance skills in a healthcare discipline is daunting for trainees. In addition, the supervisory relationship between faculty members and trainees can be fraught with challenges and concerns that increase trainee's fears of becoming a competent healthcare professional. For example, studies in the areas of social work (Kanno and Koeske 2010), nursing (Bush 2005) and medicine (De Oliveira et al. 2013) found that poor supervision of trainees is detrimental to education and conflict associated with supervisor-trainee transaction was related to greater student distress. In past surveys of psychotherapy instruction, disrespectful or exploitive supervisory behaviour towards trainees has been shown to exist and to distort learning. Most egregiously, 17 % of psychotherapy supervisors were described as devaluing trainees on the basis of gender and 4 % as having made sexual advances (Allen et al. 1986). These negative experiences in supervision result in trainees feeling not only anxious but less competent and doubting of their professional capacity (Friedlander et al. 1986; Nelson and Friedlander 2001). It is a modest inference to expect that experiences like these induce feelings of insecurity which reduce effectiveness and the capacity to learn. Tellingly, bad supervisors constrain trainee's independence (Wulf and Nelson 2001), certainly a position at odds with the exploration required for developing autonomous mastery. Thus, in the worst cases, the supervisor not only fails to facilitate security; he or she actually conveys threat, analogous to the behaviour of a frightening or abusive parent (Lyons-Ruth and Jacobvitz 2008). An attachment perspective predicts that this will result in affective and interpersonal disorganization which will inevitably impair the trainee's ability to learn. Anxiety-provoking training experiences that are less harmful and more common can also impair trainee development. The most common of these is probably the anticipation of negative evaluation, learnt from previous educational

experiences, which can lead trainees to become more guarded and cautious about revealing their thoughts and actions to a supervisor (Donaldson et al. 2002).

The presence of threatening uncertainty and anxiety can trigger the trainee's attachment system, provoking behaviour that is guided by his or her internal working model (i.e. behaviour that conforms to his or her attachment style). In fact, trainees endorse feelings towards their supervisors that are consistent with their own attachment style (Pistole and Watkins 1995). The anxiety experienced by trainees with dismissing attachment leads them to underestimate their own needs, overestimate their competence and devalue the relevance of supervision. Trainees with preoccupied attachment, on the other hand, hyper-activate signalling of distress and need to the supervisor and become overly dependent on the supervisor's approval before taking any therapeutic action (Leszcz 2011). Furthermore, those trainees who rated their relationship with their supervisors as insecure also rated their own professional development as poor, even if objective reports considered it adequate (Foster et al. 2007), suggesting a degree of insecurity in their own sense of competence.

12.2 The Solution: A Secure Supervisory Base and Safe Haven for the Student

The literature supports the idea that the learning environment has to be secure and blame-free (Edmondson 2004). Learning has to feel safe enough that a trainee is free to explore his or her interpersonal experience with patients and to disclose his or her own ignorance, doubts, anxieties and fears to a supervisor.

Trainees that rated their supervisors as secure, regardless of their own attachment style, report a stronger alliance with their supervisors (Riggs and Bretz 2006). The characteristics of such supervisors include being nonintrusive, respectful of personal and private boundaries and tolerant of mistakes. In fact, when supervisors are perceived to be open and collaborative, there are *more* disclosures of difficult events, meaning that the trainee's trust of the supervisor translates into a superior educational experience and, indirectly, to better patient care (Ladany and Friedlander 1995). This is a parallel to the virtuous cycle of development wherein safety and trust create better affective regulation that in turn allows more accurate appraisal of a stressful interpersonal situation (Chap. 3).

Importantly, safety in supervision does not preclude criticism or correction by the supervisor. In a secure supervisory relationship, there is a curiosity about the trainee that is marked by attunement, respect and responsiveness. Instruction is motivated by the goal of improving trainee behaviours that are specific to the professional discipline. Thus, a supervisor's enquiry and criticism are in the service of the trainee and not motivated by supervisory curiosity or narcissism, which can undermine the trainee's competence. Strong supervisors are able to correct the behaviour of their trainees, but do it in a safe atmosphere created by clear, direct feedback. Furthermore, Allen et al. (2008) emphasizes that a secure relationship with a supervisor permits two crucial aspects of training to develop: thoughtful

attention to others' behaviours and to the trainee's own motivations and effective affect regulation. These are also competencies of the attachment system that are associated with secure attachment (Chap. 2). Both of these functions are crucial for a trainee who is struggling to perform the difficult dual task of treating a patient and simultaneously learning from a supervisor.

To achieve the recommended supervisory secure base, the roles of both supervisor and trainee should be clear and reliably maintained. This is consistent with Bordin's concept of a 'supervisory alliance' (1983), which emphasized that transition from novice to master is gradual and aided by clear role definitions and clarity of tasks for both the trainee and the supervisor. To optimize the sense of safety, the supervisor should delineate the rules and structures of supervision and adhere to these with few exceptions. The supervisor and the trainee need a mutual understanding of the goals of the supervision and how material and feedback will be conveyed. Each should be able to count on the other to attend at the agreed upon times. The trainee needs a clear description of what he or she can expect about the supervisor's responsiveness when problems arise, including at times of crisis.

The worst supervisory experiences are diffuse and lacking in clarity and consistency, while the best supervisors were described as expert and trustworthy, set aside time for the supervision and took steps to prevent interruption during the supervisory time (Allen, Szollos, and Williams 1986). Research has also shown that having a structure and sequence in supervision is superior to simply reacting to material presented by the trainee (Lambert and Ogles 1997). These qualities – clarity, predictability, availability, responsiveness and respect for personal boundaries – form the basis of a secure educational base.

A corollary of the idea that a supervisor should provide secure base and safe haven functions is that a supervisor should be experienced and expert in the field that he or she is teaching. If a trainee feels uncertain about a patient, especially if the trainee cannot clearly identify their source of discomfort, then he or she wants advice from a supervisor who has special knowledge and experience; it is the supervisor's expertise that allows the trainee to feel secure again. In a qualitative analysis of the communication between family practitioner mentees and their psychiatric mentors in a collaborative care programme, this principle became clear (Hunter et al. 2008). In this study, the mentees worked hard to maintain the elevated status of the mentor, even when the mentor sought to minimize it to become more collegial. The attachment approach requires supervisors to be comfortable with their expert status. One might suggest however, in parallel to the normal developmental educational process, that as the trainee develops skill and maturity, the supervision should shift towards a relationship that is better characterized as collaboration between peers. This would fit the commonly seen arc from structured training with a senior supervisor to study groups with colleagues, which continue to meet after the formal training programme has ended.

If the supervisor successfully creates a secure base for the trainee, we would anticipate that the trainee will become more effective in providing a secure base, in turn, for his or her patient, which would allow the patient increased opportunity for reflection and exploration.

12.3 The Strategy: Using Mentalizing in Supervision to Promote Safety and Exploration

The previous section delineated the structural qualities of a safe learning environment, such as consistency and reliability, and the benefits they promote, such as open disclosure. Now we turn to the process of the supervisory relationship and propose that principles of mentalizing (as described by Luyten and Fonagy, Chap. 9) deepen the trainee's skills and clinical efficacy by increasing their awareness of their patient's and their own experience.

For example, in teaching a medical student about interviewing, the student reported saying to the patient 'I've just lost my train of thought, give me a minute' and then looking at her notes before resuming. The teaching, which until then had focused on content information about assessment, shifted to focus on the moment where the student had been pushed off her line of carefully prepared questions. The teacher invited the student to work together to try and figure out what had caused the discontinuity. At first the student said she didn't know why she'd paused. She was, however, curious, as opposed to threatened, by the teacher's shift in focus. Encouraged by the teacher to further explore that moment, it became clear that her losing track occurred after the patient reported fears of being inadequate as a parent after a return home with a post-operative reduction in mobility. Reflection upon this helped the student to remember that it had been upsetting to her to hear him say this, and she had been momentarily overwhelmed by the image of the patient struggling to be an active parent and perhaps failing.

The teacher replied that this unsettling reaction was normal and one which was good to understand, because it showed the student her own empathy. They were able to discuss how an empathic response of this kind could increase the depth of her understanding of the patient beyond the answers to her pragmatic interview questions. Thanks to her reflection, the student now had an idea of what challenges the patient faced as a result of his reduced mobility.

Having her reaction understood as normal, and seeing its value demonstrated, further added to the student's sense of safety in the learning environment. She learned that she didn't have to fear criticism for reporting what at first seemed like a mistake. Furthermore, it allowed her to see that her pause with the patient – in which she was able to be transparent with him – gave her time to realign, reorganize and 'find her mind'.

Thus the supervisor's creation of a secure base in which to explore reactions deepened the student's understanding of the patient and of herself as a professional working in a clinical context. The teacher's use of mentalizing principles contributed to this outcome and modelled how the student might explore her own future reactions, which may reduce the odds of her being overcome by a disorganizing burst of anxiety in a similar situation in the future.

The capacity to reflect on the internal world of the patient – to mentalize – augments all patient care; helping trainees to develop this capacity is universally relevant. Most trainees start with an innate capacity to mentalize, but it is incumbent on the supervisor to ascertain the extent to which the trainee is capable of effective mentalizing. Barret and Barber (2005) suggest that a trainee's maturity can be estimated by exploring their capacity to objectively assess their own behaviour and motives. This is analogous to mentalizing about a treatment episode with the patient and focuses on the capacity, even in the presence of emotional arousal, to appreciate one's own and the other's intentions or perspective. Indeed, some poorly skilled trainees overestimate their competence in understanding patients and are simultaneously blind to the consequences of their incapacity (Kruger and Dunning 1999). For such trainees the supervisors' first task must be to help them develop some fundamental reflective ability. To judge the trainee's stage of reflective capacity, the literature supports the idea that direct observation of the trainee's interactions with patients is necessary (Ravitz et al. 2013).

If some trainees start at a lower level of mentalizing capacity, then there will be a developmental sequence to the acquisition of this competence. The idea that supervision should follow a developmental course is not novel (Aten et al. 2008; Stoltenberg and Delworth 1987). In one such model, after a 'preparation' phase designed to develop a strong foundation for further training, the second stage of development is 'exploration' (Castonguay 2000). This sequence parallels the secure base-exploration-safe haven sequence suggested here. From an attachment perspective we might imagine it as generating an internal working model of how patient care works, with an integration of principles, attitudes and practices gleaned from the supervisor.

A summary of supervision literature also describes a developmental trajectory to learning in which novice trainees appreciate a focus on self-awareness, intermediate trainees concentrate on the development of alternative conceptual frameworks and senior trainees wish to examine countertransference and more personal development (Worthen and McNeill 1996). In this phenomenological investigation of eight trainees' experience of supervision, the description of the advanced supervision was notable, from our perspective, for encouraging exploration and acquisition of a 'meta-perspective' described as 'stepping back and looking at the feelings' that had been evoked in a session (pg. 31). Thus, from a mentalizing perspective, supervisors must attend to the developmental stage of their individual trainees and modify their teaching appropriately. Perhaps the pinnacle of this developmental trajectory is examining the reactions engendered within a trainee by a patient (countertransference), a process which is highly dependent on an adequate secure base within supervision. Failure to achieve this level of security can result in trainees hiding conflicts

or failures from the supervisor, typically out of fear of being shamed (Hantoot 2000; Ladany et al. 1996; Yourman 2003). Obviously this prevents optimal exploration and understanding and can be likened to the behaviour of a dismissing child who hides needs or discomfort in order to maintain proximity to a parent.

To avoid such a withdrawal from exploration and to optimize the trainee's reflective capacity, the supervisor can show the trainee how to mentalize, by mentalizing about the patient. A qualitative analysis of transcripts of supervision sessions with trainees who were unskilled and unaware highlighted the importance of attending to processes of engagement and mentalizing by demonstrating improvements via supervision that adhered to mentalizing principles (Soklaridis et al. 2014). Such modelling requires a high degree of activity on the part of the supervisor, with a persistent focus on understanding intent and motivation in the patient's behaviour. We believe this can contribute to any healthcare context. For instance, using the example of physiotherapy, questions shift from the functional ('Did the physiotherapy start on time?') to an attempt to instil curiosity about how the patient is feeling or what their intention is ('Why do you think he's always late for his physio?'). Similarly, rather than lecturing on a theory and its application, or adhering rigidly to content knowledge, the supervisor shows the trainee how to pursue mentalizing of the patient: 'What do you imagine his experience of doing physiotherapy with his new amputation might be?' In a hospital ward, examples of a shift towards mentalizing would be shifting from asking 'How can we discharge this patient?' to 'What might the benefits of hospitalization be for him that make it hard for him to leave?' or from 'How do we make the patient take her insulin?' to 'What do you think the patient might be experiencing when she has to take insulin every day, on somebody else's "orders"?'

A corollary of this approach is the mentalizing of the student by the supervisor, via comments that invite self-reflection, starting from a position of not-knowing, such as 'Give me a sense of what you were thinking about when you said that' or 'What do you think was holding you back from saying what you had in mind?' A respectful, nonintrusive curious reflection about the intentions, feelings or motives of the trainee suggests the trainee do the same with the patient – a teaching by example. Appropriate supervisory self-disclosure is also an aspect of this modelling, as it demonstrates to the trainee what the motives or intentions of the supervisor were in similar clinical encounters, or perhaps within a supervisory moment; essentially it is transparency about self-mentalizing by the supervisor. Ladany (2004), in describing excellent supervisors, states 'Their openness facilitated an openness in me, which in turn led to more growth experiences' (pg. 2). This supervisory openness makes their mentalizing explicit and available for the trainees to examine. However, just as disclosure in a clinical encounter needs to be motivated by a perceived benefit for the patient, the motive for supervisory self-disclosure needs to be for the good of the trainee. If a trainee can hypothesize about a patient without fear of a supervisor's condemnation, then mature mentalizing can safely develop. The best supervisors have been noted to have a high tolerance for uncertainty and encourage trainees to experiment and take reasonable risks. A trainee

trying something new that is potentially anxiety provoking and then returning to the supervisor for reflection parallels a safe haven function.

Most healthcare trainees have neither the theoretical background nor the experience to address countertransference. Demonstrating mentalizing can provide a much more accessible window on interpersonal dynamics. For example, as described by one of the authors (PR) in a 3-week elective on communication competence with senior medical students, the supervisory stance of transparently volunteering 'what was on my mind' at a given point in an observed interview led to increased reflection by the trainees on both the patient experience and their own mental processes.

Lastly, the mentalizing attitude in therapy is independent of theoretical perspective and can be used with any population of patients. By extension, mentalizing in supervision can be applied in the context of any patient care training, or with any trainee, regardless of discipline or experience. It does not depend on the use of a particular model of care nor does it require deep knowledge of a body of literature to further understand the patient. Rather it directs the supervisor to emphasize process as well as content and encourages them to demonstrate an attitude of being 'mindful' and reflective in their structuring of education, so that they attend to the development of a secure base and other conditions that favour exploration and understanding of the behaviour and minds of others.

Conclusion

In this chapter we have drawn a heuristic parallel between the characteristics defined by attachment theory as optimal for developmental maturation and the process of teaching clinical competence. A similar approach has been suggested previously by Fitch and colleagues (2010), although their attachment-caregiving model of supervision did not include mentalizing. We have emphasized that creating a safe learning environment, and in particular a secure supervisory relationship, minimizes fear and anxiety in trainees. This safety prevents negative experiences from obstructing the acquisition of new knowledge and capacities for trainees. The modelling of mentalizing by the supervisor – of themselves, of the patient, and of the trainees – in a nonintrusive, respectful manner contributes to the creation of a safe educational base and optimizes the trainee's competence in understanding their patient's subjective experience. These attachment principles cut across theoretical perspectives and disciplines to structure and deepen any educational endeavour.

References

Allen G, Szollos S, Williams B (1986) Doctoral students' comparative evaluations of best and worst psychotherapy supervision. Prof Psychol: Res Pract 17:91–99

Allen JG, Fonagy P, Bateman A (2008) Mentalizing in clinical practice. American Psychiatric Publishing, Arlington

Aten J, Strain J, Gillespie R (2008) A transtheoretical model of clinical supervision. Train Educ Prof Psychol 2:1–9

Barrett M, Barber J (2005) A developmental approach to the supervision of therapists in training. J Contemp Psychother 35:169–183
Beach MC, Inui T (2006) And the Relationship-Centered Care Research Network Relationship-centered Care, A Constructive Reframing. Gen Intern Med 21:S3–8. doi: 10.1111/j.1525-1497.2006.00302.xJ
Bordin E (1983) A working alliance based model of supervision. Couns Psychol 11(1):35–42
Bush T (2005) Overcoming the barriers to effective clinical supervision. Nurs Times 101(2):38–41 available from: PM:15688921
Castonguay LG (2000) A common factors approach to psychotherapy training. J Psychother Integr 10:263–282
De Oliveira GSJ, Rahmani R, Fitzgerald PC, Chang R, McCarthy RJ (2013) The association between frequency of self-reported medical errors and anesthesia trainee supervision: a survey of United States anesthesiology residents-in-training. Anesth Analg 116(4):892–897 available from: PM:23385057
Donaldson SI, Gooler LE, Scriven M (2002) Strategies for managing evaluation anxiety: toward a psychology of program evaluation. Am J Eval 23(3):261–273
Edmondson AC (2004) Learning from failure in health care: frequent opportunities, pervasive barriers. Qual Saf Health Care 13(Suppl 2):3–9 available from: PM:15576689
Fitch JC, Pistole MC, Gunn JE (2010) The bonds of development: an attachment-caregiving model of supervision. Clin Superv 29(1):20–34
Foster JT, Lichtenberg JW, Peyton V (2007) The supervisory attachment relationship as a predictor of the professional development of the supervisee. Psychother Res 17(3):343–350
Frank JR (2005) The CanMEDS 2005 Physician Competency Framework. Better standards. Better physicians. Better care. The Royal College of Physicians and Surgeons of Canada, Ottawa
Friedlander ML, Keller KE, Peca-Baker TA, Olk ME (1986) Effects of role conflict on counselor trainees' self-statements, anxiety level, and performance. J Couns Psychol 33(1):73–77
Hafferty FW (2015) The hidden curriculum. In: Dent JA, Harden RM (eds) A practical guide for medical teachers. Elsevier, London
Hantoot MS (2000) Lying in psychotherapy supervision: why residents say one thing and do another. Acad Psychiatry 24(4):179–187
Hunter JJ, Rockman P, Gingrich N, Silveira J, Salach L (2008) Novel network for mentoring family practitioners on mental illness issues utilizing email. Acad Psychiatry 32(6):510–514
Kanno H, Koeske GF (2010) MSW students' satisfaction with their field placement: the role of preparedness and supervision quality. J Soc Work Educ 46(1):23–38
Kruger J, Dunning D (1999) Unskilled and unaware of it: how difficulties in recognizing one's own incompetence lead to inflated self-assessments. J Pers Soc Psychol 77:1121–1134
Ladany N (2004) Psychotherapy supervision: what lies beneath. Psychother Res 14:1–19
Ladany N, Friedlander ML (1995) The relationship between the supervisory working alliance and trainees' experience of role conflict and role ambiguity. Couns Educ Superv 34(3):220–231
Ladany N, Hill CE, Corbett MM, Nutt EA (1996) Nature, extent, and importance of what psychotherapy trainees do not disclose to their supervisors. J Couns Psychol 43(1):10–24
Lambert MJ, Ogles BM (1997) The effectiveness of psychotherapy supervision. In: Watkins CE (ed) Handbook of psychotherapy supervision. Wiley, New York
Leszcz M (2011) Psychotherapy supervision and the development of the psychotherapist. In: Klein RK, Bernard HS, Schermer VL (eds) On becoming a psychotherapist: the personal and professional journey. Oxford University Press, New York
Lyons-Ruth K, Jacobvitz D (2008) Attachment disorganization: genetic factors, parenting contexts, and developmental transformation from infancy to adulthood. In: Cassidy J, Shaver PR (eds) Handbook of attachment: theory, research and clinical applications, 2nd edn. Guilford, New York, pp 666–697
Nelson ML, Friedlander ML (2001) A close look at conflictual supervisory relationships: the trainee's perspective. J Couns Psychol 48(4):384–395
Niemec CP, Ryan RM (2009) Autonomy, competence and relatedness in the classroom: applying self-determination theory to educational practice. Theory Res Educ 7(2):133–144

O'Brien B, Cooke M, Irby DM (2007) Perceptions and attributions of third-year student struggles in clerkships: do students and clerkship directors agree? Acad Med 82(10):970–978 available from: PM:17895662

O'Neill G, McMahon T (2005) Student-centred learning: what does it mean for students and lecturers? In: O'Neill G, Moore S, McMullin B (eds) Emerging issues in the practice of university learning and teaching. Aische, Dublin

Orlinsky D, Botermans J, Ronnestad M (2001) Towards an empirically grounded model of psychotherapy training: four thousand therapists rate influences on their development. Aust Psychol 36(139):148

Pistole MC, Watkins CE (1995) Attachment theory, counseling process, and supervision. Couns Psychol 23(457):478

Ravitz P, Lancee WJ, Lawson A, Maunder R, Hunter JJ, Leszcz M, McNaughton N, Pain C (2013) Improving physician-patient communication through coaching of simulated encounters. Acad Psychiatry 37(2):87–93 available from: PM:23475235

Riggs SA, Bretz KM (2006) Attachment processes in the supervisory relationship: an exploratory investigation. Prof Psychol: Res Pract 37(5):558–566

Soklaridis S, Hunter JJ, Ravitz P (2014) Twelve tips for asking and responding to difficult questions during a challenging clinical encounter. Med Teach 36(9):769–774 available from: PM:25020032

Stoltenberg CD, Delworth U (1987) Supervising counselors and therapists: a developmental approach. Jossey-Bass, San Francisco

Wear D, Skillcorn J (2009) Hidden in plain sight: the formal, informal, and hidden curricula of a psychiatry clerkship. Acad Med 84(4)

Westerman M, Teunissen PW, van der Vleuten CP, Scherpbier AJ, Siegert CE, van der Lee N, Scheele F (2010) Understanding the transition from resident to attending physician: a transdisciplinary, qualitative study. Acad Med 85(12):1914–1919 available from: PM:20978429

Worthen V, McNeill B (1996) A phenomenological investigation of "good" supervision events. J Couns Psychol 43:25–31

Wulf J, Nelson ML (2001) Experienced psychologists' recollections of internship supervision and its contributions to their development. Clin Superv 19(2):123–145

Yourman DB (2003) Trainee disclosure in psychotherapy supervision: the impact of shame. J Clin Psychol 59(5):601–609 available from: PM:12696135

Future Directions

13

Jonathan Hunter and Robert Maunder

Having reviewed the current state of an attachment-informed approach to medical care, we turn now to fruitful areas for further work, as suggested by our author's contributions. Dr. Kidd has summarized the future efforts required in the physiological realm, emphasizing the need for naturalistic and longitudinal studies that will allow us to understand the clinical relevance of states that have been described within structured laboratory settings. Here, we add to those insights some of the possibilities raised by other contributors. Our goal is to organize the many projects that remain to be done in a manner that encourages work that further develops our understanding. As in any active area of academic exploration, some of the most valuable work will pursue ideas that challenge and disrupt current presumptions, so we most certainly will not capture the full breadth of future projects here. However, attachment-informed medical care can only benefit from further enquiry, experimentation, and challenge.

13.1 Understanding Interactivity

An attachment perspective is fundamentally about relationships rather than individuals. And yet, most of the research to date measures individual characteristics and experience, and this individual focus is almost always on only one side of the provider-patient dyad, that of patients. We observe how a diabetic patient behaves (Ciechanowski et al. 2002a; Ciechanowski and Katon 2006) or how a patient fares after bariatric surgery (Sockalingam et al. 2013) and also measure aspects of how these patients understand themselves to relate to others, but we have so far rarely

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had the opportunity to observe these patients in interactions with their healthcare providers or in interactions with others. Occasionally we probe how clinicians perceive patients (Maunder et al. 2006) and very occasionally the attachment styles of clinicians (Ciechanowski et al. 2006b). The result is analogous to trying to understand marital dynamics by only surveying one member of the couple—it provides useful information, but not a balanced or complete understanding.

Ideally, the unit of study in future research should be the dyad. Attachment is about interaction, so appreciating how healthcare providers' attachment styles contribute to provider-patient interactions is an essential missing piece of the puzzle. Similarly, understanding the interaction between our patients and their attachment figures (often their spouses) requires specific attention. As one example, Hales describes the critical role of informal caregivers at the end of life and the variability introduced by their attachment style. To take it further, we might ask questions about the *interaction* between patients and those who support them. How does an informal caregiver with one attachment style interact with a dying loved one who has a different attachment style? Furthermore, how does a healthcare provider interact with that dyad to optimize the dying experience for both the patient and the caregiver? Intensive studies of these questions might choose to focus on observations of dynamic interactions, analogous to studies in which interactions between romantic couples are observed and experimentally manipulated (Feeney and Collins 2001; Laurenceau et al. 1998; Roisman 2007). Less intensively, it would be valuable to study statistical interactions. In the latter case, we might study the main effects of patient attachment style and provider attachment style on a particular patient outcome as well as the effect of an interaction term (patient attachment style X provider attachment style). Such studies, however, require large datasets and providers who consent to providing psychological data (Andersen 2015).

At the very least we could learn more about the healthcare provider's side of difficult interactions. Research has shown that dismissing diabetics who found their healthcare providers to be insufficient communicators had more poorly controlled disease (Ciechanowski, Hirsch, and Katon 2002a), but how did the doctors experience those interactions? Was it unsatisfactory for them as well? Did that translate into an alteration in practice to the detriment of the patient's well-being?

Essentially, this is an idea about the interpersonal milieu in which healthcare delivery takes place and how it influences patients' experience and behaviour. It is not necessary to study individual dyads to address some of the research questions that arise from attachment-informed reflection on this milieu. At a health systems level, we wonder if models of care that reduce continuity of provider-patient interactions, such as clinics and inpatient services with a rotating roster of 'on-service' physicians, result in compromised outcomes. An attachment-informed hypothesis would be that they do – especially for patients with high attachment anxiety and perhaps for patients with any insecure style. Focusing on the relational interplay between patient and provider may reveal aspects of healthcare systems that can readily be changed to promote better patient outcomes.

13.2 Personalizing Healthcare

A second overarching theme for future study relates to the predictability of the impact of attachment behaviours in healthcare. Hinnen (Fig. 6.1) suggests that particular attachment styles may be associated with different trajectories of response to illness, potentially allowing some prediction of when people will run into difficulty based on their attachment style. If demonstrated to be valid, this predictability would allow tailored interventions, not just for attachment style, but for attachment style contextualized in time and by illness event.

Similarly, the experience of the TWH Bariatric Surgery Program illustrates how different care pathways can be planned and different resources offered based on an appreciation of the vulnerabilities and preferences of patients based on their attachment style. Further extensions of this line of thinking might include the development of preventive and treatment interventions designed to match attachment-based preferences.

Given our understanding of attachment styles, we believe that dismissing patients, for example, are more comfortable when they are able to control the management of their disease and when interpersonal vulnerability is not forced upon them excessively, nor too much trust demanded of them. In the context of serious disease, the potential hazards of this course are clear (Ciechanowski, Hirsch, and Katon 2002a) but what if self-management tools could be developed (or existing tools tested) which would enhance the effectiveness of dismissing patients' self-reliant strategies?

Patients with a more preoccupied style, on the other hand, prefer more contact and a combination of validation, affective expression, and emotional containment. Could shared medical appointments (Kirsh et al. 2007; Masley et al. 2001) be modified to serve the needs of patients with higher attachment anxiety and a shared physical illness who would benefit from a sense of shared concerns and support? Alternatively, patients with preoccupied attachment might benefit from more frequent but briefer appointments. Even if the benefits of such interventions were modest, improvements might compound over the course of a long disease trajectory. Sockalingam's example of tailoring care for Mary suggests that modifying care for attachment style can be of utility. Similarly, Meredith (Chap. 5) states that her wish is to 'design and evaluate an attachment-informed treatment approach for people in pain'. However, the promise of attachment-informed medical care has not been explicitly tested in a clinical trial.

13.3 Capturing the Effects of Continuous Insecurity

Research to date has tended to focus on stressful events, such as emergency presentations (Maunder et al. 2006), surgery (Sockalingam and Hawa Chap. 10), the diagnosis of a life-threatening illness (Hinnen, Chap. 6), or the end of life (Hales, Chap. 7). This makes great sense as a first step, because these are events which are likely to provoke the attachment system and thereby trigger attachment behaviour guided

by the person's internal working model. However, as emphasized by Kidd, adapting to stress is not just a matter of an acute reaction, but also about timely recovery after the event. We know little about how insecurity influences recovery in a clinical context and for the most part are obliged to generalize from literature about trauma (Chap. 11). If we are to pursue the intriguing idea that attachment insecurity is recurrently manifested as a prolonged state of increased stress and contributes to allostatic load, then demonstration of persistent interpersonal difficulties, such as isolation for the dismissing individual, or unrequited interpersonal neediness for the preoccupied individual is required, in addition to an appreciation of the initial perturbation. If we can match those interpersonal sequelae to physiological cost through measures of cumulative impact, such as allostatic load (McEwen and Wingfield 2003), telomere length (Epel et al. 2004), or decalcification of bones (Furlan et al. 2005; Sogaard et al. 2005), we will be on firmer ground claiming attachment insecurity as a risk factor for physical illness.

13.4 Increasing Replication and Generalizability

Given the early state of knowledge in attachment-informed medical care, there are many results that are consistent with theoretical predictions and that have been supported by evidence, which nevertheless have not yet been sufficiently replicated to know if they are generalizable to all patients and settings. As an example, dismissing patients are experienced as more difficult than secure patients in the emergency room (Maunder et al. 2006), but we do not know that the same is true in other healthcare venues. We could hypothesize that dismissing patients might be experienced as easy and desirable patients in the rushed flow of a general medical ward or a hectic family practice unit because they demand so little time (possibly to their detriment), but we won't know until we study it.

Intensive work in specific populations of patients such as those in oncology (Hillen et al. 2011; Hinnen et al. 2014; Holwerda et al. 2013) or those with diabetes (Ciechanowski, Hirsch, and Katon 2002a; Ciechanowski et al. 2004, 2006a; Ciechanowski and Katon 2006) also requires replication in other settings. Attachment-informed care will have a greater relevance if it can be shown to have impact across many different disease populations. For example, a lesson from the work in diabetes is that chronic illnesses that require extensive ongoing self-management and collaboration are excellent models for explicating the impact of attachment style on treatment and outcomes. Other populations which face similar challenges include patients undergoing home dialysis, those with congestive heart failure, or those with metabolic syndrome. HIV patients for whom tight adherence is a prerequisite for good disease control also fit this paradigm (Hinnen et al. 2012), as do individuals with spinal cord injury who require sustained attention to long courses of rehabilitation, medication adjustments, and both psychological and physical adaptations. Further attachment-focused work in populations such as these could help us appreciate how a drive for self-reliance versus a preoccupied need for proximity and support could influence treatment or rehabilitation in general.

Similarly, Ciechanowski has shown that preoccupied individuals have higher healthcare costs (Ciechanowski et al. 2002b), another finding that requires replication in other populations. Ellis notes that for people with advanced cancer greater attachment anxiety has been found to correlate with referral to psychosocial oncology services (Ellis et al. 2009), which suggests that the finding of increased healthcare utility with preoccupied attachment may be generalizable. However, further research should expand this understanding to other populations to be more certain of the relevance of attachment style to use of healthcare resources and study interventions and outcomes to determine if this concentration of resources is well invested.

13.5 Optimizing Adaptation

An intriguing thought about attachment style and use of healthcare resources is that individuals with secure attachment may not always have the optimal adaptation to illness. Hinnen notes that 'both securely and avoidantly attached patients reported low levels of distress at 3 months after diagnosis and maintained a low distress level over time' (Chap. 6). We understand attachment styles to be the best possible adaptation that was available within the early interpersonal (parental-infant) environment. It might be that a later life event, including an episode of illness, replicates those early events in such a way that the fit between attachment style and circumstances becomes once again optimal and advantages those that are familiar with it from their developmental years. In fact, this was an anecdotal observation from clinicians in our HIV Psychiatry Clinic from the early days of the epidemic (Peter Deroche, personal communication): patients with adverse childhood experience were frequently not as psychologically disturbed in the face of coping with HIV-related diseases as their previous functioning and psychiatric diagnoses predicted that they would be. It was as if they knew how to adapt to severe adversity and therefore had a less overwhelming coping task than their peers with more favourable developmental experiences.

13.6 Examining the Role of Health Providers Who Serve Attachment Functions

Much of the existing research on the links between attachment patterns and health behaviours supports hypotheses that are based on an assumption that people manage and navigate their relationships with healthcare providers following the same templates by which internal working models guide behaviour in romantic relationships that serve attachment functions. An untested implication of this assumption is that healthcare providers serve attachment functions, such as safe haven and secure base, at least under some circumstances. Indeed, we coach healthcare providers to be attentive to the opportunity to serve these functions when doing so serves a patient's interests (Maunder and Hunter 2015).

Nonetheless, there are no measures available to directly assess this assumption currently. An instrument to determine the pattern of attachment of clients to psychotherapists (Mallinckrodt et al. 1995) is not applicable, at least without modification, to other healthcare providers. Furthermore, complications abound. Patients often have many healthcare providers. In many circumstances there is no need for a patient to receive attachment functions from a healthcare provider. Identifying the dyad and the circumstance of interest in order to assess the ability of healthcare providers to provide secure base and safe haven functions, and the patterns by which patients interact in these relationships, is challenging. However, understanding when and how and with whom patients can find security within provider-patient relationships would provide a great deal of information that would be useful in developing better interventions.

A useful offshoot of such research is that it would facilitate an investigation of the role of disciplines other than physicians, who have been the focus of almost all attachment-based healthcare research to date. Nurses in hospitals and in many primary care settings often see patients more consistently, frequently, and intimately than physicians. It makes sense that such nurses and other professionals with consistent intimate contact would be more likely to be experienced as an attachment figure by someone with insecurity and might have more influence over their perceived well-being in a healthcare setting. Multidisciplinary investigation is crucial moving forward.

13.7 Additional Directions

One of the most pervasive weaknesses of current evidence in attachment-informed medical care is an over-reliance on self-report measures, not just of attachment but also of measures of health behaviour and health status. While self-report measures of adult attachment are valid measures and eminently suitable for large-scale research (Ravitz et al. 2010), studies in which *all* measures rely on self-report are susceptible to shared method biases which inflate the apparent relationships between study variables (Podsakoff et al. 2012). It should be a goal for future studies that outcomes are measured by different methods than predictor variables and that multiple methods are used to assess aspects of attachment.

Perhaps 'grafting' physical health measures onto the existing longitudinal studies of attachment could provide new insights. For instance, Puig and colleagues (2013) looked at the state of physical health in an ongoing prospective study of attachment. Their data does offer support for the hypothesis that insecurity increases illness risk over time, but other attachment studies reporting on the physical status of their participants would also be helpful. Alternatively, adding attachment measures to studies of physical illness or well-being may also build a case for an attachment-illness relationship.

In this same vein, virtually every research centre that conducts clinical trials oversees various cohorts of ill patients receiving placebo treatment under controlled conditions, some of whom improve. There is a rich, untapped opportunity to investigate the determinants of placebo responses in these cohorts, of which relational

determinants would be very promising candidates. It seems plausible that preoccupied individuals, with their wish for a rescuing other, might be more likely to imbue even a neutral intervention with high hopes and expectations and thus produce a larger placebo response than dismissing patients whose drive to self-reliance might diminish the impact of suggestion and hope. This list of future directions is meant to suggest potential new foci of research and perhaps even inspire the reader to think of one's own practice and how an attachment perspective might give you an advantage in understanding the problems you face. We encourage you all to be as disruptive now as James Robertson was in 1952 when he filmed Laura in the hospital. His work demonstrated that healthcare is delivered in a relational context and that we ignore that to the detriment of our patients. Hopefully, this lesson has now been learned and we can augment our delivery of healthcare by diminishing fear and increasing safety wherever possible.

References

Andersen CM (2015) The association between attachment and delay in the diagnosis of cancer in primary care. Aarhus: Research Unit and Department of General Practice, Department of Public Health, Faculty of Health Sciences, Aarhus University. http://cap.au.dk/fileadmin/cap.au.dk/Documents/CMA_afhandling.pdf

Ciechanowski P, Katon WJ (2006) The interpersonal experience of health care through the eyes of patients with diabetes. Soc Sci Med 63(12):3067–3079 available from: PM:16997440

Ciechanowski P, Hirsch IB, Katon WJ (2002a) Interpersonal predictors of HbA(1c) in patients with type 1 diabetes. Diabetes Care 25(4):731–736

Ciechanowski P, Walker EA, Katon WJ, Russo JE (2002b) Attachment theory: a model for health care utilization and somatization. Psychosom Med 64(4):660–667

Ciechanowski P, Russo J, Katon W, Von Korff M, Ludman E, Lin E, Simon G, Bush T (2004) Influence of patient attachment style on self-care and outcomes in diabetes. Psychosom Med 66(5):720–728 available from: PM:15385697

Ciechanowski P, Russo J, Katon W, Simon G, Ludman E, Von Korff M, Young B, Lin E (2006a) Where is the patient? The association of psychosocial factors and missed primary care appointments in patients with diabetes. Gen Hosp Psychiatry 28(1):9–17 available from: PM:16377360

Ciechanowski PS, Worley LL, Russo JE, Katon WJ (2006b) Using relationship styles based on attachment theory to improve understanding of specialty choice in medicine. BMC Med Educ 6:3 available from: PM:16405723

Ellis J, Lin J, Walsh A, Lo C, Shepherd FA, Moore M, Li M, Gagliese L, Zimmermann C, Rodin G (2009) Predictors of referral for specialized psychosocial oncology care in patients with metastatic cancer: the contributions of age, distress, and marital status. J Clin Oncol 27(5):699–705 available from: PM:19114706

Epel ES, Blackburn EH, Lin J, Dhabhar FS, Adler NE, Morrow JD, Cawthon RM (2004) Accelerated telomere shortening in response to life stress. Proc Natl Acad Sci U S A 101(49):17312–17315 available from: PM:15574496

Feeney BC, Collins NL (2001) Predictors of caregiving in adult intimate relationships: an attachment theoretical perspective. J Pers Soc Psychol 80(6):972–994 available from: PM:11414378

Furlan PM, Ten HT, Cary M, Zemel B, Wehrli F, Katz IR, Gettes DR, Evans DL (2005) The role of stress-induced cortisol in the relationship between depression and decreased bone mineral density. Biol Psychiatry 57(8):911–917 available from: PM:15820712

Hillen MA, de Haes HC, Smets EM (2011) Cancer patients' trust in their physician-a review. Psychooncology 20(3):227–241 available from: PM:20878840

Hinnen C, Schreuder I, Jong E, Van Duijn M, Dahmen M, van Gorp EC (2012) The contribution of adult attachment and perceived social support to depressive symptoms in patients with HIV. Aids Care 24(12):1535–1542 available from: PM:22530817

Hinnen C, Pool G, Holwerda N, Sprangers M, Sanderman R, Hagedoorn M (2014) Lower levels of trust in one's physician is associated with more distress over time in more anxiously attached individuals with cancer. Gen Hosp Psychiatry 36(4):382–387 available from: PM:24725971

Holwerda N, Sanderman R, Pool G, Hinnen C, Langendijk JA, Bemelman WA, Hagedoorn M, Sprangers MA (2013) Do patients trust their physician? The role of attachment style in the patient-physician relationship within one year after a cancer diagnosis. Acta Oncol 52(1):110–117 available from: PM:23113593

Kirsh S, Watts S, Pascuzzi K, O'Day ME, Davidson D, Strauss G, Kern EO, Aron DC (2007) Shared medical appointments based on the chronic care model: a quality improvement project to address the challenges of patients with diabetes with high cardiovascular risk. Qual Saf Health Care 16(5):349–353 available from: PM:17913775

Laurenceau JP, Barrett LF, Pietromonaco PR (1998) Intimacy as an interpersonal process: the importance of self-disclosure, partner disclosure, and perceived partner responsiveness in interpersonal exchanges. J Pers Soc Psychol 74(5):1238–1251 available from: PM:9599440

Mallinckrodt B, Gantt DL, Coble HM (1995) Attachment pattern in the psychotherapy relationship: Development of the Client Attachment to Therapist Scale. J Couns Psychol 42:307–317

Masley S, Phillips S, Copeland JR (2001) Group office visits change dietary habits of patients with coronary artery disease-the dietary intervention and evaluation trial (D.I.E.T.). J Fam Pract 50(3):235–239 available from: PM:11252212

Maunder R, Hunter J (2015) Love, fear, and health: how our attachments to others shape health and health care. University of Toronto Press, Toronto

Maunder RG, Panzer A, Viljoen M, Owen J, Human S, Hunter JJ (2006) Physicians' difficulty with emergency department patients is related to patients' attachment style. Soc Sci Med 63(2):552–562 available from: PM:16480807

McEwen BS, Wingfield JC (2003) The concept of allostasis in biology and biomedicine. Horm Behav 43(1):2–15 available from: PM:12614627

Podsakoff PM, Mackenzie SB, Podsakoff NP (2012) Sources of method bias in social science research and recommendations on how to control it. Annu Rev Psychol 63:539–569 available from: PM:21838546

Puig J, Englund MM, Simpson JA, Collins WA (2013) Predicting adult physical illness from infant attachment: a prospective longitudinal study. Health Psychol 32(4):409–417 available from: PM:22823067

Ravitz P, Maunder R, Hunter J, Sthankiya B, Lancee W (2010) Adult attachment measures: a 25-year review. J Psychosom Res 69(4):419–432 available from: PM:20846544

Roisman GI (2007) The psychophysiology of adult attachment relationships: autonomic reactivity in marital and premarital interactions. Dev Psychol 43(1):39–53 available from: PM:17201507

Sockalingam S, Cassin S, Hawa R, Khan A, Wnuk S, Jackson T, Okrainec A (2013) Predictors of post-bariatric surgery appointment attendance: the role of relationship style. Obes Surg 23(12):2026–2032 available from: PM:23757051

Sogaard AJ, Joakimsen RM, Tverdal A, Fonnebo V, Magnus JH, Berntsen GK (2005) Long-term mental distress, bone mineral density and non-vertebral fractures. The Tromso Study. Osteoporos Int 16(8):887–897 available from: PM:15618997