Integrating Interpersonal Neurobiology into Financial Planning: Practical Applications to Facilitate Well-Being

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Executive Summary

- This paper introduces the field of Interpersonal Neurobiology (IPNB) and its application to financial planning. IPNB integrates theories from fields including neuroscience, psychology, systems theory, and relationship studies to create an interdisciplinary approach to well-being.
- IPNB processes support the healthy integration of emotional, psychological, physiological, and cognitive functioning and can be applied to the financial planning relationship and facilitation of behavioral change. IPNB can be used by financial planners to better understand client attitudes, beliefs, motivations, decisions, and financial behaviors.
- IPNB provides a conceptual framework for financial planners to improve interpersonal relationships with clients, calm client fears, and gain insight into emotions that lead to financial decisions while promoting a sense of well-being. This paper presents practical applications of IPNB to facilitate financial well-being.
- IPNB research supports financial planning best practices, which are becoming increasingly focused on evidence-based strategies.

Advances in technology continue to disrupt the financial advice industry. Increased productivity and efficiency through artificial intelligence, technological integration, and automation is putting some financial planning professional's value proposition in jeopardy. And with the commoditization of asset management through index funds and robo-advisers, financial planners are being challenged to demonstrate their value beyond traditional financial planning. To provide value for the cost of working with a financial planner, clients will require financial planning services that are interconnected with all aspects of their financial lives.

According to financial planner, super trend expert, and futurist Dennis Stearns, the financial planner of the future will need high emotional intelligence and will also need to be "really good at the human element."[1] This recognition has given rise to a demand for more holistic financial planning approaches and increased focus on client experience, well-being, and creating consistency between the client's beliefs, values, and behaviors. This demand is evidenced by a growing number of academic programs and educational initiatives in financial therapy, financial psychology, and behavioral finance at institutions including Kansas State University, University of Georgia, Texas Tech University, and Creighton University, as well as the client psychology program developed by CFP Board in collaboration with the University of Pennsylvania.

Client satisfaction and retention will likely become increasingly dependent on a planner's ability to increase their own self-awareness, foster deeper interpersonal relationships, and understand how clients make decisions. Financial planners who establish deep, rewarding, and effective client relationships are likely to outperform their peers who do not. Client-planner relationships that contain these elements also have the potential to increase financial health and initiate healthy behavioral change.

Corresponding with these shifts in the profession, fields outside financial planning are being studied, researched, and implemented. There has been a recent push toward integrating behavioral finance, financial psychology, and financial therapy theories and tools into the financial planning process (e.g., Asebedo and Seay 2015; Lawson and Klontz 2017; Chaffin and Fox 2018). This integrated financial planning approach recognizes that, at its core, financial planning is not only about increasing net worth, but improving a client's overall quality of life.

According to Chaffin and Fox (2018) "We need to further investigate stress, cognition, interpersonal relationships, communication, identity, and other basic elements, all within the framework of financial planning" (p. XIV). Thriving in tomorrow's financial planning environment may be dependent on accelerated efforts to integrate research from the areas of neuroscience, psychology, and related fields to create an evidence-based framework that can facilitate an evolving approach to financial planning.

What follows is an introduction to Interpersonal Neurobiology (IPNB), followed by a discussion of key IPNB components, including neural integration, neuroplasticity, attunement, and mindfulness within a financial planning context. Recommendations for integrating IPNB techniques into the financial planning process are presented.

Introduction to Interpersonal Neurobiology

Pioneered by UCLA professor Daniel Siegel, M.D., Interpersonal Neurobiology is an interdisciplinary field that draws from multiple branches of science and seeks to identify universal findings that expand our understanding of the mind and well-being (Siegel 2012b).

According to Siegel (2012b), IPNB "seeks to create an understanding of the interconnections among the brain, the mind, and our interpersonal relationships" (p. 3). It draws from anthropology, biology, psychology, sociology, systems theory, neuroscience, and other fields to identify patterns that can be used to support holistic approaches to well-being (Siegel 2019). It goes beyond any one discipline's efforts to make sense of human behavior and offers methods to address and facilitate behavioral change.

IPNB concepts are being used in the fields of education, psychotherapy, and healthcare as well as in the practice of leadership, coaching, and parenting (Siegel and McCall 2009). It provides an understanding of how the brain works as well as interpersonal biological processes that in the past were unintelligible for those outside the fields of neurobiology and psychology.

IPNB concepts can be valuable to financial planners in the attempt to better understand client psychology and increase a planner's emotional and interpersonal intelligence. Like integrated financial planning, IPNB is based on an individual's right to self-determination and our natural propensity toward growth, integration, human connection, and wholeness (Siegel 2012a).

This paper suggests that the IPNB concepts of integration, neuroplasticity, attunement, and mindfulness can be used to help facilitate deeper client relationships, improve financial planner effectiveness, and enhance client outcomes.

The Connection of Brain, Mind, and Relationships

Through the lens of IPNB, the brain, mind, and relationships influence one another. The mind is distinguished from the brain in that the brain is the physical mechanism that supports and enables the mind. The mind can be best understood as a process of energy regulation that emerges from both the body and our relationships. The mind relates to our inner subjective experience and the

What Is "Integrated Financial Planning"?

Integrated financial planning goes beyond traditional financial planning, which historically has focused exclusively on the exterior, mechanical aspects of money (Klontz, Kahler, and Klontz 2016). Integrated financial planning involves helping clients navigate change and conditions of uncertainty, a deep client-planner relationship built on trust, and the facilitation of behavioral change, when necessary. The ultimate goal of integrated financial planning is "to help clients build and maintain a balanced and comfortable relationship with money" (Klontz et al. 2016, p. 1). It is designed to help clients achieve and maintain holistic financial health.

In addition to the traditional financial targets of financial planning, integrated financial planning includes the following components: (1) healthy communication with family members; (2) making financial choices that are consistent with one's values and purpose; (3) low levels of financial stress; (4) high levels of satisfaction with one's financial life; (5) using money, not as an end in itself, but as a tool to help achieve what is most important in life; (6) understanding the subconscious beliefs, or "money scripts" one has learned about money and being able to change those that are detrimental to financial well-being; and (7) understanding one's financial history and early experiences and how these have impacted the development of their relationship with money (Klontz et al. 2016).

process of being aware. It is a dynamic integration of the brain and experience (Siegel 2012a, 2012b). The interactions within interpersonal relationships deeply shape and influence the ongoing development of the brain; likewise, the brain and its development shape and influence relationships (Thompson 2010).

Relationships involve the sharing of energy and information between two or more people as they connect and communicate with one another. Interpersonal interactions impact our brain by shaping the growth of neural connections and regulation of brain regions responsible for control of emotional systems (Siegel 2012a, 2012b).

Scientists are beginning to understand how social connections, emotions, and health influence each other and impact overall well-being (Kok et al. 2013). According to Seigel (2012a), the mind, brain, and relationships form a triangle of well-being, which represents three dimensions of one system of energy and information flow. When healthy, these elements of well-being show up as an integrated system. An integrated brain enjoys empathic relationships and a logical, flexible, energized, consistent, and adaptable mind (Siegel 2010; Thagard 2002; Raichle et al. 2001). It creates a balanced and coordinated nervous system, which in turn, facilitates empathic relationships (Siegel 2012a, 2012b). A healthy, empathic relationship involves connection through compassionate, respectful communication. With coherence of mind, people feel connected, open, harmonious, engaged, and receptive (Siegel 2009).

Integration: Fundamental to Developing Well-Being

In IPNB, integration is seen as the fundamental process in the development of personal well-being. Integration occurs when a coherent mind, integrated brain, and empathic relationships exist in balance with one another. Health emerges from the linkage of these three elements, revealing integration as the foundation of good health (Siegel 2012a).

The dynamic that exists between mind, brain, and interpersonal relationships is flexible and adaptive, and all components can be intentionally moved toward health (Siegel 2012a). As such, it would seem logical for financial planners to include a framework such as IPNB with integration at its core to enhance their work in supporting clients' financial well-being.

Siegel (2012b) likens integration to a piece of choral music, where each vocal role plays a unique part contributing to a harmonious piece of music. The listener, even without being an expert in choral music, can tell when harmony is achieved. Similarly, when people are integrated, they experience an ease, clarity, flow, and authenticity in their lives and relationships. Integration enables people to be flexible and free. Conversely, a lack of such connections promotes a life that is rigid or chaotic; fixed and boring on the one hand or tumultuous and unpredictable on the other. With integration comes a sense of vitality and thriving accompanied by an ease of well-being (Siegel 2007).

Financial planners know when a client is not integrated in their financial life. This lack of integration is evidenced by the client's financial stress, lack of financial satisfaction, financial inaction, conflicts in their relationships around money, or financial behaviors that are not aligned with their values and goals. An IPNB approach to facilitating financial health draws on the conceptual framework of this interdisciplinary view in exploring the ways in which a planner can help a client alleviate financial stress, move toward financial well-being, and thrive.

Achieving integration. One of the main ways to achieve integration is through narrative (Siegel and McCall 2009). A narrative is the story people make up about their experiences. Narratives help us organize our experiences and achieve a sense of meaning and purpose. When people can make meaning of their experiences, they feel calmer and more in control.

In financial planning, when clients feel fearful or under stress, the data-driven parts of their brain are offline, and they are not receptive to the financial data planners often present as supporting evidence for their recommendations (Raichle et al. 2001). Financial decision-making can be impacted by the emotional parts of the brain (primarily the amygdala and hypothalamus), bypassing our logical brains (Klontz and Klontz 2009). In a financial planning context, this effect can make it difficult to make healthy financial decisions.

When a planner notices that a client is under stress, it is important to stop and find out more about the client's emotional state. It can be beneficial to be attentive and support the client in developing a narrative to help explain what is so upsetting and what they fear may happen. To help clients develop and voice a narrative, financial planners can do the following, adapted from the work of Klontz, Kahler, and Klontz (2016), Miller and Rollnick (2012), and Siegel and Bryson (2012):

Spend more time listening than talking. Aim for 75 percent of the time listening and 25 percent of the time talking.

Listen with openness, compassion, and curiosity.

If a client pauses and appears to be thinking, allow them to be silent and think.

Reflect back to the client what you have heard them say, and then ask them to tell you if you got it right. For example, "It sounds like you are feeling pretty overwhelmed right now, is that right?"

Acknowledge and validate the client's experience and feelings. Express explicitly what you observe: "I hear you are concerned. That makes sense."

Facilitate the creation of a new client narrative. Help the client create a narrative that links behavioral change with positive results. Ask open-ended questions such as, "How might you go about that in order to succeed?" Discuss alternatives. Explore contingencies by asking "what-if" questions, such as, "What would you do if…?"

Encourage self-understanding through discussions regarding the client's values, intentions, desires, and beliefs.

If the client is emotionally charged or upset, be silent, shift to a less charged topic, take a break and get up and move, or schedule another date to continue the conversation, depending on the circumstances. In doing this, clients often relax and reengage their logical brain so that they can make sense of the experience and feel more in control. When they are calm and feel heard, clients can be more receptive to the planner's presentations or recommendations.

Neuroplasticity: Changing in Response to Experience

The brain changes over the course of peoples' lives, not just in childhood as was previously thought (Siegel and Bryson 2012). Neuroplasticity is the ability of the brain to change its structure in response to experience. The brain responds and changes from real-life experience as well as from visualization and imagining (Pascual-Leone et al. 1995).

Two recent studies that incorporated visualization of the achievement of financial goals observed meaningful effects on financial behaviors. Klontz et al. (2019) found a 73 percent increase in savings as a percentage of gross income after just a 90-minute goal-setting session; and Horwitz, Klontz, and Zabek (2019) found a 39 percent increase in elected salary deferrals after a one-hour 401(k) sign-up across several companies, which incorporated the visualization of retirement goals. Learning to focus attention in a way that promotes mindful awareness can help change not just beliefs or attitudes, but the actual structure of the brain (Siegel 2012a).

In the context of financial planning, emotions, relationships, and past experiences shape what both planners and clients perceive, feel, and believe about money. These perceptions and beliefs about money have been shown to have direct links to financial outcomes, including income, net worth, credit card debt, and financial behaviors (Klontz, Britt, Mentzer, and Klontz 2011; Klontz, Sullivan, Seay, and Canale 2015). For example, a client whose parents grew up during the Great Depression may have learned frugal habits, strong beliefs, and salient anxieties about money that shaped their lives and the lives of their children. Left unexamined, these experiences can permanently and often negatively impact a client's financial beliefs and behaviors.

Facilitating neuroplasticity. Financial planners would benefit from understanding the brain and the concept of neuroplasticity and to see themselves as facilitators of neural integration. An example of facilitating neuroplasticity is when a financial planner takes time to "practice" market downturns with clients by discussing them before they happen, creating new neuropathways and response patterns in the brain. Exposure to these types of stress-inducing events combined with practicing positive responses is called stress inoculation, a form of cognitive behavioral therapy (Meichenbaum 1985), and has been used in psychology for decades to help build a client's resilience. Practicing our response to an emotional event at a time when our brains are not hijacked by our emotions may prevent us from making devastating financial decisions during inevitable market volatility.

Keep in mind, a planner's ability to be aware of a client's state of mind with different aspects of money will depend on how well that planner knows him or herself. Planners who strive to be facilitators of financial health should first understand their own money scripts and mitigate their own cognitive biases.

Klontz and Britt (2012) showed that financial planners are vulnerable to being significantly impacted by financial stress themselves. Planners should consider building time into their schedules for introspection to help gain clarity about their values and motivations. This will require a planner being intentional about studying and training in fields such as financial psychology, financial life planning, behavioral finance, and financial therapy. This could also include a planner working with their own financial planner or therapist (Klontz, Kahler, and Klontz 2016).

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Attunement: Knowing Oneself and Others

The feeling of being known by another has been posited as one of the most integrative experiences in life (Thompson 2010). Attunement is the process of being present with and deeply knowing oneself and/or another person (Siegel 2010). In IPNB, attunement is defined as "a quality of integrated relationships in which differences are respected and compassionate connections are cultivated" (Siegel 2012a, p. AI-8). It encapsulates the ways in which internal emotional states become known to two individuals through their interpersonal interactions. When the brain perceives the presence, attunement, and resonance of another person, it activates a receptive social engagement system (Porges 2011).

The brain uses "mirror neurons" to help us attune to other people. When people consciously or subconsciously detect someone's emotions through their actions, our mirror neurons reproduce those same emotions within ourselves (Goleman and Boyatzis 2008). These neurons create a sense of shared experience. This system of mirror neurons allows a mind to emulate the mental state of another (Siegel and Hartzell 2003). The activation of mirror neurons facilitates rapport-building and the positive deepening of relationships (Siegel 2012b).

One way to develop self-attunement is to reflect on a recent important conversation.

In financial planning, mirror neurons are activated during meetings with clients. If a financial planner is not at ease, the client will consciously or unconsciously become anxious, mirroring the tension of the planner. An attuned planner can use this awareness to take some time to get into a calm emotional state prior to the meeting.

A financial planner can also use attunement to better understand and meet clients' needs with a deeper awareness of their emotional and behavioral challenges. With this awareness, a financial planner can create a deeper and more trusting relationship with the client and provide more effective recommendations.

Practicing attunement. Attunement is a skill that can be practiced. Planners who practice self-attunement are keenly aware of their attitudes and emotions and how they impact their interactions with clients.

Consider the example of Nancy. Nancy visited her financial planner because she had received an inheritance from her mother, and she wanted to formulate a plan for investing. Her planner took the time during this first encounter to listen deeply and get to know Nancy, validating and normalizing her situation, and allowing her to feel heard.

When her planner asked what her investment goals were, Nancy began to cry. Through tears, she explained that the inheritance represented not only the loss of her mother but also her father deserting the family, initially forcing the family into a homeless shelter. Directing her attention toward the management of the inheritance required her to also confront these painful feelings.

Instead of telling her that she shouldn't feel this way or moving directly into giving financial advice, her financial planner could feel her sense of loss, made space for Nancy to talk about her feelings, and showed empathy for her situation. By assuring Nancy the investment plan could wait and allowing Nancy to process her grief, these emotions became less obstructive. Within three months of this conversation, Nancy was able to move forward and execute on a plan for the management of her inherited assets.

One way to develop self-attunement is to reflect on a recent important conversation. Take a few minutes to mentally recreate the scene of the conversation. What made it an important conversation? What feelings emerge about the outcome? What bodily sensations accompanied the conversation? Write down the answers to these questions. This process, when repeated, can cultivate increased self-awareness and attunement.

Financial planners can help clients increase their own self-attunement. This increased self-awareness can help the financial planning process, because clients will be better able to ask questions and share their concerns.

One way to do this is when presenting financial planning recommendations. Instead of just running through a list of recommendations, a planner might periodically ask the client what it is like to be hearing the recommendation. Does the planner notice any physiological reactions to the discussion? Is the client feeling nervous? Excited? If it seems awkward to have this conversation, explain to the client that there are often physiological and emotional reactions to recommendations and that these automatic reactions are often the most important indicators of how much of a good fit the recommendations are and/or how ready a person is to incorporate them.

Mindfulness: Regulating Mood and Emotions

Mindfulness is the practice of self-observation without judgement and of consciously directing attention to a desired process. In the words of Kabat-Zinn (2005), mindfulness "is a systematic approach to developing new kinds of control and wisdom in our lives, based on our inner capacities for relaxation, paying attention, awareness, and insight" (p. 2).

Mindfulness has been shown to have many psychological benefits, including decreasing anxiety and stress (Goyal et al. 2014). Studies have also found that mindfulness training increases the activation of the areas of the brain responsible for executive functioning

(Lieberman et al. 2007; Creswell, Way, Eisenberger, and Lieberman 2007). Kabat-Zinn (1994) argued that mindfulness promotes attunement, connection, and closeness in relationships. These findings suggest that humans have the ability to change their brains and behavior by choosing where, when, and how they direct their attention.

Mindfulness can be cultivated through a variety of practices including meditation, focused thought, deep breathing, journaling, and exercise (Linehan 1993; Ramasubramanian 2016). Practicing mindfulness helps regulate mood and emotion, cultivate a more flexible and stable mind, and can empower clients to develop new perspectives on their finances (Smith, Richards, and Shelton 2016).

Some evidence suggests that mindfulness activities can help improve a client's financial health, decrease anxiety, and improve financial behaviors (Klontz, Bivens, Klontz, Wada, and Kahler 2008). Grable, Heo, and Rabbani (2015) suggested that stress may significantly influence a client's ability to understand and engage in the financial planning process. In addition to promoting client mindfulness practices for these reasons, a personal mindfulness practice can be a valuable tool in getting to know one's values and perspectives.

Siegel (2007) proposed that mindfulness is a kind of "intrapersonal attunement" (p. 16) that uses the same "resonance circuitry" as empathy with others (p. 165). Mindfulness is thought to facilitate integration between mind and body and promote increased awareness, which facilitates conscious choice and behavioral change (Siegel 2007).

Practicing mindfulness. Planners who practice mindfulness can encourage clients to use mindful techniques to gain awareness of their emotions and behavior around money. When clients are stressed, they are less likely to make behavioral changes that could positively influence their financial and overall well-being (Britt, Lawson, and Haselwood 2016). When approached skillfully, the client-planner relationship can provide an optimal environment for both intrapersonal and interpersonal awareness.

Consider the example of Jack. Jack met with his financial planner to discuss retirement planning and debt reduction. In addition to gaining an understanding of Jack's cash flow and net worth, the planner created a safe space for Jack to talk about his family's history around money.

Jack came from a family that generated large amounts of wealth in candy manufacturing. Though wealthy, many of Jack's relatives became obese and sick and died young. Jack's mother spent her inheritance prior to Jack's birth. Therefore, Jack grew up poor, often worrying about being able to afford food and clothing. He lived in a trailer park while his grandparents lived in a mansion. Even though Jack did not grow up wealthy, he always expected to inherit something from his grandparents. He never did.

Through the discussion of Jack's negative associations with wealth as well as a recognition of his physical symptoms associated with money stress, he became more aware of the forces affecting him and his ability to manage his finances. Over time, Jack was able to save more aggressively and became more optimistic in his plan for reducing debt.

Mindfulness exercises loosen engrained patterns (Siegel 2010) and create neuroplasticity. As such, a planner may see challenges and opportunities that might have been previously missed due to a lack of mental presence in the moment.

To help create mindful awareness, planners can take a few moments before each meeting or phone call to get centered and prepared. A simple technique is to sit comfortably with both feet on the floor and direct attention to the breath. Take five slow deep breaths and notice the movement of air through the lungs, filling them fully and then noticing the feeling of the exhalations. With attention turned toward the diaphragm, notice any sensations but don't judge them. By taking a few moments to become aware of your bodily sensations, an emotional state can be radically shifted in a matter of moments.

Regularly practicing mindfulness will allow a planner to think more clearly, be more present for the client, and therefore be more effective in his or her role. With clarity and presence, the ability to detect and understand the emotions of others increases. With practice, this allows for better interpersonal skills by promoting insight, connection, and more skillful empathic interactions between financial planner and client. This interpersonal and intrapersonal awareness cultivates integration in the client and supports a client's journey toward lasting growth and well-being (Siegel 2010).

Conclusion

As financial planning continues to evolve and becomes increasingly focused on quality of life, IPNB offers an interdisciplinary, evidence based-framework that can be used to enhance a client-centric, integrated financial planning model.

IPNB has significant professional and personal applications in financial planning and can help financial planners and clients facilitate financial well-being. IPNB offers tools to normalize a client experience when it comes to navigating uncertain financial events, making financial decisions, or simply talking about money. The tools available through IPNB provide ways to empower a client and support constructive behavioral change.

It is also important for financial planners to know the boundaries of their roles. Klontz, Kahler, and Klontz

(2016) suggested that financial planners who integrate certain modalities into their work with clients do so from an advising or coaching framework and never attempt to provide psychotherapy for clients or try to "treat" a mental disorder, such as gambling disorder, compulsive buying disorder, hoarding disorder, or depression or anxiety. Financial planners who become aware that a client may be suffering from a mental disorder should make a referral to an appropriate professional.

IPNB has a place within integrated financial planning for planners who are interested in increasing their own emotional and interpersonal intelligence by cultivating integration, attunement, and mindfulness. Financial planners who employ IPNB concepts are likely to encounter shifts in their own neural integration, as well as attunement, mindfulness, and neuroplasticity (Siegel 2010; Thompson 2010; Cozolino 2008; and Badenoch 2008). These shifts can facilitate deeper client-planner relationships, better client outcomes, and better job satisfaction.

When practiced, the concepts of IPNB may allow financial planners to serve clients on a deeper level and perhaps improve overall quality of life for both client and financial planner. ■

Endnote

1. See "Future Firm, Future Planner," by Carly Schulaka in the December 2019 *Journal of Financial Planning.*

References

Asebedo, Sarah D., and Martin C. Seay. 2015. "From Functioning to Flourishing: Applying Positive Psychology to Financial Planning." *Journal of Financial Planning* 28 (11): 50–58.

Badenoch, Bonnie. 2008. *Being a Brain-Wise Therapist: A Practical Guide to Interpersonal Neurobiology.* New York, N.Y.: W.W. Norton and Co.

Britt, Sonya L., Derek R. Lawson, and Camila A. Haselwood. 2016. "A Descriptive Analysis of Physiological Stress and Readiness to Change." *Journal of Financial Planning* 29 (12): 45–51.

Chaffin, Charles R., and Jonathan J. Fox. 2018. *Client Psychology*. Hoboken, N.J.: Wiley and Sons Inc.

Cozolino, Louis J. 2008. *The Healthy Aging Brain: Sustaining Attachment, Attaining Wisdom*. New York, N.Y.: W.W. Norton and Co.

Creswell, J. David, Baldwin M. Way, Naomi I. Eisenberger, and Matthew D. Lieberman. 2007. "Neural Correlates of Dispositional Mindfulness During Affect Labeling." *Psychosomatic Medicine* 69 (6): 560–565.

Goleman, Daniel, and Richard Boyatzis. 2008. "Social Intelligence and the Biology of Leadership." *Harvard Business Review* 86 (9): 74–81.

Goyal, Madhav, Sonal Singh, Erica M.S. Sibinga, Neda F. Gould, Anastasia Rowland-Seymour, Ritu Sharma, Zackary Berger et al. 2014. "Meditation Programs for Psychological Stress and Well-Being: A Systematic Review and Meta-Analysis." *JAMA Internal Medicine* 174 (3): 357–368.

Grable, John, Wookjae Heo, and Abed Rabbani. 2015. "Financial Anxiety, Physiological Arousal, and Planning Intention." *Journal of Financial Therapy* 5 (2): 1–18.

Horwitz, Edward J., Bradley T. Klontz, and Faith Zabek 2019. "A Financial Psychology Intervention for Increasing Employee Participation in and Contribution to Retirement Plans: Results of Three Trials." *Journal of Financial Counseling and Planning* 30 (2): 262–276.

Kabat-Zinn, Jon. 2005. *Coming to Our Senses: Healing Ourselves and the World Through Mindfulness.* New York, N.Y.: Hyperion.

Kabat-Zinn, Jon. 1994. *Wherever You Go, There You Are: Mindfulness Meditation in Everyday Life.* New York, N.Y.: Hyperion.

Klontz, Bradley T., Faith Zabek, Colby Taylor, Alexander Bivens, Edward Horwitz, Paul T. Klontz, Derek Tharp, and Meghaan Lurtz. 2019. "The Sentimental Savings Study: Using Financial Psychology to Increase Personal Savings." *Journal of Financial Planning* 32 (10): 44–55.

Klontz, Bradley, Rick Kahler, and Ted Klontz. 2016. *Facilitating Financial Health: Tools of Financial Planners, Therapists, and Coaches.* Cincinnati, OH: National Underwriter Co.

Klontz, Bradley T., Paul Sullivan, Martin C. Seay, and Anthony Canale. 2015. "The Wealthy: A Financial Psychological Profile." *Consulting Psychology Journal: Practice and Research* 67 (2): 127–143.

Klontz, Bradley T., and Sonya L. Britt. 2012. "Financial Trauma: Why the Abandonment of Buy-and-Hold in Favor of Tactical Asset Management May Be a Symptom of Post-traumatic Stress." *Journal of Financial Therapy* 3 (2): 14–27.

Klontz, Bradley, Sonya L. Britt, Jennifer Mentzer, and Ted Klontz. 2011. "Money Beliefs and Financial Behaviors: Development of the Klontz Money Script Inventory." *Journal of Financial Therapy* 2 (1): 1–22.

Klontz, Bradley, and Ted Klontz. 2009. *Mind Over Money: Overcoming the Money Disorders that Threaten our Financial Health.* New York, N.Y.: Broadway Business.

Klontz, Bradley T., Alex Bivens, Paul T. Klontz, Joni Wada, and Richard Kahler. 2008. "The Treatment of Disordered Money Behaviors: Results of an Open Clinical Trial." *Psychological Services* 5 (3): 295–308.

Kok, Bethany E., Kimberly A. Coffey, Michael A. Cohn, Lahnna I. Catalino, Tanya Vacharkulksemsuk, Sara B. Algoe, Mary Brantley, and Barbara L. Fredrickson. 2013. "How Positive Emotions Build Physical Health: Perceived Positive Social Connections Account for the Upward Spiral Between Positive Emotions and Vagal Tone." *Psychological Science* 24(7): 1,123–1,132.

Lawson, Derek R., and Bradley T. Klontz. 2017. "Integrating Behavioral Finance, Financial Psychology, and Financial Therapy into the 6-Step Financial Planning Process." *Journal of Financial Planning* 30 (7): 48–55.

Lieberman, Matthew D., Naomi I. Eisenberger, Molly J. Crockett, Sabrina M. Tom, Jennifer H. Pfeifer, and B. M. Way. 2007. "Putting Feelings into Words: Affect Labeling Disrupts Amygdala Activity in Response to Affective Stimuli." *Psychological Science* 18 (5): 421–428.

Linehan, Marsha M. 1993. *Skills Training Manual for Treating Borderline Personality Disorder.* New York, N.Y.: Guilford Press.

Meichenbaum, Donald. 1985. *Stress Inoculation Training.* Oxford, U.K.: Pergamon Press.

Miller, William R., and Stephen Rollnick. 2012. *Motivational Interviewing: Helping People Change.* New York, N.Y.: Guilford Press.

Pascual-Leone, Alvaro, Dang Nguyet, Leonardo G. Cohen, Joaquim P. Brasil-Neto, Angel Cammarota, and Mark Hallett. 1995. "Modulation of Muscle Responses Evoked by Transcranial Magnetic Stimulation During the Acquisition of New Fine Motor Skills." *Journal of Neurophysiology* 74 (3): 1,037–1,045.

Porges, Stephen W. 2011. *The Polyvagal Theory: Neurophysiological Foundations of Emotions, Attachment, Communication, and Self-Regulation.* New York, N.Y.: W.W. Norton and Co.

Raichle, Marcus E., Ann Mary MacLeod, Abraham Z. Snyder, William J. Powers, Debra A. Gusnard, and Gordon L. Shulman. 2001. "A Default Mode of Brain Function." *Proceedings of the National Academy of Sciences* 98 (2): 676–682.

Ramasubramanian, Srividya. 2016. "Mindfulness, Stress Coping and Everyday Resilience Among Emerging Youth in a University Setting: A Mixed Methods Approach." *Journal of Adolescence and Youth* 22 (3): 308–321.

Siegel, Daniel J. 2019. "An Introduction to Interpersonal Neurobiology." Available at m.drdansiegel.com/about/interpersonal_neurobiology.

Siegel, Daniel J. 2012a. *Pocket Guide to Interpersonal Neurobiology: An Integrative Handbook of the Mind.* New York, N.Y.: W.W. Norton and Co.

Siegel, Daniel J. 2012b. *The Developing Mind: How Relationships and the Brain Interact to Shape Who We Are, 2nd edition*. New York, N.Y.: Bantam Books.

Siegel, Daniel J. 2010. *The Mindful Therapist: A Clinician's Guide to Mindsight and Neural Integration.* New York, N.Y.: W.W. Norton and Co.

Siegel, Daniel J. 2009. *Mindsight: The New Science of Personal Transformation.* New York, N.Y.: Bantam Books.

Siegel, Daniel J. 2007. *The Mindful Brain: Reflection and Attunement in the Cultivation of Well-Being.* New York, N.Y.: W.W. Norton and Co.

Siegel, Daniel J., and Tina Payne Bryson. 2012. *The Whole-Brain Child: 12 Revolutionary Strategies to Nurture Your Child's Developing Mind.* New York, N.Y.: Bantam Books.

Siegel, Daniel, and Debra Pearce McCall. 2009. "Mindsight at Work: An Interpersonal Neurobiology Lens on Leadership." *Neuroleadership Journal 2*: 23–34.

Siegel, Daniel J., and Mary Hartzell. 2003. *Parenting from the Inside Out: How a Deeper Self-Understanding Can Help You Raise Children Who Thrive.* New York, N.Y.: Penguin.

Smith, Thomas E., Kristin V. Richards, and Victoria M. Shelton. 2016. "Mindfulness in Financial Literacy." *Journal of Human Behavior in the Social Environment* 26 (2): 154–161.

Thagard, Paul. 2002. *Coherence in Thought and Action.* Cambridge, MA: MIT Press.

Thompson, Curt. 2010. *Anatomy of the Soul: Surprising Connections Between Neuroscience and Spiritual Practices that Can Transform Your Life and Relationships.* Carol Stream, IL: Tyndale House Publishers Inc.

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