Issue I Volume I

YellowBrick℠ journal

of Emerging Adulthood

Mission

Yellowbrick Journal is the official publication of Yellowbrick Foundation, a not for profit organization whose mission is to support research, training & community education regarding the emotional, psychological, and developmental challenges of emerging adults, ages 18 to 29. Yellowbrick Journal is dedicated to the dissemination of work that informs the Yellowbrick model—a research-based treatment model that combines the most current contributions of developmental psychology, neuroscience, innovative psychotherapies, strength-based strategies and wellness medicine. Yellowbrick Journal highlights cutting-edge research that informs our understanding of emerging adults from a holistic perspective. Yellowbrick Journal publishes articles on applied work that has demonstrated effectiveness and is particularly dedicated to work that emphasizes multi-specialty evaluation, therapeutic residences, research-based strategies, and life-skills interventions. Yellowbrick Journal represents the voices and perspectives of those who serve as the catalysts for the evolution of Yellowbrick—emerging adults and all who are dedicated to the optimization of their potentials.

Letter From The Editors

Editorial Introduction to Issue I

We are pleased to introduce Yellowbrick Journal, designed to bring "home" research-based information to all who are dedicated to caring for and fostering well-being in emerging adults, ages 18 to 29. Publishing Yellowbrick Journal, we seek to fill an information gap by providing the first Journal dedicated to the dissemination of work that informs our understanding of emerging adult development and adjustment. Our objective for Yellowbrick Journal is to provide the preeminent resource on best practices in emerging adult treatment. Because Yellowbrick operates from the perspective that support for emerging adults can come from a wide variety of persons and places—we have designed the mission and content of Yellowbrick Journal to speak to a broad audience. Work selected for publication will reflect the rich, multidimensional experience of emerging adulthood. We deliver the first issue of Yellowbrick Journal to you with great enthusiasm and anticipation of the resource it may be and become to you now, and in the future.

In this first issue we present a set of articles that come together to reveal the challenges of emerging adulthood and the role that psychiatric disorder plays in the lives of over half of 18 to 29 year-olds. In the first article, Understanding Emerging Adulthood, Jennifer L. Tanner, Ph.D. provides an overview of the recently advanced theory that has reframed our understanding of development between adolescence and adulthood. Next, Drs. Jesse Viner and Jennifer L. Tanner present Psychiatric Disorders in Emerging Adulthood, a review of the literature on this topic using a multidisciplinary lens to organize what we know about the burden of psychopathology during this critical developmental life stage. Third, we bring to our readership a reprinted, abridged version of Schore and Schore's article, Modern Attachment Theory: The Central Role of Affect Regulation in Development and Treatment. In this article, leading empirical science is translated directly to mental health providers, linking neuroscience to a therapeutic process that plays a particularly relevant role in working with emerging adults. Dr. Laura Humphrey's article A Developmental Psycho-neurobiological Approach to Assessment of Emerging Adults describes the model for assessment developed at Yellowbrick devised to ensure that the complexity of emerging adults' lives and experiences are considered in treatment plans and goals. Throughout, Yellowbrick Journal presents emerging adults' artistic expressions of experience.

Laura Humphrey

Jennifer Tanner

Understanding Emerging Adulthood

Jennifer L. Tanner, Ph.D.

The transition to adulthood is a period of the life course when young people are faced with the challenge of making it in the adult world. For some, this is a time to spread their wings and fly. For others, the demands that accompany the task of growing-up are overwhelming. Still yet, despite excitement, motivation, and aspiration, these years are stressful and because they are under-prepared and under-resourced.

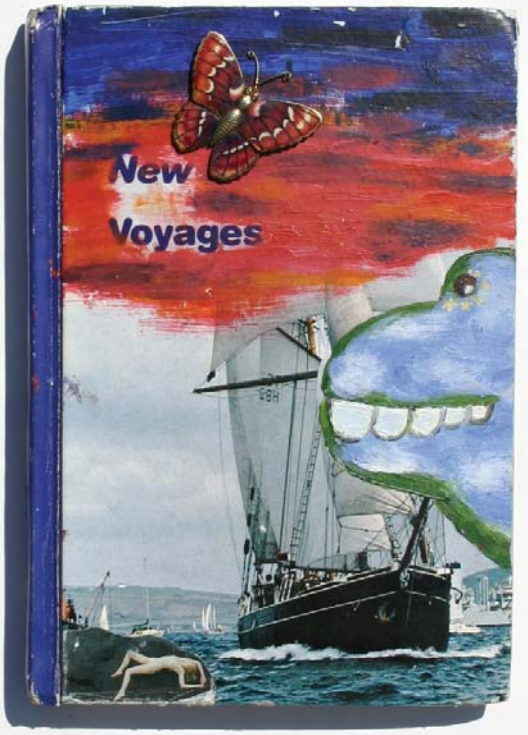
New ways of becoming adult, much different than a generation ago, have inspired waves of research science and media attention. This work is devoted to refining our understanding of the new transition to adulthood—a path that is much different than it was one generation ago. Prior to the late 90s, the "normal" adolescent moved away from home after high school, a minority pursued higher education, most found work. After a few years of educational or occupational experience, the majority in the early twenties became engaged, got married, settled into starter homes, and became parents. This well-worn pathway no longer describes the experiences of young people today. What then?

In 2000, developmental psychologist and researcher Dr. Jeffrey Arnett reframed our understanding of what happens after adolescence in contemporary industrialized countries, such as the United States, Australia, Canada, and many European countries. According to Arnett, a new stage of development—emerging adulthood—defines the lives of twentysomethings who enter contemporary adulthood. This new stage of life between adolescence and young adulthood, Arnett argues, allows time for young people to explore before they make commitments to enduring adult roles and responsibilities. Specifically, emerging adulthood, typically between ages 18 and 29, is a stage of life when most young people feel "in between," when they are no longer adolescents, but they are not yet adults. In addition, these years are characterized as the era of: identity exploration, instability in all areas of life, self-focus, and possibilities.

Becoming "adult" has little to do with taking on roles. Rather, becoming adult is a psychological and subjective experience. Empirical studies that ask emerging adults, as well as older adults, what characteristics define 'adult'? indicate that the defining criteria of adulthood are: taking responsibility for oneself, making independent decisions, and gaining financial independence (Arnett, 1994, 1997, 2001). These studies have clarified the foci of young people at this stage in their lives—they are exploring their worlds, working to understand who they are. They are looking for "fit" between themselves and the adult world which, in turn, will support their efforts to become independent and self-sufficient. In sum, Arnett's work describes universal developmental features of the age period and criteria for becoming adult in the contemporary world. Arnett (2007) and others (Schulenberg, Bryant, & O'Malley, 2004) have concluded that overall increases in well-being and decreases in problem behaviors that occur from adolescence through the early twenties are associated with these developmental gains.

Complementing Arnett's work, Dr. Jennifer Tanner has also articulated theory describing emerging adult development. In her work, Tanner takes a lifespan perspective. Viewing emerging adulthood as one stage of many in an individual's life, she responds to the question, what role does emerging adulthood play in an individual's life? Tanner argues that emerging adulthood is not only a distinct stage of human development, but also a critical turning point. It is the events and transitions that occur during this age period that are most likely to be considered, by both younger and older adults, the most significant, key marker events that shape their lives (Elnick, Margrett, Fitzgerald, & Labouvie-Vief, 1999; Grob, Krings, & Bangerter, 2001). It is during this first stage of adulthood when individuals shift in their relationship with their social environments from dependent to independent (i.e., socially and legally the individual gains adult status). Although this event is marked by an 18th birthday for most, fulfilling the social obligation to support oneself independently is a process that begins before age 18 and extends into adulthood—the process Tanner calls recentering.

Recentering is the central feature of the transition to adulthood and a juncture in life span human development. At each of three stages of recentering, see figure 1, the individual is interdependent with contexts and relationships. How an individual



relates to his environment changes, each stage requiring developmental adaptation to his environment. In stage 1, the adolescent is engaged in separating from the family-of-origin and relationships with others and environments that assume and maintain the dependence of the individual. At this stage, separation-individuation processes and attachment issues gain salience in the individual's life. Gaining an understanding of how to be both independent as an adult, while remaining connected to one's family-of-origin may be a linear, smooth process for some, and for others, this may involve challenges rooted in prior developmental periods.

In stage 2, the emerging adult develops and involves him or herself in transitory relationships and responsibilities. These weak ties support the adaptation of the emerging adult by increasing the latitude an individual has to explore the world, establish one's own understanding of "self," and choose optimally-fitting relationships, careers, and ways-of-relating in the adult world. It is in this stage that emerging adults are confronted with an increased demand to integrate identity, a developmental process that begins long before emerging adulthood. Again, there is great variation in the extent to which identity development represents a challenge to overcome or an obstacle that prevents adaptation.

Stage 3, the transition from emerging adulthood to young adulthood, involves making commitments, relinquishing the instability of emerging adulthood, and embracing the need to respond to the demands of chosen roles and responsibilities. Successful recentering involves making commitments to roles and organizations that; in turn, optimize one's potential for future development and adaptation. There is a great deal of variation in the pathways that emerging adults take as they progress toward self-sufficiency (Cohen et al., 2003). In general, making progress toward independence in one domain is associated with making strides in another (Sneed et al., 2007).

A great deal of empirical evidence supports the claim that emerging adulthood is a developmentally distinct stage of life span development. This stage is distinct from adolescence and young adulthood (Arnett, 2000, 2004) and is also unique with regard to specific features of individual cognitive, emotional, behavioral, and physical development (Tanner & Arnett, 2009; Tanner, Arnett, & Leis, 2008). For example, emerging adulthood is distinguished by a unique period of brain development that specifically involves synaptic sprouting and pruning in the areas of the brain associated with self-regulation and executive functions (Bennett & Baird, 2006; Giedd et al., 1999; Gogtay et al., 2004; Sowell, Thompson, & Toga, 2004).

In sum, generations of the past that finished school, got jobs, married and became parents in relatively quick sequence in their early twenties are unlikely to see this pattern reflected in the new way of becoming adult. The developmental norm is to spend time exploring one's possibilities before making commitments to roles and responsibilities that will come to define one's adult life. As we refine theory and accumulate empirical research on emerging adulthood, we will move closer to knowing how to best support and facilitate development during these years.

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Psychiatric Disorders In Emerging Adulthood

Jesse Viner, M.D. & Jennifer L. Tanner, Ph.D.

Emerging adults are particularly at-risk for psychiatric disorder. In a given year, over 40% of U.S. 18 to 29 year-olds meets criteria for psychiatric disorder, a higher rate than for any other adult age group. The most common disorders are anxiety (22.3%), substance use (22.0%), and mood disorders (22.0%). Among emerging adults who experience anxiety disorders, specific phobia is most common (10.3%). However, approximately 1 in 10 (9.3%) meet criteria for social phobia, a particular challenge during this stage of life when they are expected to make connections in the adult world—meet new people, make co-worker acquaintances, and explore intimate relationships. While nicotine dependence accounts for a substantial proportion of the 18-to-29 year-old population meeting criteria for substance disorder, 16.7%, a full 7% meet criteria for alcohol abuse/dependence and almost 4% meet criteria for drug abuse/dependence. Major depressive disorder is the most common of the mood disorders, 8.3% (Kessler, Berglund, Demler, Jin, & Walters, 2005; Table 2).

In emerging adulthood we are also more likely to see first diagnoses of less common, but more severe and chronic disorders. By definition, personality disorders are first diagnosed in the early adult years; approximately 20% of U.S. emerging adults (18 to 25) meet criteria for at least one personality disorder (Blanco et al., 2008). Disorders with psychotic features also commonly onset during emerging adulthood. One of the main features of schizophrenia is onset in early adulthood when prevalence is .5 to 1.5% and incidence is .5 to 5.0% (APA, 2000). Onset of psychotic symptoms specified with bipolar and major depressive disorder, is also primarily localized to emerging adulthood (Baldwin et al., 2005). The relative homogeneity of onset of psychotic disorders in emerging adulthood, specifically, suggests stage-specific neurobiological triggers and susceptibility genes. Distinct developmental courses of these disorders may begin in the earliest moments of development with delayed expression until emerging adulthood (Craddock, O'Donovan, & Owen, 2005; Keshavan, Berger, Zipursky, Wood, & Pantelis, 2005).

Psychopathology in emerging adulthood undermines adaptation and reduces the likelihood of successful transitions to adulthood. For example, psychiatric disorder predicts lower educational attainment (Breslau, Lane, Sampson, & Kessler, 2008), significantly reduced earnings (Kessler, Heeringa, et al., 2008), attenuated occupational productivity (Wittchen et al., 1998), marital instability (Kessler et al., 1998), and impaired parenting (Johnson, Cohen, Kasen, & Brook, 2008). Meeting criteria for any disorder increases risk for impaired global functioning. In addition, specific disorders relate to specific impairments in specific domains. For example, in a community sample looking at the role of current and past episodes of psychopathology on functioning at age 30, one pathway was found linking major depression and phobia to interpersonal problems; a second, linking alcohol and drug abuse/dependence to lower socioeconomic status (Tanner et al., 2007). Personality disorders in emerging adulthood have a negative impact on the long-term quality of life adults experience above and beyond the influence of Axis I disorders, demographics, or physical disease (Chen et al., 2006).

The high prevalence and associated burdens of psychopathology in emerging adulthood evoke the notion that the features of emerging adulthood may increase vulnerability to disorder. However, for most emerging adults dealing with psychopathology and associated impairments, these experiences are unlikely to be their first. Of those who meet criteria for psychiatric disorder in their twenties, 75% have a history of at least one prior episode (Kim-Cohen et al., 2003). This is not surprising given that 75% of all psychiatric disorders onset before age 24 (Kessler, Berglund, Demler, Jin, & Walters, 2005). Estimates of lifetime disorder exceed 50% in emerging adulthood (52.4%; Kessler, Chiu, Demler, Merikangas, & Walters, 2005) indicating that half of all emerging adults have a developmental history of psychiatric disorder. Emotional and behavioral problems in childhood and adolescence increase odds of personality disorder in emerging adulthood (Helgeland, Kjelsberg, & Torgerson, 2005; Kasen, Cohen, Skodol,

Johnson, & Brook, 1999).

Youth who age into emerging adulthood already having had a psychiatric episode are much more likely than their peers without disorder to have difficulties meeting the challenge of "taking hold of some kind of life." Early onset of disorder, particularly in childhood or adolescence, is considered a risk factor for recurrent, persistent, and increasingly severe episodes (Alpert et al., 1999; Last et al., 1997). Adolescent–era episodes are associated with impaired functioning across a wide variety of domains in emerging adulthood (Paradis, Reinherz, Giaconia, & Fitzmaurice, 2006; Fergusson & Woodward, 2002; Lewinsohn, Rohde, Seeley, Klein, & Gotlib, 2000, 2003). Compared to adolescents without psychiatric disorder, those with psychopathology are estimated to be almost 14 times less likely to complete secondary school, 4 times less likely to be employed or in college or trade school in emerging adulthood, 3 times more likely to have been involved in criminal activity, and over 6 times more likely to have gotten themselves or someone else pregnant (Stoep, Beresford, Weiss, McKnight, Cauce, & Cohen, 2000). Suicide remains the 2nd leading cause of death in emerging adulthood, outpaced by accidents which most often include alcohol. For every successful suicide, there are 40 failed attempts. Nine times again as many college students at some point seriously consider killing themselves (CDC, 2005).

A gap between need for and use of mental health services explains some of the high risk for psychiatric disorder in first decade of adulthood. In a given year, 80% of 6-17 year-olds identified as needing mental health services go untreated (Kataoka, Zhang, & Wells, 2002). Thus, a significant proportion of emerging adults enter adulthood with untreated psychopathology. Then, in emerging adulthood, mental health service utilization drops almost in half after age 17, from 34 cases per 1,000 among 16 to 17 year-olds to 18 per 1,000 cases for those 18 to 19 (Pottick, Bilder, Vander Stoep, Warner, & Alvarez, 2008). Further accentuating the gap between need and service use—there are barriers to mental health treatment unique to emerging adults (e.g., lack of access to health insurance). Compared to older adults, odds of accessing treatment for mental health services is significantly lower for 18 to 24 year-olds (Kessler, Demler, et al., 2005).

In sum, half of emerging adults meet criteria for current psychiatric disorder, past disorder, or both. However, emerging adulthood, as a developmental stage with unique developmental features, does not, fundamentally "set the stage" for psychiatric disorder. More accurately, most disorders onset during childhood and adolescence. Given that onset of psychiatric disorder before age 30 is a key predictor of non-receipt and delay of receipt of mental health services (Druss et al., 2007), emerging adulthood may be understood as a vulnerable stage for the detection of psychiatric disorder. Recent advances in theory and research suggest that emerging adulthood is a window of opportunity for interrupting the persistence of mental health problems from childhood to adulthood. Translating this opportunity into effective, developmentally-informed treatment programs is a viable target for reducing the burdens of mental health problems across adulthood.

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RESEARCH ARTICLE HIGHLIGHT

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ORIGINAL PAPER

Modern Attachment Theory: The Central Role of Affect Regulation in Development and Treatment

Judith R. Schore, MSW & Allan N. Schore, Ph.D.

Abstract: Over the past decade attachment theory has undergone an intense expansion of both its original scientific foundations as well as its applications to clinical work. Bowlby's original description occurred during a period of behaviorism and an emphasis on the strange situation and secure base behaviors, which then gave way to a dominance of cognition and an emphasis on attachment narratives and reflective capacities. We will argue that in line with Bowlby's fundamental goal of the integration of psychological and biological models of human development, the current interest in affective bodily-based processes, interactive regulation, early experience-dependent brain maturation, stress, and non-conscious relational transactions has shifted attachment theory to a regulation theory. This emphasis on the right brain systems that underlie attachment and developmental change has in turn forged deeper connections with clinical models of psychotherapeutic change, all of which are consonant with psychoanalytic understandings. Modern attachment theory can thus be incorporated into the core of social work theory, research, and practice.

Keywords: Interactive regulation - Affect regulation - Neurobiology - Attachment theory - Relational dynamics

Introduction

This special edition of the Clinical Social Work Journal affords us a valuable opportunity to put forth our ideas on a modern update of attachment theory, what we call regulation theory, an interdisciplinary developmental model that has specific implications for therapeutic work. As a result of interdisciplinary developmental and neurobiological research over the last 15 years Bowlby's core ideas have been expanded into a more complex and clinically relevant model. We will argue that at this point in time, any theory of development and its corresponding theory of therapy must include these psychobiological findings regarding precisely how early emotional transactions with the primary object impact the development of psychic structure, that is, how affective attachment communications facilitate the maturation of brain systems involved in affect and self regulation. The rich intricacy of an integrative interdisciplinary theory now encompasses all the essential elements that allow us to comprehend and treat disorders of self and affect regulation more effectively. Towards that end, we outline the general precepts of modern attachment theory.

The Psychobiological Core of Developmental Attachment Communications: Interactive Regulation

The essential task of the first year of human life is the creation of a secure attachment bond of emotional communication between the infant and the primary caregiver. In order to enter into this communication, the mother must be psychobiologically attuned to the dynamic shifts in the infant's bodily-based internal states of central and autonomic arousal. In this dialogical process the more the mother contingently tunes her activity level to the infant during periods of social engagement, the more she allows him to recover quietly in periods of disengagement, and the more she attends to his reinitiating cues for reengagement, the more synchronized their interaction. Through sequences of attunement, mis-attunement, and re-attunement, an infant becomes a person, achieving a ''psychological birth'' (Mahler, Pine, & Bergman, 1975). This preverbal matrix forms the core of the incipient self.

Thus, emotion is initially regulated by others, but over the course of infancy it becomes increasingly self-regulated as a result of neurophysiological development. These adaptive capacities are central to self-regulation, i.e., the ability to flexibly regulate psychobiological states of emotions through interactions with other humans, interactive regulation in interconnected contexts, and without other humans, auto-regulation in autonomous contexts. The fundamental role of non-conscious attachment dynamics is therefore interactive psychobiological regulation.

The regulatory function of the mother–infant interaction acts as an essential promoter of the development and maintenance of synaptic connections during the establishment of functional circuits of the right brain (Henry, 1993; Schore, 1994; Sullivan & Gratton, 2002). A growing number of studies now support the observation that right lateralized limbic areas responsible for the regulation of autonomic functions and higher cognitive processes are involved in the ''formation of social bonds'' and are ''part of the circuitry supporting human social networks,'' and that the ''the strong and consistent predominance for the right hemisphere emerges postnatally'' (Allman et al. 2005, p. 367).

Because implicit attachment regulatory functions mature so very early in development, before later forming verbal explicit systems, Schore (1994, 2003a, b) has focused upon the unique operations of the earlier maturing (Chiron et al., 1997) right hemisphere. From infancy throughout all later stages of the lifespan this early evolving right lateralized system is centrally involved in implicit processes and in the control of vital functions supporting survival and enabling the organism to cope with stresses and challenges. He has therefore suggested that the implicit self-system of the right brain that evolves in preverbal stages of development represents the biological substrate of the dynamic unconscious (Schore, 2002). Studies in neuroscience now report that this early maturing right hemisphere is centrally involved in ''maintaining a coherent, continuous and unified sense of self'' (Devinsky, 2000).

Right Brain Nonverbal Attachment Communication: The Intersubjective Origins of the Implicit Self

It is important to note that early experiences

may be regulated or dysregulated, imprinting either secure or insecure attachments. Watt (2003, p. 109) observes, ''If children grow up with dominant experiences of separation, distress, fear and rage, then they will go down a bad pathogenic developmental pathway, and it's not just a bad psychological pathway but a bad neurological pathway.'' This is due to the fact that during early critical periods organized and disorganized insecure attachment histories are ''affectively burnt in'' the infant's rapidly developing right brain (Schore, 2001, 2003a). These stressful relational experiences are encoded in unconscious internal working models in the right, and not left, brain. In a study of hemispheric lateralization of avoidant attachment, Cohen and Shaver (2004) conclude ''Emotional negativity and withdrawal motivation have been connected in psychophysiological studies with the right frontal lobe of the brain'' (p. 801), and that avoidant individuals show ''a right hemisphere advantage for processing negative emotion and attachment-related words'' (p. 807).

In relationally-oriented therapeutic contexts that optimize intersubjective communication and interactive regulation, deficits in internal working models of the self and the world are gradually repaired. Recall, Bowlby (1988) asserted the restoring into consciousness and reassessment of internal working models is the essential task of psychotherapy. The implicit communication of affective states between the right brains of the members of the infant-mother and patient–therapist dyads is thus best described as ''intersubjectivity.'' The neurobiological correlate of this intersubjectivity principle is expressed in the dictum, ''the self-organization of the developing brain occurs in the context of a relationship with another self, another brain'' (Schore, 1996).

A fundamental question of treatment is how we work with what is being communicated but not symbolized with words. In discussing subsymbolic processing, Bucci (2002) observes ''We recognize changes in emotional states of others based on perception of subtle shifts in their facial expression or posture, and recognize changes in our own states based on somatic or kinesthetic experience (p. 194).'' These implicit communications between the client and therapist's right brain systems are expressed within the therapeutic alliance between the client and therapist's right brain systems.

During heightened affective moments these right brain dialogues between the relational unconscious of both the patient and therapist (like the attachment communications of the infant and mother) are examples of ''primary process communication'' (Dorpat, 2001). Implicit right brain-to-right brain intersubjective transactions lie at the core of the therapeutic relationship. They mediate what Sander (1992) calls ''moments of meeting'' between patient and therapist. Regulation theory thus describes how implicit systems of the therapist interact with implicit systems of the patient; psychotherapy is not the ''talking'' but the ''communicating'' cure.

Transference–Countertransference as Implicit Right Brain/Mind/Body Transactions

Advances in neuroscience now clearly suggest that the capacity to receive and express communications within the implicit realm is optimized when the clinician is in a state of right brain receptivity. Marcus (1997) observes, ''The analyst, by means of reverie and intuition, listens with the right brain directly to the analysand's right brain (p. 238).'' The neuroscience literature holds that ''The left hemisphere is more involved in the foreground-analytic (conscious) processing of information, whereas the right hemisphere is more involved in the background-holistic (subconscious) processing of information'' (Prodan et al., 2001, p. 211).

Indeed, the right hemisphere uses an expansive attention mechanism that focuses on global features while the left uses a restricted mode that focuses on local detail (Derryberry & Tucker, 1994). In contrast to the left hemisphere's activation of ''narrow semantic fields'', the right hemisphere's ''coarse semantic coding is useful for noting and integrating distantly related semantic information'' (Beeman, 1998), a function which allows for the process of free association.

Nonverbal affective and thereby mind/body communications are expressions of the right brain, which is centrally involved in the analysis of direct kinesthetic information received by the subject from his own body, an essential implicit process. This hemisphere, and not the linguistic, analytic left, contains the most comprehensive and integrated map of the body state available to the brain (Damasio, 1994). The therapist's right hemisphere allows her to know the patient ''from the inside out'' (Bromberg 1991, p. 399). To do this the clinician must access her own bodily-based intuitive responses to the patient's communications. Intersubjectivity is thus more than a match or communication of explicit cognitions. The intersubjective field co-constructed by two individuals includes not just two minds but two bodies (Schore, 1994, 2003a, b). At the psychobiological core of the intersubjective field is the attachment bond of emotional communication and interactive regulation.

Transference–countertransference transactions thus represent nonconscious nonverbal right brain–mind–body communications. Transference has been described as ''an expression of the patient's implicit perceptions and implicit memories'' (Bornstein, 1999). Facial indicators of transference are expressed in visual and auditory affective cues quickly appraised from therapist's face. Countertransference is similarly currently defined in nonverbal implicit terms as the therapist's ''autonomic responses that are reactions on an unconscious level to nonverbal messages'' (Jacobs, 1994). In monitoring countertransferential responses the clinician's right brain tracks at a preconscious level not only the arousal rhythms and flows of the patient's affective states, but also her own interoceptive bodily based affective responses to the patient's implicit facial, gestural, and prosodic communications.

Over the ensuing stages of the treatment, the sensitive empathic clinician's monitoring of unconscious process rather than content calls for right brain attention to her matching the patient's implicit affective-arousal states. The empathic therapist also resonates with the client's simultaneous implicit expressions of engagement and disengagement within the co-constructed intersubjective field. This in turn allows the clinician to act as an interactive regulator of the patient's psychobiological states. Such work implies a profound commitment by both participants in the therapeutic dyad and a deep emotional involvement on the part of the therapist (Tutte, 2004). Ultimately, effective psychotherapeutic treatment of early evolving self-pathologies (severe personality disorders) facilitates changes in complexity of the right hemispheric unconscious system.

Conclusion: Modern Regulation Theory

An explosion of developmental and neurobiological research has added substantially to the theoretical understanding of the 110 years since Freud (1895) first published his Project for a Scientific Psychology (Schore, 1997). Thus, we are proposing the concept of regulation theory as an amalgam of Bowlby's attachment theory, updated internal object relations theories, self psychology, and contemporary relational theory all informed by neuroscience and infant research. The developmental understanding that arises from this theory leads to a corresponding regulation theory of therapy. This therapeutic approach is rooted in an awareness of the centrality of early dyadic regulation, a thorough knowledge

of right hemispheric emotional development, and a deep understanding of the dynamics of implicit procedural memory. An understanding of the right brain mechanisms that underlie bodily-based non-verbal communication is essential in this approach. A keen apperception of one's own somatic countertransference is a key element in the intersubjectivity between therapist and client.

Regulation theory explains how ''external'' developmental and therapeutic attachment experiences are transformed into ''internal'' regulatory capacities. And we know from research that this intensive therapeutic relationship can repair damage and create new structure that is more able to cope with the demands of life. The intersubjective process of developing a resilient self that can enter into a variety of meaningful relationships shows us how the internal world is structured on a psychophysiological base that takes into account the unique genetic endowment of the particular infant in interaction with his relational environment. The psychotherapeutic process is based on this dynamic and can act as a growth facilitating social environment that can promote the development of not only an ''earned secure'' attachment, but expansion of the right brain human unconscious.

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A Developmental Psycho-neurobiological Approach to Assessment of Emerging Adults

Laura Humphrey, Ph.D.

Emerging adults with psychiatric problems, and thier families, have many unanswered questions and missing pieces in their understanding of what is wrong and what would truly help. Their problems and concerns at this age are extremely complex and occur across many or most areas of their lives. The developmental agenda for all emerging adults is to define themselves, and their life's greater purpose, in relation to the larger community and world. They must do this as they redefine themselves within their family as increasingly independent while still emotionally connected. There is no greater developmental challenge in all of adult life. Research shows that emergent adulthood is the single most formative time of adult life (Arnett and Tanner, 2006). The young person is making life-long decisions about everything from choice of education and career to marital partner to peer group to lifestyle and value systems.

Neurobiologists teach us that the emerging adult brain mirrors these formative changes. The brain at this time of life is the most neuroplastic that it will ever be during adulthood. It is evolving evermore expansive and complex systems of neural networks, particularly in the higher brain centers for executive functions and behavioral and emotional self-regulatory functions (cf., Giedd, 2008). Emerging adulthood is also the time of greatest exploration and risk-taking in everything from alcohol and drugs to frequency of sexual partners to pushing the limits of their bodies and society's rules and norms. Developmental scholars understand these processes of experimentation and risk taking to occur across species and to reflect the brain's normal maturation and preparation for separation from the original family unit in order to launch the new adult and family within the community (Giedd, 2008). Considering all these developmental demands and complex changes occurring at once, it is no wonder that emerging adulthood is such a time of upheaval and turmoil for the emerging adult and the entire family. This is precisely why we emphasize a developmental focus, not a symptom-focus, the way most other treatment facilities do.

Not surprisingly, emerging adulthood is also the age period when prevalence of psychiatric disorders is highest, onset of serious psychiatric disorders is most common and the risk of suicide is also greatest (see Viner, Emerging Adult Psychiatric Disorder, this issue). The co-occurrence of serious psychiatric disorder and/or substance abuse, on top of the enormous challenges of this developmental stage, make it virtually inevitable that the emerging adult's life will come to a profound halt. When we see emerging adults and their families for their initial assessment, many are utterly overwhelmed, confused, frightened and demoralized. They do not know what is really wrong or what will help. That is precisely why, at Yellowbrick, we place such an emphasis on a thorough assessment of the developmental, psychological, psychiatric, life skill, and neurobiological functioning of the emergent adult, including both strengths and weaknesses. We devote three full days, and our three most senior staff, in order to formulate a thorough and multi-layered understanding of the interplay of the young person's functioning, dysfunction and potentials across all of these areas of their lives. We have learned that it is never simple or straightforward. We hear time and again from families how grateful they are that at last someone can explain to them how it all fits together that their brilliant son had to drop out of college and won't leave his room or their multi-talented daughter, who seemed to have everything going for her, tried to kill herself. Yellowbrick also helps to frame the questions and the path for further discovery when issues are not yet clear.

The Emerging Adult Assessment Center utilizes a developmental, psycho-neurobiological model of understanding the young adult, just as Yellowbrick utilizes this model in the approach to treatment. Psycho-neurobiology integrates the role of brain development during this critical period for formation of self-identity, self-regulation of behavior and emotion, attachment relationships, and separation and individuation from the family, as the young person emerges into the larger community and world. The assessment process incorporates different methodologies to analyze the emerging adult's functioning across all of these central domains, and their neural substrate, as well as the primary areas of personal, occupational, and self-care functioning necessary for adult life. Each domain of the assessment process will be described, in turn, to give you a more in-depth understanding of what we assess and why it is important.

The Yellowbrick Assessment Model

Neuropsychology and Neuropsychiatry. Neuropsychological and neuropsychiatric functioning refer to the interactive effects of brain structures and functions, and the corresponding neurochemistry and electromagnetic activation, on psychological operations and behavior, including both normal and abnormal processes. Neuropsychology includes intelligence and cognitive functioning, as well as executive operations such as speed and flexibility of mental processing, cognitive organization, and problem solving ability, among others, in both verbal and nonverbal areas. We try to understand how the young person's brain operates in terms of capacity for new learning, memory, and social-emotional processing effects on mental operations. This is very important to know because research shows that drug and alcohol abuse, eating disorders, and mood disorders such as depression and bipolar disorder, can all have devastating effects on mental functioning and should be targeted for intervention. Most of the young people we see have struggled with one or more of these disorders and usually have some resulting impairment in their neuropsychological functioning. Our assessment team includes national authorities in neuropsychological testing integrated with self-identity and personality functioning. We also see many emerging adults with long-standing difficulties with Nonverbal Learning Disability (NLD) so we supplement their assessment with expert consultation from Mr. Joe Palumbo, a nationally recognized scholar-clinician in the field of NLD and self-development.

Neuropsychiatrically, it is critical to understand precisely the nature of the psychiatric disorder(s) the young person struggles with in order to optimize the psychopharmacologic and overall treatment. The emerging adults we see are seldom simple diagnostically so it is essential that we review all previous findings and medication history, speak with previous psychiatrists, and integrate all that data with the findings from our thorough psycho-neurobiological assessment, to arrive at a final diagnostic picture. Parents invariably enter the assessment with serious questions about the appropriateness of the current medications. We are often able to provide real answers to tough questions. Neuropsychological and neu-

ropsychiatric functioning is assessed at Yellowbrick with a series of well-established tests, questionnaires, activities and interviews. The findings are summarized in total, and interpreted as a coherent whole.

Self-Identity and Personality Organization. Self- and personality-organization are the developmentally evolving processes that determine who we are, how we see ourselves, both alone and with other people, how we experience and regulate our emotions and behavior, and how we view other people and their motivations and actions. Psychoneurobiologists have found that the primary, organizing purpose across development is to create a coherent and complex view of our self (Siegel, 1999). Fundamentally, all psychological difficulties involve elements of self- and personality-organization. Many of our emerging adults come to us with diagnoses of personality disorders, some of which are associated with great shame and hopelessness, such as Borderline Personality Disorder. We assist emerging adults with such diagnoses to sort through, and to understand, the true nature of their self-identity and personality, and how they can address the issues to move forward in treatment and their lives. In contrast to shame and hopelessness, emerging adults who go through the assessment process often feel a comfort and sense of hope that Yellowbrick has been able to "see" into them in a way they have never experienced before that helps them to know who they are, and what they need to do, to "get better". The quality and level of self-identity and personality-organization are assessed here utilizing a range of well-established methods, including both objective and projective testing as well as in-depth interviews with our senior staff, including Dr. Viner who is nationally recognized as an expert in understanding self-development and personality organization.

Self-Regulation of Tension, Emotion and Behavior. The capacity to regulate tension states, emotion, and behavior is based in specific neural systems that are formed early in development, evolve further during a second growth spurt in late adolescence and emerging adulthood, then remain relatively constant throughout life. Understanding the self-regulatory processing of the emerging adult is essential to a complete assessment of their emotional, social and behavioral functioning. Many of the young people we assess have severe difficulties with self-regulation, including, for example, disturbed patterns of sleeping and waking, anxiety or dysphoric mood dysregulation, and/or behavioral dysegulation such as an eating disorder or addiction. We assess self-regulation through a range of real-time technical recordings, behavioral sampling, and self-report methods.

Strengths and Coping Capacities. Strengths and coping capacities are extremely important in assessing a young person's abilities to engage in the world, fulfill latent potentials, relate to other people and respond to treatment. They can make all the difference in someone's participation in life and feelings of competence and hope for the future. We find that most of the emerging adults we see have quite significant strengths and abilities but have often lost sight of them in the midst of all their struggles. It helps them to be validated in their authentic capabilities as they come to terms with their limitations and try to move forward in their lives. We assess their strengths and coping through their life experience, interviews with our senior clinicians and the life-skills and education/career specialists, as well as well-established self-report inventories.

Temperament. Temperament is one of the most enduring characteristics known. It is evident shortly after birth and continues, relatively unchanged throughout the lifespan. It affects everything we are and everything we do, from the way we approach new situations and people, to our daily rhythmic patterning, to the level of stimulation we are comfortable with and our baseline mood fluctuations. In the Yellowbrick assessment we use the most well established and widely used measure of adult temperament, the Adult Temperament Questionnaire, to assess temperament in emerging adults. Parents find the information on their child's temperament particularly helpful in understanding some of the long-term worrisome behavior patterns and vulnerabilities they have observed and not known quite how to integrate.

Attachment Style. Attachment patterns, like characteristics of temperament, reflect neural systems within the brain and are relatively enduring from early childhood throughout life. Our attachment styles and relationship patterns determine much of who we are and how we interact in the world. Unlike temperament, however, attachment styles, and their corresponding neural systems, can change but only through repeated, intensive and new real-life, real-time experiences. We assess attachment patterns through the clinical interviews and a series of self-report questionnaires and 1 clinical rating scale.

Family Relationships. Family relationships are a central aspect of the emerging adult's life. They form the prototype for all subsequent relationships including with peers, romantic partners, classmates and work associates. When a young person is troubled and struggling to launch an independent, self-sufficient life, the family is always deeply affected. There are usually conflicts and wounds that need healing on both sides. We devote considerable time during the assessment to understanding the family's history and experience together, as well as their communication and relationship patterns at this critical time in the emerging adult's life. We utilize self-ratings, interviews, and direct observation methods to assess family relationships.

Separation and Individuation. One of the major developmental challenges of emerging adulthood is to become independent and self-sufficient while maintaining a healthy degree of closeness and connectedness. It requires moving beyond the family and the neighborhood of childhood and going further out into the world with competence and confidence, while staying in touch with family and friends from home. There is a corresponding surge of brain development associated with preparing the young person to live, love, work and act self-sufficiently, within a community. When a young person is struggling to do this, it usually derails the process of separation. This is assessed at Yellowbrick through clinical interviews, self-reports, and direct observation of the family and the emerging adult together.

Life Skills. Well-developed life skills such as personal self-care, money management, and household responsibilities are necessary for every emerging adult. Yet, these are frequently undermined by psychological difficulties. At times of emotional distress, these everyday activities can be extremely overwhelming and difficult to accomplish. In order to assess life skills functioning, each emerging adult in treatment at Yellowbrick undergoes, with our occupational therapist, an interactive, behavior-sampling assessment that is very well established in the field.

Education and Career Functioning. At the age of emerging adulthood, a central developmental goal is to begin to envision one's career choice, post-high school educational goals, and to begin to take some steps toward those goals. For someone with psychological difficulties, however, it is usually almost impossible to move forward in education and career aspirations until he or she begins to address the difficulties that were part of the derailed developmental process in the first place. In order to assess educational and career functioning, we utilize a range of self-report and interview methods, including the very well respected Strong Vocational Interest Inventory.

Risk Factors. The risk of suicide is very real in the emerging adult population. This is espe-

cially true in severe depression, particularly in combination with substance abuse and certain impulse control problems. In order to assess suicide risk, we rely on clinical interviews with highly senior staff, review of history, and self-report inventories that have well-established predictive validity for suicide attempts. Emerging adults are also at risk for other forms of self-destructive and self-sabotaging behavior such as self-injury, drug abuse or victimization. We assess the young person's risk for all forms of self-harm.

Authentic Motivation and Therapeutic Alliance. True motivation for change, and persistence toward personal life goals, are essential in determining someone's current capacity for treatment and making changes in their life. Therapeutic alliance is the single best predictor of psychotherapeutic treatment outcome. We consider these two sources of motivation for change and treatment to be critical determinants of whether a troubled, treatment-wary or treatment–resistant young adult will make use of the help available. There are two self-report questionnaires of motivation for treatment as well as a series of interviews with senior clinicians that assess these core elements of emergent motivation.

Translating the Assessment: The Products

Collaboration Conference. The assessment's Collaboration Conference is the meeting of the emerging adult and his or her family with the professional team involved in the assessment process. The purpose of the meeting is to join together the experience of the emerging adult and the family with the collective wisdom of Drs.Viner, Monroe-Cook and Humphrey's 90+ years of clinical experience working with troubled emerging adults. In collaboration together, we focus our collective wisdom to understand the full nature of the developmental and psycho-neurobiological difficulties that have brought the young person's life to a halt, the matrix of factors that have contributed to those difficulties, the available strengths and resources the young person already has, and what it will take for him or her to get traction in treatment and be able to truly launch a fulfilling and meaningful life.

The Assessment Report. The results of the completed assessment are summarized in an integrative and comprehensive report, which is available to the emerging adult and their parents within two weeks of the Collaborative Conference at the conclusion of the assessment. The report incorporates all of the findings from each of the psycho-neurobiological, and life-functioning, domains summarized above, as well as the history and previous treatment records, all integrated into a cohesive whole. The report is organized into different sections corresponding to each psycho-neurobiological domain assessed and integrated into an Executive Summary at the beginning of the report. The Executive Summary reviews the results of all the tests, inventories, procedures, interviews and history, and integrates them into a coherent formulation of the patient's psycho-neurobiological functioning, levels of self-organization and self-regulation, attachment and relationship patterns, psychosocial development, strengths and capabilities, life functioning and self-care skills, career and educational accomplishments and aspirations, degree of risk, future potential, and initiative and motivation for action. This summary naturally flows into the final section of the Executive Summary in which we present the recommendations for optimal treatment, whether at Yellowbrick or elsewhere, and life functioning in general, based on our comprehensive psycho-neurobiological assessment of the emerging adult.

Conclusion

The initial assessment process at Yellowbrick generates a very specific treatment plan for each emerging adult who enters either The Residence or the intensive outpatient Life Strategies Program. The assessment team presents the findings and treatment plan to the entire professional staff so that the treatment team can "hit the ground running" when the emerging adult begins the program. In addition, Dr. Humphrey meets with each emerging adult to provide specific, in-depth feedback about the results of the assessment and how these will be integrated into the treatment plan and ongoing progress evaluations. The meetings with Dr. Humphrey are very powerful and meaningful to the young person as he or she begins to mobilize their own self-understanding and motivation to change.

The Yellowbrick Assessment also provides the pre-treatment data points for tracking the progress and outcome effectiveness of Yellowbrick's psycho-neurobiological model of care. We are in the process of beginning an extensive and intensive research study of the Yellowbrick psycho-neurobiological model of treatment in our emerging adult population. We have recruited consultation from internationally recognized clinician-scholars and are nearly ready to begin the formal research studies. We will be examining a range of critical questions including, among others, the nature and course of core autonomic self-dysregulation in response to psycho-neurobiological treatment, which has never been studied for any type of psychotherapeutic treatment, as well as which factors at initial assessment best predict a positive outcome to Yellowbrick's intensive treatment. Yellowbrick is committed to the highest quality of care possible and that requires that we evaluate our outcomes using well-established scientific methods in psychotherapy research.

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YELLOWBRICK℠ *journal*

of Emerging Adulthood

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