EXPERIENCES LEARNING INTERPERSONAL NEUROBIOLOGY: AN
INTERPRETATIVE PHENOMENOLOGICAL ANALYSIS

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Neuroscience is increasingly part of the national dialogue regarding mental health. The field of interpersonal neurobiology may offer a framework for helping mental health professionals identify and apply the most relevant neuroscience principles to counseling. This study explored mental health professionals' experiences learning IPNB. I conducted semi-structured interviews with participants ($n = 6$), all of whom were licensed mental health professionals and had completed a year-long study in the application of IPNB through Nurturing the Heart with the Brain in Mind. I analyzed the data, along with a research partner, according to interpretative phenomenological analysis (IPA) protocol. Four super-ordinate themes emerged from the analysis: (1) learning process as dynamic and engaging, (2) deepening knowledge and understanding of self and others, (3) personal and professional growth, and (4) impact on therapeutic practice. A number of sub-ordinate themes also emerged through the analysis, including experiential learning; learning through group process; influence of the past on the present; increased understanding of the change process; increased compassion, empathy, and acceptance for self and for others; increased confidence; using IPNB to educate clients; using IPNB to conceptualize clients; and using IPNB to select interventions. Finally, I identified three higher-order constructs that appeared embedded within and across themes: learning as ongoing, person of the participant, and person of the instructor.

The findings in this study suggest that participants' learning of IPNB had a significant impact on their personal and professional development, specifically in areas related to characteristics of effective counselors. The findings also suggest that these meaningful changes

occurred in a learning environment characterized by emotional engagement, experiential activities, and group process. Limitations to this research, as well as further discussion of the results are included. Implications for future research, clinical practice, and counselor education are also offered.

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EXPERIENCES LEARNING INTERPERSONAL NEUROBIOLOGY: AN INTERPRETATIVE PHENOMENOLOGICAL ANALYSIS

Neuroscience is increasingly part of the conversation regarding mental health and wellbeing. Leaders from the counseling field and policy makers from Washington have called for more research, training, and implementation of neuroscience principles in the mental health professions (D'Andrea, 2012; Ivey, Ivey, & Zalaquett, 2011; www.whitehouse.gov). The 2009 standards of the Council for Accreditation of Counseling and Related Educational Programs (CACREP, 2009) provided at least a preliminary rationale for including neuroscience principles into the education of counselors. The most recent draft of the proposed CACREP 2016 standards includes knowledge of neurological factors and foundations in standards specific to human development, clinical mental health counseling, and addiction counseling (CACREP, 2013). Despite recognition from CACREP, D'Andrea (2012) asserted that "many practitioners lack the training that would enable them to more fully understand the relevance of neuroscience for counseling and psychotherapy theories and practices" (p. 50). Ivey et al. (2011) noted they were unaware of any curricula designed to teach neuroscience principles to counselors.

Interpersonal neurobiology (IPNB) may provide a framework for understanding and teaching neuroscience principles to counselors (Badenoch, 2008). An IPNB approach to counseling brings together knowledge from the natural and social sciences to offer a more comprehensive picture of human development and wellbeing (Badenoch, 2008; Siegel, 2012a). A thorough literature review yielded no empirical studies related to IPNB in counseling. However, many authors have published journal articles and texts that include case studies and anecdotal experiences applying IPNB principles with clients. Professionals have written about their IPNB-informed work with children (Badenoch, 2008; Siegel, 2011), adolescents

(Codrington, 2010; Siegel, 2013), adults (Badenoch, 2008; Siegel, 2011), groups (Badenoch & Cox, 2010), couples (Fishbane, 2013; Schnarch, 2009), and families (Siegel & Hartzell, 2003; Siegel & Bryson, 2011). Counselors have applied IPNB to their work with individuals struggling with addictions (Woodford, 2012) and clients recovering from trauma (Solomon & Siegel, 2003). Furthermore, IPNB principles have been integrated with and used to support the effectiveness of a wide-range of counseling approaches, including narrative therapy (Beaudoin & Zimmerman, 2011), systems theory (Meyer, Wood, & Stanley, 2013), spirituality-based practices (Clinton & Sibcy, 2012), and other more traditional approaches, including cognitive, behavioral, and psychodynamic theories (Cozolino, 2010).

Although little empirical support is available regarding IPNB specifically, aspects of IPNB including attachment theory, mindfulness, and psychoeducation, have growing bodies of empirical support. Researchers have found evidence to substantiate links between counselors' attachment styles and aspects of the therapeutic process (Mohr, Gelso, & Hill, 2005; Romano, Fitzpatrick, & Janzen, 2008; Rubino, Barker, Roth, & Fearon, 2000). Researchers have also explored the influence of mindfulness on a number of counselor characteristics and attributes (Dunn, Callahan, Swift, & Ivanovic, 2013; Greason & Cashwell, 2009; Grepmaier, Mitterlehner, Loew, Bachler, Rother, & Nickel, 2007; Kietai, 2012; Ryan, Safran, Doran, & Muran, 2012).

Research on IPNB- related constructs seems to indicate the potential of IPNB for facilitating the development of traits and attributes of effective counselors. A few formal IPNB training programs exist. One such program is Nurturing the Heart with the Brain in Mind (NHBM). Through this program instructors teach participants principles of IPNB through a combination of didactic and experiential methods. For example, the instructor teaches about the concepts of attachment theory and implicit memory and then facilitates interpersonal interactions

that bring to life these concepts in the present moment. Participants of NHBM and other IPNB programs have provided anecdotal comments regarding their learning, but no program has provided formal evidence of learning outcomes and potential effectiveness. A significant need exists to empirically explore the experiences of mental health professionals learning and applying IPNB. Thus, the purpose of this study was to explore mental health professionals' experiences of learning IPNB via NHBM. The following questions guided my initial inquiry:

- (1) What are the experiences of counselors learning principles of interpersonal neurobiology?
- (2) How do these experiences impact counselors' view of or experiences with self?
- (3) How do these experiences impact counselors' view of or experiences with clients?

Method

We utilized an Interpretative phenomenological analysis (IPA) framework, as described by Smith, Flowers, and Larkin (2009), to conduct this study. Smith et al. (2009) recommended IPA for studies that “focus on personal meaning and sense-making in a particular context, for people who share a particular experience” (p. 45). The systematic and comprehensive nature of IPA methods lend themselves to facilitating creditable and trustworthy studies (Finlay, 2011).

Although the specific methodology of IPA is new, many of the underlying philosophies are quite old (Smith et al., 2009). The two major philosophical underpinnings in IPA are embedded in the very name: *interpretative* (i.e., based on hermeneutic theory) and *phenomenological* (i.e., grounded in a first-person perspective). The interpretative component of IPA is reflective of the belief that researchers engage in a double hermeneutic, making sense of participants making sense of their experiences. The phenomenological component reflects the idiographic nature of IPA, namely to assess rich details of participants' individual perceptions of

and ways of making meaning of often implicit, unobserved, or unexamined experiences (Finlay, 2011).

Participants

The population of interest for this study was mental health professionals who hold a license to practice counseling, have completed formal training in IPNB, and use IPNB in counseling practice. Consistent with IPA, we used purposive sampling to select a small sample ($n = 6$) of relatively homogeneous participants (Polkinghorne, 2005; Smith et al. 2009) who had completed a year-long course in the application of IPNB through NHBM.

The participants were all Caucasian females who were licensed mental health professionals. All participants worked in private practice settings and saw individual clients across the life span. Additional demographic information is provided in Table 1. The NHBM instructor noted that the characteristics of the individuals included in the final sample were generally representative of participants in her courses. Pseudonyms are used to protect the participants' anonymity.

Table 1.1

Participant Characteristics

Participant	Age	Licensure	Years of Practice
Helen	57	LPC-Intern	5
Tam	48	LPC	6
Vivian	50	LCSW	6
Susan	43	LMFT	7.5
Angela	43	LMFT	13
Anita	61	LMFT	29

Data Collection

The primary means of data collection was semi-structured individual interviews. Interviews are a useful means for gaining detailed and rich explanations of experiences and phenomena and are the most commonly used method of data collection in qualitative research, including IPA (Englander, 2012; Polkinghorne, 2005; Smith et al., 2009). I developed the interview schedule based on recommendations by Smith et al. (2009) and Knox and Burkard (2013). Although participants acknowledged consent before completing the demographic form, I readdressed informed consent before beginning individual interviews and activating the recording device. The grand tour question was “What was your experience learning IPNB?” I piloted the interview questions with volunteers prior to implementation. Due to distances between researchers and participants, the interviews were conducted using distance technology. All interviews were video recorded for full transcription and analysis. After interviews, I sought clarification or explanation by several participants via email; all participants also provided written feedback via a final member check.

Research Lens

In IPA, researchers’ prior knowledge and experience can play a role in the making sense process (Smith et al., 2009). At times researchers may need to suspend prior constructs in order to see phenomena with openness and curiosity; however, at other times researchers may openly use prior constructs to inform the interpretative phase of the research process. I was introduced to IPNB in her doctoral training program and was inspired to pursue additional training in the field. I experienced personal and professional growth as a result of learning IPNB. Conversations with other individuals who had experienced similar growth, as well as recognition of the neuroscience movement within mental health professions, led to discussions about the

potential implications of more widespread teaching of IPNB to counselors. I identified a gap in the literature regarding teaching neuroscience principles to counselors and deemed this topic worthy of further investigation. The supervising researcher was an experienced counselor educator who did not have significant exposure to IPNB prior to work on this project and thus served as a balance to my potential personal biases in the research.

An additional researcher participated in the data analysis portion of the study. Adding an additional researcher to triangulate researcher perspectives “ensures that the analysis is not confined to one perspective, and makes sense to other people” and contributes to the process of reflexivity (Yardley, 2008, p. 241). The research partner worked with me to identify and explore assumptions and reactions that might have influenced the research process. The additional researcher was a licensed mental health professional and a faculty member at a university located in the Southwest region of the United States.

Research bias brought into the study mirrored findings in the literature, namely that learning principles of IPNB may increase counselors’ compassion, empathy, and hope for change (Badenoch, 2008; Cozolino, 2010; Siegel, 2011). However, we were cautious to acknowledge and bracket these assumptions when entering into the research process so as not to miss the actual experiences of the participants, which may or may not have been similar to the researchers’ experiences (Finlay, 2011). I engaged in reflective journaling and regularly consulted with the supervising researcher and additional research partner in an effort to evaluate the presence and impact of biases.

Data Analysis

We closely followed a six-stage analysis process that Smith et al. (2009) had described. We started by reading through all transcripts to get an overall sense of the interviews. We then began case-by-case analysis of each transcript. For each transcript, we re-read the interview and made notes of responses and questions. These exploratory comments included attention to descriptive, linguistic, and conceptual aspects of the participants' perceptions and experiences. We recorded emergent themes on the right margin of each transcript, identifying key terms that seemed to capture the essence of important components. I reviewed all emergent themes and identified a comprehensive list of super-ordinate and sub-ordinate themes for each case. I presented each participant with a diagram representing her identified themes and asked for feedback regarding accuracy. All six participants engaged in this member checking process and confirmed the accuracy of their results.

Once all transcripts were individually analyzed and member checked, I conducted cross-case analysis and identified super-ordinate and sub-themes that represented shared experiences of all participants. The supervising researcher and the research partner conducted an audit of the my analysis in order to ensure that identified themes were consistent with participants' accounts.

Results

Four super-ordinate themes and nine sub-ordinate themes emerged from data analysis. The themes, as well as three higher-order constructs, are represented in Figure 1.

Figure 1.1. Cross-case analysis diagram.

Super-Ordinate Theme 1: Learning Process as Dynamic and Engaging

Sub-Ordinate Theme 1a: Experiential Learning

All six participants identified the experiential components of the course as most meaningful to their learning. They noted that such learning opportunities allowed them to gain an embodied sense of the material, shifting from knowing the information intellectually to actually feeling the concepts within themselves:

We were not just learning about it, we were living it. (Anita)

It was all the experiential stuff that stands out . . . I mean the didactic stuff was great as well, but being able to experience it, you just learn it in a very different, deeper way. (Vivian)

The three specific experiential activities participants brought up most often were listening partnerships, sandtray exercises, and therapeutic enactments. Across narratives, there was a

sense that these exercises involved a great deal of vulnerability and trust in the instructor and group members. Many participants spoke about the experience of anxiety inherent in growth:

I think it was an amazingly effective way to demonstrate the distress and the comfort of implicit memory and how we make sense of ourselves. (Tammy)

Sub-Ordinate Theme 1b: Learning Through Group Process

A second sub-ordinate theme relates to group process. Much participant learning seemed to occur as a result of participating or witnessing group process at work. The participants reported exploring IPNB principles through group process, including the impact of history, attachment theory, the role of new experiences in the change process, and implicit memory:

Watching [IPNB concepts] move in our class, in our group, was really powerful. (Helen)

The idea of recapitulation of family-of-origin issues within the group came up often. Many participants noted that the learning community felt like a family and often brought up feelings similar to those experienced with their families-of-origin. In some cases, this mirroring of family-of-origin figures allowed for personal healing in a new way:

That [group component] really brought up that, a lot of our own issues around family and around our own attachment and safety, and what was getting triggered. (Anita)

Finally, the members reported feeling a sense of universality and altruism through the group experience. For example, some participants had not experienced trauma in their own childhoods but were able to see the impact of such experiences through observing within the group. Other members noted that they were able to gain a sense of normality in their own experience through hearing the stories of others:

There was such a wide range of things that were big for people . . . whether it is in family dynamics or friendships or something that had happened at school . . . for those balls of empathy to come to the surface, it really is very clear to me that there is a piece of all of our experiences in everybody. (Angela)

Super-Ordinate Theme 2: Deepening Knowledge and Understanding for Self and Others

Sub-Ordinate Theme 2a: Influence of the Past on the Present

All of the participants indicated growth in their understanding of how past experiences with significant others influence current functioning. This understanding seemed to contribute to developing or affirming a non-pathological view of self and others. The IPNB concepts most often associated with this increased understanding were attachment theory and implicit memory:

Learning too that the ways that I was thinking about myself and the world and the people in it, I had learned those things before I could speak . . . I had learned it by watching and learning how to stay safe in a really unsafe environment. (Tammy)

How that implicit memory can flood us and it just becomes the present moment truth all over again, and we don't have a time stamp on it, we don't realize that it is actually a replay . . . awareness of implicit memory and the impact that it has and how debilitating . . . this used to keep us safe and now it is in our way. (Helen)

Sub-Ordinate Theme 2b: Increased Understanding of the Change Process

All participants reported increased understanding about how people heal. The concepts most frequently associated with this theme were neuroplasticity, disconfirming experiences, integration, the role of relationships in change, and the importance of acknowledging and fully experiencing emotions. Many participants spoke about their understanding of neuroplasticity and the sense of hope that such knowledge can inspire:

The fact that we do have so much more possibility to influence our state of being and our health . . . it gives people some sense of empowerment . . . and hope. (Anita)

Many participants evoked the idea of disconfirming experiences when talking about their understanding of change:

It's been really helpful for me to have a framework . . . and to realize for myself that the more I can have disconfirming experiences, the more I can really calm down that vigilance and be more present. (Anita)

Another piece of learning regarding the change process seemed to be the role of relationships and emotions in healing. Participants described the central role relationships play in the change process:

Your presence . . . your caring . . . being in the right brain and being accepting and regulated . . . that's the most important piece. (Vivian)

Finally, participants also reported appreciating learning about the specific brain functions and structures involved in change:

It's giving us this deeper understanding and kind of a validity . . . we're seeing the science behind what we are doing and hopefully it is influencing us as therapists to work in a different way and validating that, at least a lot of the stuff that we've been doing, that there is a reason why it works. (Vivian)

Super-Ordinate Theme 3: Personal and Professional Growth

Sub-Ordinate Theme 3a: Increased Compassion, Empathy, and Acceptance for Self and for Others

The participants reported increased compassion, empathy, and acceptance for self and for others as a result of learning IPNB. Many of the participants conveyed a sense that knowing the neurobiology, specifically regarding implicit memory and the stress response system, helped normalize and make sense of experiences:

It just made so much sense in terms of I am doing these things for reasons that don't have to do with weakness of being damaged or any of the things . . . they are about neural networks. (Tammy)

Understanding the nature and the function of implicit memory . . . there is compassion and understanding that is generated for me in so many contexts. (Helen)

Along with the attitudinal changes, participants reported a sense of opening up to a wider-range of experiences. They noted feeling more curious about emotions, bodily sensations,

and thoughts. They also noted feeling more tolerant of uncomfortable emotional states within themselves and within others:

I think it [learning IPNB] has given me more empathy for myself . . . compassion . . . curiosity . . . some openness of slowing down and observing what I am doing or how I do things. (Susan)

Sub-Ordinate Theme 3b: Increased Confidence

Many participants reported that learning IPNB increased their self-confidence. They said they found that as they were able to more attune to their bodies, they were able to better trust their intuition:

reinforced my own intuitive strength . . . it gave me confidence that I could do that . . . that I could feel someone's overwhelming need and I could hold myself intact with that [emotion]. (Tammy)

Additionally, many participants reported feeling increased confidence as clinicians. They referred to using IPNB as a framework to help them make better sense of the people they were working with in counseling:

Anchoring in the IPNB [approach] has been really powerful . . . it gives me a better foundation . . . it has amped up my confidence in working with [clients]. (Helen)

Super-Ordinate Theme 4: Impact on Therapeutic Practice

Sub-Ordinate Theme 4a: Using IPNB to Conceptualize Clients

Interwoven throughout the interviews was a sense that participants were viewing their clients through an IPNB lens. They labeled clients' attachment styles, described how clients' histories impacted their current functioning, and spoke about using the therapeutic relationship to create disconfirming experiences. They also noted unconscious processes and talked about the importance of acknowledging and holding clients' emotional experiences:

for her to be attuned to her body . . . because she had some ruptured attachment with her Mom too . . . what IPNB does is allow for her to be with the little girl in her, compassionately, and her own mother who was abused, but then also she gets to be with her daughter's earlier memories. (Susan)

Sub-Ordinate Theme 4b: Using IPNB to Select Interventions

Participants also reported engaging in new interventions based on their learning of IPNB. For example, many participants talked about recognizing the limitations of talk therapy and the necessity to connect with clients in more experiential, right hemisphere ways. They reported understanding and using subcortical emotional experiences to a greater degree:

Well if you are hurt, the theory is that you should heal, right? You should be able to heal . . . but understanding how that happens, it's not going to happen by, you know, reading the book and filling in the worksheet about the thoughts you are going to think instead when somebody triggers your attachment stuff, you know . . . that's just not going to happen. (Tammy)

They described doing more bodywork with clients and spending more time simply feeling and containing emotional states:

whereas before if someone were feeling emotional and uncomfortable, I, I wouldn't have stopped and said well 'now where in your body are you feeling that?' And kind of 'Let's honor that and let's breathe through that' . . . it's very different than the, um, you know, staying in your head. (Vivian)

Many participants reported a shift in their therapeutic approach. They noted using more immediacy with clients and attending to relational, less directive aspects of counseling. There was a sense that the participants trusted clients' self-directive capacities to a greater degree:

It has come to my attention through doing this work that what they, they are the compass and I am part of that vessel that holds whatever comes into the room. (Angela)
I realized that I was probably a little too left brain in my sessions . . . that is something that I really pay attention to, trying to stay more in the right mode . . . aware of the, you know, what's happening in my body and noticing what's happening in their bodies. (Vivian)

Sub-Ordinate Theme 4c: Using IPNB to Educate Clients

Many participants recounted teaching clients about IPNB concepts in an effort to normalize experience, provide rationale for interventions, and foster a sense of hope for change. Specific areas of education included the hand model of the brain, physiological responses to stress, implicit memory, the embodied brain (e.g., heart brain, gut brain, skull brain), and the influence of history on current functioning (e.g., inner community and attachment theory). Although participants varied in the degree to which they felt comfortable using technical neurological terms or labeling specific behavioral manifestations, they all gave examples about how they talked to clients that included direct or indirect neuroeducation:

Communicating that idea [hand model of the brain] to my clients helps them outside understand like ‘oh my, my amygdala just went off’ . . . you can give somebody immediate relief by showing them the brain in the hand. (Tammy)

I teach [clients] about the brain . . . flipping their lid, and that a trigger is actually a clue for curiosity and empathy . . . and sometimes we also simply talk about the whole idea of the amygdala and if you are worried about something it’s going to set you off. (Anita)

Many of the participants reported positive responses from clients when teaching IPNB concepts:

And talking to clients about that [implicit memory] . . . it just . . . opened up a whole buy in from them, I don’t know that I have gotten any resistance when they are clear about that sense of the implicit memory. (Helen)

Higher-Order Constructs

Learning as Ongoing and Evolving

Despite the length and intensity of the course, many participants still considered themselves at the beginning of their journey to truly understand and apply IPNB:

Even though I have done this training I still feel like I am just on the edge of really knowing it. (Vivian)

The conversation you and I might have in two years might look really different because there will have been a big enough well of experience that I can draw upon . . . you are in my infancy stage. (Angela)

Additionally, many of the participants' narratives suggested a developmental process to learning IPNB. Participants used terms such as 'unfolding' and 'evolving' to describe their learning process.

I can't unfold everything at the same time. (Anita)

Person of the Participant

All participants seemed to share characteristics, values, and backgrounds that were well-matched for the subject matter and the structure of the course. They all demonstrated a sense of openness to learning new concepts, an ability to be self-reflective, and a strong commitment to their personal and professional growth. For example, when one participant was first introduced to IPNB by a colleague, she responded:

I didn't know anything about it [IPNB] . . . I said 'sure, I am open'. (Anita)

Many of the participants also shared a belief in the interconnectedness of who they are as people and who they are as professionals:

It's important for me also to try things that are vulnerable because I ask that every day of clients . . . and so I just value putting myself in situations that are uncomfortable. (Susan)

It's not going to be experienced as authentic if it's not . . . if I don't understand my own right brain and left brain processes. (Angela)

Finally, all participants noted past experience with IPNB-compatible frameworks, including mindfulness, Eye Movement Desensitization and Reprocessing (EMDR), existential-humanistic theories, non-violent communication, Neuro Linguistic Programming, and Dialectical Behavior Therapy. They reported feeling excited and energized by the science underlying IPNB:

it excited me more than anything had in a long, long time . . . and it felt like a coming together of everything I had already learned with my life experience that this was sort of the ‘oh, okay, so this is what’s happening’. (Anita)

Person of the Instructor

As participants told their stories of learning IPNB, it was clear that the person of the instructor played an integral role in their experiences. They held in high esteem her intellect and ability to communicate complex neurobiological principles into more easily understood concepts for application in clinical practice:

she does her work in a genuine, compassionate way, but yet she knows her stuff. (Susan)

she has no idea how it just seeps out of her. I mean there’s, she, she has such a handle on this stuff. . . .and she, I mean she is quite brilliant and she is so understated. (Anita)

Discussion

A growing body of mental health professionals consider neuroscience the next force in the counseling field (McHenry, et al., 2014). The findings in this study suggest that teaching principles of neuroscience through an IPNB framework could help facilitate counselors’ personal and professional development, specifically in regards to characteristics associated with effective counselors. In response to learning IPNB, participants reported feeling increased compassion, empathy, and acceptance towards self and others. They also reported increased self-awareness, presence in relationships with others, attunement to self and others, and confidence in their own intuitive sense as clinicians. In addition, all participants reported changes in their therapeutic practice, specifically with regards to their abilities to organize and make sense of clients’ experiences, their understanding and use of emotion, and their abilities to engage in neuroeducation. Many participants also found that they focused more on the immediate

relational experiences in counseling (i.e., right brain to right brain connections), incorporating experiential and body based interventions into their work.

The importance of the person of the counselor is well-established in counseling literature, thus making the cultivation of the characteristics identified above critical (Duncan, Miller, Wampold, & Hubble, 2010). Duncan (2013) noted that “psychotherapy is a relational endeavor, one wholly dependent on the participants and the quality of their interpersonal connection . . . after the client, the therapist is the most potent aspect of change in therapy” (p. 58). Researchers have noted that characteristics such as empathy and acceptance help counselors develop effective therapeutic relationships and facilitate change (Lambert & Barley, 2001). Many of the same qualities and dispositions cultivated by the IPNB training link directly to research-based characteristics of master therapists (Jennings & Skovholt, 1999; Ronnestad & Skovholt, 2003).

Participants specifically reported gaining self-awareness around their attachment styles. Many of them noted movements towards more secure attachments, allowing them to go deeper with clients. They also noted becoming more aware of reactions to clients that were due to their own personal histories, allowing them to respond more accurately to clients’ needs rather than their own needs. A number of scholars have found links between counselors’ attachment styles and aspects of the therapeutic process (Mohr et al., 2005; Romano, Fitzpatrick & Janzen, 2008; Rubino et al., 2000).

Many participants shared ways that learning IPNB strengthened or changed their approach to conceptualizing and intervening with clients. Participants noted that understanding the impact of early experiences on brain development, as well as social and emotional development, helped them see individuals’ struggles in a less “pathological” manner. Such a

viewpoint is consistent with the counseling profession that overwhelmingly supports wellness and developmental models (Ivey et al., 2011).

Participants conveyed a sense that learning IPNB impacted the way they viewed and worked with emotions in counseling. They reported attending more to emotions, including ways that the emotions are expressed through physiology, and having greater tolerance for clients' experiences of strong emotion in counseling. They repeatedly noted an increased ability to "be with" clients in an immediate and present manner. Although cognitive models of change can be helpful in working with clients' overwhelming emotions, creating change solely through such higher cortical regions is limiting because clients often lose their abilities to apply such learning in daily life when stress levels get elevated (Raio, Orederu, Palazzolo, Shurick, & Phelps, 2013). Attending to subcortical experiences in counseling is likely to help clients identify and regulate those regions outside of counseling, opening the possibility for deep and sustained change.

Finally, participants reported meaningful learning through experiential, emotionally engaged means. This finding is consistent with a large body of literature on effective teaching and learning (Dewey, 1938; McAuliffe 2012). Recent literature on the neuroscience of adult learning further supports experiential learning. Cozolino and Sprokay (2006) identified five necessary components for deep learning (p.12): (1) a safe and trusting relationship with an attuned other, (2) maintenance of a moderate level of arousal, (3) activation of both thinking and feeling, (4) language of self-reflection, and (5) co-construction of narrative that reflects a positive and optimistic self. Certainly, participants' accounts reflected these elements.

Limitations

We followed a rigorous protocol for conducting IPA studies to ensure this study was as trustworthy as possible; however, it does have limitations. We relied on a single method of data

collection: distance interviews. Some participants may have been more expressive through writing or expressive arts as opposed to talking. Participants might have also felt less comfortable with distance technology and not shared as much as they would have in face-to-face interviews. Participants' motivation to learn IPNB in a rigorous way, their advanced education level, and their likely higher degrees of psychological mindedness, however, increase the likelihood that they were able to reflect meaningfully on their experiences and articulate those reflections sufficiently. The fact that participants self-selected the learning experience, expressed an interest in neuroscience, and were willing to engage in anxiety-provoking learning experiences also serves as a limitation. Not all counselors welcome the integration of neuroscience principles into counseling (D'Andrea, 2012). Similarly, not all counselors are willing to engage in a learning process that requires vulnerability and emotional engagement. As evidence of these realities, participants reported that a small group of individuals left the course during the year. Finally, as with all qualitative research, the results of this study are not statistically generalizable (Yardley, 2008). The subjective and interpretative nature of IPA, as well as the inclusion of only a few homogeneous participants, means that the results could be completely different for a dissimilar set of researchers, participants, and IPNB learning experiences.

Implications

This study represents a beginning to the exploration of mental health professionals' experiences learning and applying principles of neuroscience. In this study, experienced and highly motivated mental health professionals reported personal and professional growth in a number of critical areas. Future research is needed to explore the experiences of other groups of individuals learning IPNB, such as counseling students in graduate school. Furthermore, the

current study examined experiences of mental health professionals learning IPNB in a unique setting. Participants seemed to credit much of their learning to the nature of the learning process (e.g., experiential, group) and the nature of the instructor. A number of other institutions and organizations currently offer training in IPNB that likely employ varied instructional methods and are certainly taught by different instructors. Qualitative research should be conducted to explore counselors' experiences learning IPNB in these different settings as well as in more general or time-limited counselor education settings. Such exploration could help illuminate differences and similarities in learning based on a number of variables. This information could be used to further inform IPNB instruction.

Future research can also focus on exploring many of the constructs identified in the current study quantitatively. Specifically, researchers could measure levels of compassion, empathy, presence, and other such essential counselor characteristics in a large representative sample of counselors before and after learning IPNB. This approach would help illuminate the degree to which teaching IPNB fosters the development of characteristics associated with effective counselors and counseling. In addition, researchers may investigate the experiences of clients working with IPNB-trained counselors. Researchers could assess clients' perceptions of empathy, the therapeutic relationship, counseling outcome, and other related factors. Such research could help assess the effectiveness of IPNB as a therapeutic approach.

In regards to implications for practice, the findings suggest the potential of IPNB instruction in helping counselors bring together intuition and science in a way that fosters confidence and ethical practice. In the study, participants were able to use IPNB to translate what was an intuitive sense about human nature, development, and change into a scientifically supported view of such processes. Grounding counselors in IPNB allows them to align with

current national initiatives in mental health to use scientifically supported approaches while also maintaining consistency with a traditional developmental and wellness oriented worldviews (Ivey et al., 2011).

The findings in this study also offer implications for counselor educators and supervisors. This study demonstrates the potential of teaching IPNB to cultivate personal and professional growth in students. It also demonstrates the potential usefulness of the IPNB framework for teaching students about neurobiological underpinnings of mental health and unhealth. Both of these outcomes are critical according to American Counseling Association *Code of Ethics* (2014) and CACREP Standards (CACREP, 2009, 2013). Counselor educators and supervisors should consider implementing IPNB learning experiences into didactic and clinical courses. Principles of neuroscience are relevant when talking about almost every topic, as every human experience has a neurological basis.

The findings in this study also suggest ways to teach IPNB effectively. Counselor educators and supervisors should first establish a safe and trusting learning community that encourages personal exploration and sharing. Students' discussion of personal struggles should be encouraged and facilitated. Instruction should evoke sufficient emotion for optimal learning and include interpersonal connections (Cozolino & Sprokay, 2006). Instructors should use a variety of experiential methods that allow students to experience the relevance of IPNB principles in their own lives. Finally, instructors and supervisors should provide consultation to students as they work to integrate their IPNB-informed knowledge and skills with others outside the learning environment.

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APPENDIX A
INTRODUCTION

Throughout time, philosophers, physicians, and other scholars have sought to understand the complex processes underlying human experience (Cozolino, 2010). What is the brain? What is the mind? How do the brain and the mind interact? What is the cause of human distress? What is wellbeing? As a result of efforts to answer such fundamental questions, mental health fields have a multitude of competing theories and divided disciplines.

Sigmund Freud, a significant contributor in many disciplines, sought to integrate the brain and the mind in ways that furthered understanding about what it means to be human (Cozolino, 2010). As both a neurologist and a theorist of the mind, Freud sought to understand how neurobiological processes influence personality and behavior, as well as how experiences within relationships influence neural structuring. Freud's desire to conceptualize human functioning at the neural level as an interaction between biological processes and relational experiences was not accepted by the prevailing religious and medical communities of his time. Freud's theories were influential in many ways, but eventually largely dismissed or caricatured within academia and larger society. Due to many factors, including scientific progress and changes in culture, many scholars are returning to the idea of a neurobiological model of the mind.

Advances in technology, such as functional magnetic resonance imaging (fMRI) and positron emission tomography (PET), have provided means for studying the brain in ways previously unimagined. Researchers can now observe specific responses of the brain (i.e., the brain "lighting up") and observe lasting structural changes in the brain as a result of certain stimuli, including counseling (Ivey, Ivey, & Zalaquett, 2011; Siegel, 2012a). With every passing year, researchers are learning more about neurological processes that underlie much of our human functioning (Farmer, 2009). In April 2013, President Obama unveiled the Brain Research

through Advancing Innovative Neurotechnologies (BRAIN) initiative (www.whitehouse.gov).

This program is intended to bring together researchers across disciplines to develop new technologies to explore and understand the brain with the hope of discovering causes of neurocognitive, neurodevelopmental, and other brain related brain based disorders.

Understanding and making sense of the complex system of the brain has become a national priority.

In the last decade, mental health professionals, such as Bonnie Badenoch, Louis Cozolino, and Daniel Siegel, have worked to translate these vast research findings into relevant and comprehensible principles for mental health professionals (Badenoch, 2008; Cozolino, 2010; Siegel, 2012a). Despite such publications, some leaders in the field have expressed concern about counselors' reluctance to accept what is often referred to as the "neuroscientific revolution" (D'Andrea, 2012; Farmer, 2009; Ivey et al., 2009, 2011).

The 2009 standards of the Council for Accreditation of Counseling and Related Educational Programs (CACREP, 2009) provide at least preliminary impetus for including neuroscience principles into the education of counselors:

HUMAN GROWTH AND DEVELOPMENT – studies that provide an understanding of the nature and needs of persons at all developmental levels and in multicultural contexts, including all of the following:

- a. theories of individual and family development and transitions across the life span;
- b. theories of learning and personality development, *including current understandings about neurobiological behavior . . .* (italics added, p. 11)

Attention to neurobiology within the CACREP standards is likely to increase in the 2016 standards revision; the most recent draft includes knowledge of neurological factors and

foundations in standards specific to human development, clinical mental health counseling, and addiction counseling (CACREP, 2013).

Despite recognition from the major training and accreditation body within the counseling profession, D'Andrea (2012) asserted that “many practitioners lack the training that would enable them to more fully understand the relevance of neuroscience for counseling and psychotherapy theories and practices” (p. 50). Ivey et al. (2011) noted they were unaware of any curricula designed to teach neuroscience principles to counselors.

Interpersonal neurobiology (IPNB) may provide a framework for understanding and teaching neuroscience principles to counselors (Badenoch, 2008). Siegel (2012) defined IPNB as an approach that “explores the ways in which relationships and the brain interact to shape our mental lives” (p. A1-42). Interpersonal neurobiology is a consilient approach that draws upon research from multiple disciplines, including developmental psychology, social, affective, and cognitive neurosciences, wisdom traditions, and psychology. Professionals have written about their IPNB-informed work with children (Badenoch, 2008; Siegel, 2011), adolescents (Codrington, 2010), adults (Badenoch, 2008; Siegel, 2011), groups (Badenoch & Cox, 2010), couples (Fishbane, 2007, 2013; Schnarch, 2009), and families (Siegel & Hartzell, 2003; Siegel & Bryson, 2011). Counselors have applied IPNB to their work with individuals struggling with addictions (Woodford, 2012) and clients recovering from trauma (Solomon & Siegel, 2003). Mental health professionals have also used IPNB principles to support the effectiveness of a wide-range of counseling approaches, including narrative therapy (Beaudoin & Zimmerman, 2011), systems theory (Meyer et al., 2013), spirituality based practices (Clinton & Sibcy, 2012), and other more traditional theories, such as cognitive, behavioral, and psychodynamic approaches (Cozolino, 2010). Through studying IPNB, individuals can identify and learn the

most relevant principles to counselors, such as brain systems and structures, implicit and explicit memory functions, mindsight, and the role of relationships in shaping and changing the brain. From an IPNB perspective, the mind is “the patterns in the flow of energy and information” (Siegel, 1999, p. 3). Energy is the actual electrical activity of neurons. This activity can be measured by a number of technologies, including electroencephalograms (EEGs) and functional MRIs. Siegel defined mindsight as the ability to “sense the flow of energy and information as it is shared between people in relationships, as it flows through the neural circuits of the body, and as it is regulated by the mind” (p. 22-1). In other terms, mindsight is counselors’ ability to sense their own mind while also being able to sense the mind of clients. The IPNB approach works at two levels: the counselor level and the client level.

On the first level, IPNB principles are intended to increase counselors’ self-awareness, including awareness of the implicit memory system (e.g., attachment style) and mindsight abilities (Badenoch, 2008; Siegel, 2012a). Siegel (2012a) noted that “knowing ourselves brings us the strength to be open to knowing someone else” (p. 18-6). One major component of implicit memory is attachment. Although attachment theory has a long history of research and application within multiple disciplines, newer findings from neuroscience further demonstrate the relevance of this theory to development and interpersonal interactions throughout the lifespan. Individuals, counselors included, rarely enter new relationships with complete openness, receptivity, and attuned presence (Siegel, 2010). Rather, at an implicit level, counselors carry with them internal working models of relationships that serve to bias interactions with others. If this implicit working model is secure, counselors can connect with all parts of clients’ internal worlds and begin to hold, regulate, and move toward integration. If, however, counselors’ embodied anticipations are marred with unresolved negative interpersonal

experiences, their ability to attune and regulate with clients will be limited (Badenoch, 2008). Siegel (2012) discussed the importance of counselors reflecting on their own attachment styles, noting that “frustrating times of disappointment or rejection, confusion or despair, can leave a mark on memory such that we are implicitly reluctant to engage in an open way with others” (pp. 18-5). Thus, a major component of IPNB is the identification and exploration of counselors’ internal working models.

A second area of counselors’ self-awareness relates to mindsight. According to Siegel, mindsight underlies social and emotional intelligence, essential abilities for effective counseling. Mindsight is correlated with increased awareness, openness, non-judgmental acceptance, insight, and empathy (Siegel, 2012b). A primary component of an IPNB approach is teaching counselors to be more aware of their internal worlds. Siegel noted that as counselors increase in their mindsight abilities, they increase their ability to be empathic, creative, and resilient.

The relevance of IPNB does not end with counselor self-awareness. On the second level, IPNB principles can serve as psycho-education for clients and guide the selection of interventions. Badenoch (2008) referred to counselors integrating education and conversations about the mind into therapy as “brain talk.” Badenoch identified multiple clinical benefits to integrating brain talk into therapy, including decreased shame, increased empathy of self and others (i.e., embracing the intergenerational tragedy), and increased regulation of troubling implicit memories. Brain talk also gives clients words to describe internal experiences of rigidity and chaos. Siegel (2011) discussed the phrase “name it to tame it,” noting that being aware of internal states can often help calm and regulate those states. For example, clients are able to identify when levels of stress begin to limit prefrontal cortex functioning and ignite reactive limbic processing, a state referred to as “limbic override.” This process has long been identified

by some researchers as “flooding” (Gottman & Silver, 1999). According to Siegel, the mere act of being aware of limbic override has a regulatory effect (Siegel & Hartzell, 2003). Once aware, counselors and clients can engage in interventions, such as mindfulness exercises, breath awareness, time-outs, and other physiological regulating exercises to regain coherence.

Integrating brain talk into counseling is believed to increase clients’ level of hopefulness for change (Badenoch, 2008). Neuroplasticity, the ability for the brain to change through experiences, provides the organic evidence that change is possible and that counseling can be an integral aspect of that change process. Understanding the process of neural change can also normalize the ups and downs of the therapeutic process. Often clients lose hope when they experience a regression in symptoms or distress; however, neuroscience can provide explanations for such occurrences. The fact that the brain often needs repeated disconfirming experiences over long periods of time can normalize the change process and prevent clients from becoming discouraged.

Neuroscience is increasingly part of the conversation regarding mental health and wellbeing. Leaders from the counseling field and policy makers from Washington have called for more research, training, and implementation of neuroscience principles in the mental health professions (D’Andrea, 2012; Ivey et al., 2011). The IPNB approach may be a viable answer to these calls. Integrating IPNB into counseling would start with training counselors in the approach. Before such training becomes standard, however, more needs to be learned about the experiences of counselors learning the concepts and the ways in which these learning experiences impact practice. It is this need that I intended to address in the current study. I describe the purpose of the study below.

Purpose

The purpose of this study was to explore counselors' experiences of learning principles of IPNB. Although the relevance of neuroscience findings to counseling has been acknowledged in multiple journal articles, texts, and published case studies, little empirical research has been conducted to specifically explore how counselors perceive, experience, and apply this knowledge.

Although some professionals may worry that individuals operating from a scientific view of psychotherapy are working to push counseling further in the direction of the medical model, literature from IPNB seems to support the traditional worldview of counselors (Ivey et al., 2011). Ivey et al. (2011) noted that "neuroscientists have a strong environmental orientation – client development over the lifespan clearly impacts the brain . . . in truth, neuroscience reinforces counseling's wellness model" (p. 110). In an age of evidence-based practices, IPNB can begin to offer the scientific explanation, evidence, and framework to support counselors' work and promote coordination across mental health disciplines. Badenoch (2008) noted that findings from neuroscience have "begun to put "legs" beneath our theories" (p. 3). A logical first step in advocating for neuroscience education within counseling education curriculums is to investigate the experiences of counselors learning such principles. An extensive literature search has yielded no such studies to date.

Research Problem

The following questions guided my initial inquiry:

- (1) What are the experiences of counselors learning principles of interpersonal neurobiology?
- (2) How do these experiences impact counselors' view of or experiences with self?

(3) How do these experiences impact counselors' view of or experiences with clients?

Significance of the Study

As a result of this study, I better understand how counselors experience and make meaning of IPNB principles. This study can serve as a foundational empirical work from which other researcher can build. Researchers may seek to understand the experiences of a more diverse group of counselors learning these principles, such as individuals at varying developmental level or counselors learning IPNB in a different setting. Researchers may also consider quantitatively measuring specific constructs that emerged through the analysis, such as empathy or presence. Furthermore, I believe this study provides insight into the significance of learning IPNB principles. It is clear that mental health professions and the larger scientific community are moving in the direction of a brain-based understanding of human functioning. With the dawn of the BRAIN initiative and other ongoing research projects, counselors can only anticipate an increase in the need to make sense of neuroscience principles. If counselors do not have a foundation for understanding the brain and the mind, they will have an insufficient context for which to take in, assess, and apply new findings.

Definition of Terms

For the purpose of this study, IPNB is defined as follows:

Interpersonal Neurobiology—IPNB is a consilient field in which practitioners embrace all branches of science as it seeks the common, universal findings across independent ways of knowing in order to expand our understanding of the mind and well-being. This field explores the ways in which relationships and the brain interact to shape our mental lives. IPNB is meant to convey the embracing of everything in life from society (interpersonal) to synapses (neurobiology) (Siegel, 2012b, p. A1-42).

APPENDIX B
EXTENDED LITERATURE REVIEW

An IPNB approach to counseling brings together knowledge from the natural and social sciences to offer a more comprehensive picture of human development and well-being (Badenoch, 2008; Siegel, 2012a). Although many counselors have an intuitive or theoretical understanding of the change process and their role in that process, IPNB offers a scientifically grounded perspective that explains neural-level change through relational experiences. Understanding this process may help counselors increase their own self-understanding and enhance their ability to be present with clients, express care and understanding genuinely and empathically, and assess clients' internal worlds (Badenoch, 2008). Counselors may also apply their knowledge of IPNB principles to selecting effective therapeutic interventions.

This appendix contains a comprehensive literature review related to IPNB. The IPNB approach is relatively new, thus the principles inherent in the framework are not widely known. It is from this perspective that I first offer a brief review of the theoretical components of IPNB. This section includes an exploration of philosophical and empirical foundations, a description of the models of functionality, and an overview of the change process.

I then review the literature regarding IPNB and counselor attributes. A thorough literature search did not yield any empirical studies on IPNB and counselors; however, attachment theory and mindfulness are two primary lines of research integrated into the IPNB approach (Badenoch, 2008; Siegel, 2010, 2012b). Thus, I attend to the growing body of research that suggests counselors' attachment style and level of mindfulness correlate with a number of essential skills and attributes for effective counseling, including interpersonal skills, cognitive abilities, and resilience to the difficulties of clinical practice (Kietabli, 2012; Ryan, Safran, Doran, & Muran, 2012).

I also examine the literature regarding IPNB and clinical practice. Because no known empirical studies exist regarding IPNB and this domain, I focus my literature review on describing anecdotal reports of IPNB and counseling. A number of clinicians have published texts in which they detail their application of IPNB with clients (Badenoch, 2008; Cozolino, 2010; Fishbane, 2013; Siegel, 2011). Because the IPNB approach includes significant education regarding aspects of the brain, development, and relationships, I also review a meta-analysis on the effects of passive psychoeducation in counseling (Donker, Griffiths, Cuijpers, & Christensen, 2009).

Finally, I describe existing training programs regarding IPNB. In the absence of empirical evidence of IPNB training effectiveness or outcomes, I explore research regarding mindfulness training in counselor education (Aggs & Bambling, 2010; Greason & Cashwell, 2009; McCollum & Gehart, 2010; Schure, Christopher, & Christopher, 2008). Researchers have identified a number of positive outcomes in teaching mindfulness to counselor trainees. The following summaries provide a framework for understanding current literature on IPNB and related topics and reveal areas of need for continued research.

Foundations of IPNB

As with all comprehensive approaches to counseling, IPNB encompasses beliefs regarding personality development, models of functionality, and the change process. The approach encompasses unique terms and techniques and integrates scholarly literature from various fields in an organized and consistent manner (Siegel, 2012a). In order to understand the experience of learning IPNB, it is first necessary to more fully understand the principles underlying the approach.

Personality Development

Siegel (2001, 2006, 2010, 2012b) drew upon findings from multiple disciplines to explain personality development within the IPNB framework. Siegel included ideas from attachment research; data from studies of complex systems; and findings from social, cognitive, and affective neurosciences.

Individuals operating from an IPNB perspective acknowledge the influence of genetics and environment (i.e., nature and nurture) on development (Siegel, 2001, 2010, 2012a). At the heart of the IPNB approach is a definition of the mind and development that includes attention to these interrelated and overlapping influences. Siegel (2012a) outlined the three fundamental developmental principles inherent in the IPNB approach (p. 3):

1. A core aspect of the human mind is an embodied and relational process that regulates the flow of energy and information within the brain and between brains.
2. The mind is an emergent property of the body and relationships and is created within internal neurophysiological processes and relational experiences. In other words, the mind is a process that emerges from the distributed nervous system extending throughout the entire body, and also from the communication patterns within relationships.
3. The structure and function of the developing brain are determined by how experiences, especially within interpersonal relationships, shape the genetically programmed maturation of the nervous system.

Various hereditary factors influence propensities and proclivities in individuals at birth and throughout the lifespan (Siegel, 2012a). These factors shape temperament, intellectual abilities, physiology, and many other factors, such as the likelihood of developing depressive symptoms when exposed to prolonged stress or exhibiting anxiety when introduced to novelty. Genetics serve two primary functions: templates for passing on information from generation to generation

and transcribers directing protein synthesis. Experiences direct brain circuitry, influencing which neurons are reinforced and which neurons die away. Although there are critical periods in development during early childhood and adolescence, the overall process of development occurs throughout the lifespan.

The IPNB framework also acknowledges the influence of motivational drives in development (Badenoch, 2008; Panksepp & Biven, 2012; Siegel, 2010). Researchers have identified seven basic affective systems, or inherent emotional learning structures, within the sub cortical region of the brain (Panksepp & Biven, 2012, p. xi): seeking (expectancy), fear (anxiety), rage (anger), lust (sexual excitement), care (nurturance), panic/grief (sadness), and play (social joy). These affective states underlie higher order emotions, such as pride, shame, and disgust that are largely socially constructed. The balancing of positive affective states in young children is critical to healthy development. Panksepp and Biven (2012) noted that “sub cortical emotional systems can become sensitized by experience . . . leading to lifelong patterns of affective strengths and weaknesses” (p. xix). Young children benefit cognitively and emotionally from consistent activation of the care and play systems with minimum exposure to the rage, fear, and panic/grief systems. As children grow, activation of the seeking system plays an integral role in learning. Throughout the lifespan, these primary emotions influence psychological and physiological wellbeing, contributing to further understanding of mind-body interactions and bottom-up views of mental life. Siegel (2012b) defined term “bottom-up” as “processes that arise from anatomically lower areas (such as the body proper, the brainstem, and the limbic areas) and then influence higher regions (the cortex)” (p. A1-11). These processes are often direct and instantaneous, such as sensation. Bottom-up processes are contrasted with top-down influences, such as memory and perception.

Complexity Theory

The mind is a complex system (Siegel, 2012b). According to researchers, complex systems are self-organizing, nonlinear, and have emergent and recursive properties (Badenoch, 2008). The self-organizing characteristic orients IPNB to developmental and humanistic conceptualizations of human functioning. Badenoch noted that having a “real feel for this concept and process ourselves can let us say with confidence that the mind will heal as the obstacles are removed . . . this assertion is no longer an article of faith but a mathematical certainty” (p. 194). Individuals operating from an IPNB believe people have a natural inclination towards growth and wellbeing.

The non-linear characteristic helps explain how input into one system can impact all other systems for better or worse. In an instant, internal or external triggers (e.g., feeling of helplessness, verbal praise from a respected peer, physical pain) can set off a cascade of physiological, cognitive, affective, and behavioral responses. This systems view of development goes beyond allegiance to a single developmental theory, such as Piaget’s theory of cognitive development, and provides a template for understanding the dynamic interactions of various developmental systems (e.g., biological, affective, social, and cultural; Geidner, 2009).

Siegel (2012b) noted that “a complex system is a cluster of interacting entities that is open to influences from outside of itself and capable of entering chaotic states” (pp. 1-6). These principles are linked to the emergent and recursive properties of the mind. Energy and information flow within our bodies and within individuals’ relationships shape and are shaped by mental activities, illustrating the recursive properties of the mind. Regulating one aspect of the system can help regulate other aspects of the system. This component of complexity theory

lends support to the notions that monitoring and modifying thoughts, feelings, and behaviors and engaging in positive relationships help foster development.

Attachment Theory

Developmental conceptualizations in IPNB draw heavily on attachment research (Badenoch, 2008; Siegel 2001, 2012a; Sroufe & Siegel, 2011). The attachment system is considered an innate biological drive that assists in survival. Siegel (2010) noted that “from the very beginning of extra uterine life, our brains seek positive forms of contingent communication in which we send a signal that is hopefully received, made sense of, and responded to in a timely and effective manner” (Siegel, 2010; p. 76). Attachment is part of the relational circuitry of the brain, often referred to as the mirror neuron system (Siegel, 2012b). This system is the foundation for resonance, attunement, empathy, interoception, and compassion. A persistent and emotionally significant bond with a caregiver, a need to maintain close proximity or contact with that caregiver, distress upon separation, joy upon reunion, and grief at loss characterize infant attachment relationships. Early attachment experiences contribute to the development of internal working models of relationships (Bowlby, 1988). These models prime the brain and influence behavioral learning, emotional reactions, perceptions of the outer world, and bodily sensations. Badenoch (2008) used the term “embodied anticipations” to describe internal working models.

Siegel referred to “synaptic shadows” to describe how past experiences in relationships directly shape how we experience relationships in the present (Siegel, 2012b). Secure attachment is correlated with a number of positive outcomes, including healthy social-emotional functioning, increased cognitive capacities, and physiological wellbeing (Siegel, 2001). Insecure attachment is correlated with emotional rigidity, difficulty in social relationships, impairment in attention, and increased psychological vulnerability to stress. Individuals tend to have one or

two primary attachment styles that remain relatively consistent throughout the lifespan; however, significant relational experiences can lead to strengthening of secure or insecure styles.

Additionally, individuals usually have pockets of all the attachment styles.

Enneagram Personality System

Scholars have recently paid more attention in IPNB on making sense of the interplay between natural genetic influences, such as temperament, and environmental experiences, such as attachment (Siegel, 2010). Many researchers have linked the influence of temperament on personality development (Rothbart, 2011). Siegel (2010) noted that “each of us is born into the world with certain nervous system proclivities – how regular our daily rhythms are, how intensely we react, how much stimulation we need to respond to an event, how moody we may be” (p. 153). Attachment is dependent on experience and is similarly correlated with a number of long term mental health outcomes.

According to Siegel (2010) “no model yet exists that provides a comprehensive framework in which to weave attachment and temperament into the development of personality across the life span” (p. 158). Siegel and four other researchers, relying on principles inherent in IPNB and research from social, cognitive, and affective neuroscience, developed the Patterns of Developmental Pathways, Proclivities, and Propensities model (PDP-3). This model is also referred to as “nine patterns of processing” based on the enneagram personality system (Daniels & Price, 2009). Scholars use the nine personality types to describe unique ways that individuals focus their attention in every day events and interpersonal interactions (Siegel, 2010).

Individuals are generally categorized as having propensities towards anger, separation distress/sadness, or fear; proclivities that are then subdivided based on the focus of intention inward, outward, and/or both. Siegel noted that PDP influences individuals’ core motivations,

emotional reactivity, primary orientation bias, and adaptive strategies. Personality types tend to reinforce themselves and remain relatively stable over time, changing only in the degree of flexibility or rigidity around propensities. Researchers believe that attachment insecurity is connected to PDP-type rigidity. Research on this emerging model is ongoing and will be further integrated into IPNB if aspects are empirically validated.

Model of Functionality

All comprehensive theories of counseling include specific views regarding health and unhealth (Corsini & Wedding, 2005; Fall, Holden, & Marquis, 2010). The IPNB framework includes a unique definition of mental health and incorporates original terminology to describe healthy and unhealthy functioning.

Health. From an IPNB perspective “mental health emerges from integration, the linkage of differentiated elements of a system . . . when integration is present, the system moves in the FACES flow of being flexible, adaptive, coherent, energized, and stable” (Siegel, 2010, p. 184). The mind is a complex, self-organizing, non-linear system that achieves wellbeing when aspects of the system (e.g., parts of the embodied brain, interpersonal relationships) are allowed to sufficiently differentiate (i.e., specialize) and then link with other aspects of the system (Siegel, 2006; 2012b). Such coordination and balance leads to regulation. Integration is always unfolding; individuals are never “done” integrating. Individuals operating out of a more integrated state of being are open to possibilities and flexible in response to their natural propensities and proclivities (Siegel, 2010). Researchers have found empirical support for the concept of integration across a variety of neuroscience studies (Siegel, 2012b).

Leaders in IPNB use a number of terms and concepts to illustrate integration. Siegel used the metaphor of a mixed salad to describe the phenomenon (Siegel, 2012b). Siegel (2012b)

created the triangle of wellbeing to illustrate how “health emerges as energy and information flow occurs through the embodied mechanism called the brain and through the sharing or exchange of what we call relationships” (p. 38-1). Mind, brain, and relationships are inherently interconnected. Siegel created a visual metaphor, the river of integration, to describe the progressive flowing nature of wellbeing. As individuals move forward in time, like a river flowing, they experience wellbeing so long as they are able to remain within the banks of the river, also referred to remaining within the “window of tolerance” (Siegel, 2010). Counselors with an IPNB orientation also use the nine functions of the middle prefrontal cortex to describe mental health (Badenoch, 2008; Siegel, 2012b). These functions include body regulation, attuned communication, emotional balance, fear modulation, response flexibility, insight, empathy, morality, and intuition. Siegel noted that researchers have found that all nine of these functions are outcomes of mindfulness meditation, and the first eight of these functions are outcomes of secure attachment. Finally, Siegel (2006, 2012b) delineated nine domains of integration to assess levels of differentiation and linkage across various aspects of the mental system: consciousness, bilateral, vertical, memory, narrative, state, interpersonal, temporal, and transpirational.

Un-health. Individuals operating from an IPNB approach take a non-pathologizing view of mental un-health. Siegel and other leaders in IPNB generally refrain from using pathologizing and dehumanizing terms such as disorder and disease (Badenoch, 2008; Siegel, 2012b). Badenoch (2008) referred to many DSM classifications as “painful adaptations to stress” (p. 120), and Siegel (2012b) referred to such classifications as examples of impaired integration. Siegel (2006) noted that impaired integration leads to rigid or chaotic ways of being, often resulting in symptoms that people experience as “inflexible, maladaptive, incoherent, deflated,

and unstable” (pp. 249-250). Leaders in IPNB recognize that the etiologies of such impairments and resulting symptoms are varied and complex (Badenoch, 2008; Siegel, 2012b). Genetic vulnerabilities can impact mental health, as is often considered the case with schizophrenia and obsessive compulsive disorder. Bacterial infections, such as strep, can influence individuals’ mental functioning. Exposure to toxins, such as poisons or drugs, can also result in mental unhealth.

Frequently, etiology is experiential, due to trauma or developmental challenges (Badenoch, 2008; Siegel, 2012b). In such cases, IPNB counselors conceptualize symptoms of mental unhealth as adaptations that are no longer adaptive in a person’s current environment. For example, individuals may learn to survive in their environment by disconnecting from relationships and developing complete self-sufficiency. This approach may have made sense for individuals in their environments at some point in time; however, as adults these individuals likely struggle to connect emotionally in interpersonal relationships often leading to symptoms of distress. Such individuals could have impaired integration in multiple domains, most likely impaired bilateral and interpersonal integration.

Assessment. Counselors assessing from an IPNB perspective initially focus on identifying broad patterns of chaos or rigidity (Siegel, 2011). Rigidity is often expressed as under-arousal of the brain resulting in depressive-like symptoms (e.g., numbness, sadness, loss of interest). Chaos is expressed as an over-arousal of the brain and results in more anxiety-like symptoms (e.g., difficulty focusing, tension, and fear). Counselors use their own sense of self and mindsight skills to informally assess these ways of being. Siegel (2012b) defined mindsight as “the ability to perceive the internal world of the self and others, not just to observe behavior; to have a

perception of the inner world of minds” (p. A1-52). Examples of mindsight skills include interoception, consciousness, and mindfulness.

Siegel (2012c) recommended ways to assess for specific impairment in different domains of integration. Examples include using a developmental interview, such as the clinical Adult Attachment Inventory (AAI), facilitating contemplative exercises, and monitoring mental functions (e.g., cognitions, emotions, memory).

The Change Process

An IPNB approach to the change process is based on principles of neuroplasticity (Siegel 2012b). Siegel defined neuroplasticity as “the overall process with which brain connections are changed by experience” (p. A1-57). Siegel stated that the brain can change throughout the lifespan and that individuals are filled with potential (Siegel 2012a). New relational experiences (e.g., counseling), often referred to as disconfirming experiences, can change the neural structure of the brain and influence perceptions, behaviors, emotions, and cognitions (Badenoch, 2008). Even more stable components of individuals’ personalities, such as temperament, can change in ways that allow individuals to live more fully. Siegel (2010) noted that “the essence of our personality may not be changed, but the way we come to live within these constraints can become enabling rather than imprisoning . . . we get freedom from knowing and owning our limitations.” (p. 185). Awareness is central in IPNB. Siegel noted that awareness allows for choice and change. Siegel stressed that although individuals cannot change their past, they can change how the past is encoded in the brain allowing for healing and growth (Siegel, 2011). Memory retrieval in the context of a safe and supportive relationship can serve as a memory modifier.

Siegel (2012c) identified the following six components as “home base” for therapy: relationships, sleep, nutrition, aerobic exercise, novelty, and the close paying of attention. These components are facilitative of neuroplasticity and are essential factors in supporting work in therapy. Specific experiences that facilitate change in counseling include the therapeutic relationship, exercises and skills training that promote differentiation and linkage, and internal education.

Therapeutic relationship. Siegel identified the therapeutic relationship as the first step in the counseling process (Siegel, 2011). Likewise, Siegel noted that counselors do not “fix” clients, but rather they join with clients to facilitate movement toward a more integrative state of being. Siegel (2010) created the acronym PART -- presence, attunement, resonance, and trust -- to describe essential elements of the therapeutic relationship. Counselors operating from an IPNB perspective are open to whatever arises in the counseling room, continually monitoring their internal worlds and the worlds of their clients, joining with clients through resonance, and maintaining states of receptivity. Siegel noted that counselors often take on different roles in counseling depending on the needs of clients and clients’ various stages of change. Counselors serve as attachment figures, teachers, coaches, and other supportive figures.

Siegel (2010) stressed the importance of counselor self-knowledge in effective therapeutic work. Siegel (2010) discussed the importance of counselors making sense of their own attachment experiences; becoming aware of their windows of tolerance regarding certain people, issues, or experiences; and developing their mindsight abilities (i.e., openness, objectivity, observation). Within the IPNB framework, counselors can use themselves to assess clients’ internal worlds and then describe their internal worlds to clients to help facilitate integration

(e.g., increased consciousness and interpersonal awareness). Siegel also noted the importance of counselors being open to seeking and receiving feedback from clients.

Differentiating and linking. Once specific domains are assessed, counselors can select interventions that help differentiate and/or link specific domains towards integration. Counselors can draw on a number of approaches to facilitate this change, including but not limited to cognitive, behavioral, expressive arts, narrative, and somatic modalities. For example, vertical integration calls for interventions that foster awareness of the interior of the body and balance the autonomic nervous system (ANS). Counselors may guide clients in a body scan to facilitate this awareness. Bilateral integration calls for attention to novelty. If individuals are operating dominantly from their left hemispheres, counselors can direct attention in ways that require their right hemispheres to work (e.g., facilitating a nonverbal exchange game and watching television with the sound off). These interventions are individualized, fluid, and creative.

Mindsight skills training is almost always an essential component of IPNB-informed counseling (Siegel, 2010). Siegel defined training as “the purposeful harnessing of the power of experience to change the function and structure of the human brain” (p. 217). As already noted, this skills training includes the fostering of introspection, consciousness, and mindfulness. Researchers from various fields have demonstrated support for mindfulness based practice in counseling (Baer, 2003). Siegel noted that the first step of developing mindsight skills is helping clients engage in simple breath awareness practices. Most clients will struggle with such practices. The struggle, however, is normal and even necessary for developing and strengthening new neural pathways. A more advanced mindsight skills practice is the wheel of awareness. Siegel developed this exercise and established it as unique contribution of IPNB. The exercise guides clients through a 20 minute reflective practice across eight senses, first differentiating and

linking the senses within the hub of awareness and then linking them together through awareness of awareness.

Internal education. Teaching clients about the brain is believed to facilitate change in a number of ways (Badenoch, 2008; Cozolino, 2012; Siegel, 2011). Siegel (2011) termed the phrase “name it to tame it” to describe the natural process of down regulation that can occur when individuals simply recognize and acknowledge their heightened internal states. Teaching clients about various neural processes may give them greater ability to control these processes. Furthermore, teaching about the brain may decrease hopelessness and self-blame, leading to greater client investment in the counseling process. Counselors operating from an IPNB perspective often engage in psychoeducation about the social nature of the brain and the role of relationships in wellbeing. Counselors also teach about the neural structures and functions of the brain (e.g., hand model of the brain) and important practices for facilitating neuroplasticity (e.g., healthy mind platter).

Although IPNB is a relatively new counseling approach, the framework seems to have much to offer counselors and clients. Siegel and other scholars have worked diligently to integrate research findings from many disciplines previously ignored by counseling professionals. The principles of IPNB have been well defined in numerous publications. The Norton Series on Interpersonal Neurobiology includes over 35 texts on IPNB and various aspects of counseling (<http://books.wwnorton.com/books/book-template.aspx?ser=Norton+Series+on+Interpersonal+Neurobiology>). Despite these many publications, empirical research on the approach has been limited. In the following paragraphs I identify bodies of knowledge related to IPNB and counselor attributes, IPNB and clinical

practice, and IPNB and counselor education. Where no IPNB-specific literature was found, reviews of IPNB-related concepts are provided.

IPNB and Counselor Attributes

A major emphasis of IPNB informed counseling is on the counselor. From this perspective, effective counseling begins with counselors' self-awareness and ability to demonstrate presence, attunement, and resonance (Badenoch, 2008; Siegel, 2010). Siegel (2010) noted that "the way we bring ourselves fully into connection with those for whom we care, is one of the most crucial factors supporting how people heal – how they respond positive to our therapeutic efforts" (p. XI). This idea is not new. Bowlby (1988) discussed the importance of counselors being emotionally available to clients and noted that the degree to which counselors can do that is related to their own experiences receiving care and being in relationships with significant others. As noted in the above section, two specific components in IPNB related to these abilities are attachment and mindsight. Counselors' attachment style and mindsight abilities have been linked to factors that contribute to positive therapeutic outcomes, including a positive working alliance, empathy, and attunement (Kietaihl, 2012; McCollum & Gehart, 2010; Romano, Fitzpatrick, & Janzen, 2008; Siegel, 2010). In the following paragraphs I briefly review literature identifying essential characteristics of effective counselors. Given the absence of research regarding IPNB and counselor characteristics, I then discuss research findings related to two key components of IPNB: counselor attachment styles and counselor mindfulness.

Important Counselor Characteristics

A number of scholars have identified important characteristics of effective counselors (Ackerman & Hilsenroth, 2003; Jennings & Skovholt, 1999; Lambert & Barley, 2001; Rogers, 1957; Ronnestad & Skovholt, 2003). Many of these traits and attributes correspond with

principles of IPNB (Siegel, 2012b). In this section, I link research on effective counselor characteristics and IPNB.

Rogers (1957) long ago identified counselors' internal states and external expression of congruence, acceptance (i.e., unconditional positive regard), and empathy as necessary conditions for therapeutic change. Many researchers have explored the relevance of Rogers' core conditions for therapeutic outcomes. Lambert and Barley (2001) summarized research from approximately 100 studies on factors influencing client outcome. The authors noted that conditions of empathy, warmth, and congruence in the therapeutic relationship consistently correlated with positive therapeutic outcomes. The authors also stressed the importance of teaching counselors relational skills, self-care, and the ability to be flexible and adaptive to individual client needs. Similarly, Ackerman and Hilsenroth (2003) reviewed research on the relationship between counselors' personal attributes and the therapeutic alliance. They identified a number of attributes that positively correlated with the development of a sound therapeutic alliance, including being flexible, honest, respectful, confident, relaxed, warm, interested, accepting, and open.

Jennings and Skovholt (1999) conducted a study exploring cognitive, emotional, and relational characteristics of 10 peer-nominated master therapists. Using an inductive qualitative method, the researchers identified nine themes. The themes most relevant to the present study included: value the complexity and ambiguity of the human condition; are self-aware, reflective, non-defensive, and open to feedback; are mentally healthy and attend to their own wellbeing; and are aware of how their emotional health affects their work.

In a related article, Ronnestad and Skovholt (2003) summarized their study exploring counselors' professional development. The authors interviewed 100 counselors of varying

experience levels and analyzed data according to an adapted grounded theory approach. The researchers originally identified 20 themes of counselor development; however, they later condensed the list into 14 themes. Notably, the researchers found that counselors at higher levels of development experienced more integration and congruence compared to novice counselors. They also found that counselors of higher developmental levels were more flexible, reflective, and relied on internal experience to greater degrees than beginning counselors.

The preceding research findings on counselors' attributes are consistent with IPNB's focus on developing counselors' presence (i.e., openness to whatever arises in the moment) and self-awareness (Siegel, 2012b). The mindsight practices taught within IPNB are believed to help develop an integrated mind, leading to therapists who are flexible, adaptive, coherent, energized, and stable (FACES). The focus in IPNB on the social nature of the brain, the importance of the therapeutic relationship in creating disconfirming experiences, and the importance of counselors' ability to self-regulate are also consistent with research on effective counselor attributes.

Counselor Attachment Style

Due to the personal and relational nature of therapeutic relationships, counselors' attachment orientations likely influence the therapeutic process (Bowlby, 1988; Kietai, 2012; Meyer & Pilkonis, 2001; Rubino, Barker, Roth, & Fearon, 2000; Sroufe & Siegel, 2011). Bowlby (1988) stressed the importance of therapists' childhood experiences and resulting attachment styles on the therapeutic relationship. Many counseling approaches include theoretical beliefs about the impact of counselors' personal characteristics on the therapeutic process. A number of scholars have conducted research in recent years empirically exploring this hypothesis (e.g., Mohr, Gelso, & Hill, 2005; Romano et al., 2008; Rubino et al., 2000;

Saucer, Lopez, & Gormley, 2003; Schauenburg, Buchheim, Beckh, Nolte, Brenk-Franz, Leichsenring, Strack, & Dinger, 2010; Tyrrell, Dozier, Teague, & Fallott, 1999).

Rubino et al. (2000) investigated whether clinical psychology graduate students' attachment styles impacted their responses to simulated alliance ruptures in four client vignettes. Each vignette represented a client with one of four attachment orientations: secure, dismissing, preoccupied, and fearful. The researchers used the Relationship Scales Questionnaire to measure trainees' attachment styles and assessed verbal responses according to degree of empathy and depth of interpretation. Seventy-seven student counselors participated in the study. Most notable, Rubino et al. found that highly anxious therapists responded less empathically than less anxious therapists. The researchers did not find a main effect for the other attachment styles or for therapist attachment style or depth of interpretation. The researchers suggested that their findings lent preliminary support to the idea that counselors' attachment styles impacted the therapeutic process, specifically the degree to which counselors empathized with their clients. Rubino et al. noted that it appeared that anxious attachment orientations had a greater influence in this regard than avoidant attachment orientations. The researchers called for others to conduct similar studies in more naturalistic settings.

Mohr et al. (2005) investigated relationships between client attachment, counselor trainee attachment, and aspects of the therapeutic process. The researchers hypothesized that insecurely attached counselors would score lower on measures of session depth and smoothness, especially with insecurely attached clients. The researchers also examined main and interaction effects between client and counselor attachment styles and countertransference behavior. Twenty-seven counselor trainees, 93 volunteer clients, and 12 advanced doctoral supervisors participated in the study. Mohr et al. used the Experiences in Close Relationships Scale to measure attachment

styles and the Smoothness and Depth subscales of the Session Evaluation Questionnaire to evaluate smoothness and depth in sessions. Supervisors were responsible for assessing countertransference behavior using the Countertransference Behavior Measure. The researchers found main effects for client-attachment style on smoothness and session depth, but did not find that counselor trainees' attachment style moderated the effect. A mismatch in counselor and client attachment insecurity was most predictive of countertransference behaviors. Mohr et al. noted that "dismissing counselors were most often inappropriately hostile, critical, and rejecting with preoccupied clients, whereas preoccupied counselors most often exhibited this type of countertransference behavior with dismissing clients" (p. 306). They also found that the preoccupied client and avoidant counselor dyad resulted in the highest levels of distancing and hostile behaviors. The researchers believed this finding supported the theory that clients' attachment styles can trigger counselors' attachment styles resulting in counselors becoming emotionally overwhelmed and engaging in self-protective behaviors. Mohr et al. concluded that their study lends evidence to the value of using attachment theory in counseling supervision.

Romano et al. (2008) explored the influence of client attachment to counselor, as well as client and counselor attachment style, on session exploration and working alliance. A total of 59 volunteer clients and 59 counselor trainees participated in the study. Romano et al. measured the global attachment styles of the clients and counselors with the Experiences in Close Relationships Scale. The researchers used the Client Attachment to Therapist Scale to measure the clients' attachment to their counselors. They used the Working Alliance Inventory- Client Version to assess clients' perceptions of the therapeutic relationship and the Session Evaluation Questionnaire to measure client exploration in session. Data were collected for sessions 5-9 of 15.

Romano et al. (2008) found a positive association between clients' experiences of attachment security with counselors and session depth. The researchers found that counselors' attachment styled moderated this association. Specifically, "a negative association was observed between a client's global attachment anxiety and session depth when the counselor reported moderate to high levels of global attachment avoidance" (p. 501). The researchers did not find an association between client and counselor global attachment styles and working alliance; however, they speculated that this finding was due to Type II error and small sample size. The researchers suggested that their findings have important implications for counselor training, namely that counselor attachment styles do seem to matter in counseling. Exploring these orientations in training and supervision might be beneficial.

Schauenburg et al. (2010) examined the influence of therapists' attachment styles on the therapeutic alliance and therapeutic outcome in inpatient psychotherapy. The researchers assessed 31 psychotherapists using the AAI and the Helping Alliance Questionnaire. Using multilevel regression analyses, Schauenburg et al. found a significant interaction effect between therapists' attachment security, levels of clients' interpersonal problems prior to counseling, and retroactive therapeutic alliance scores. The researchers noted that "this interaction indicates that when therapists are treating interpersonally more distressed patients, higher attachment security of the therapist is associated with better alliances" (p. 198). Similarly, counselors' secure attachment mediated therapeutic outcomes for more severely disturbed clients. Insecure attachment styles were not directly predictive of the alliance ratings or therapeutic outcome as measured in this study. The statistical findings were likely limited by the small sample size, specifically of insecurely attached counselors. The researchers classified only 5 of the 31 therapists as dismissing or preoccupied, restricting possible statistical analyses. These findings,

however, seem to lend preliminary evidence that counselors' attachment security is particularly important when working with interpersonally and symptomatically disturbed clients.

In summary, all of the researchers in the reviewed articles found some link between counselors' attachment orientations and aspects of the therapy process. Certainly more research needs to be conducted to more fully examine the connections. In all but one of the studies, the researchers used counselor trainees and volunteer clients as participants, decreasing external validity. Furthermore, the counselor-client relationships in most of the studies were short term and lacked significant interpersonal intensity, raising concerns that attachment systems may have not been fully activated. Despite these limitations, these studies lend at least preliminary support for the influence of counselors' attachment styles on the therapeutic process. Kietaibl (2012) noted that "awareness of personal attachment may help therapists identify their own triggers and determine whether they naturally meet or challenge specific clients' attachment needs" (p. 126). Instruction in IPNB principles may help counselors become aware of their implicit ways of relating to others (i.e., attachment styles) and begin moving towards or strengthening secure attachment within themselves and within clients. I now discuss research regarding counselor mindfulness.

Counselor Mindfulness

A number of scholars have noted links between mindful qualities and qualities of effective counselors (Ballinger, 2013; Greason & Cashwell, 2009; Jennings & Skovhold, 2004; Ryan et al., 2012). Ballinger (2013) provided a particularly helpful conceptual representation of the intersection between mindfulness qualities and counselor relational qualities (p. 147). Initial studies certainly lend evidence of associations between therapist mindfulness and empathy, working therapeutic alliance, presence, and treatment outcome (Dunn, Callahan, Swift, &

Ivanovic, 2013; Greason & Cashwell, 2009; Grepmaier, Mitterlehner, Loew, Bachler, Rother, & Nickel, 2007; Kietaihl, 2012; Ryan et al., 2012). I describe these studies in the following paragraphs.

Grepmaier et al. (2007) examined the impact of psychotherapy trainees' mindfulness practice, specifically Zen meditation, on client outcome variables. The study included 18 participants; 9 were in the experimental group that engaged in daily Zen meditation and 9 were in the control group. All of the psychologists in the study followed the same inpatient, integrative psychiatric-psychotherapeutic plan with their patients. The researchers measured patient outcome using the Session Questionnaire for General and Differential Individual Psychotherapy, the Questionnaire of Changes in Experience and Behavior, and the Symptom Checklist. The researchers found that patients whose therapists meditated scored significantly better on outcome measures than patient whose therapists did not meditate. The only scale that did not differ was the scale measuring paranoid thinking. Although this study included a relatively small sample size and did not include a placebo group in the design, the findings suggest that psychologists' practice of Zen meditation positive influences client outcome.

Greason and Cashwell (2009) examined the relationship between mindfulness and essential counseling skills and attributes. They hypothesized a predictive relationship between mindfulness and counseling self-efficacy with attention and empathy acting as mediators. The researchers recruited a total of 179 participants to complete a battery of instruments measuring self-efficacy, attention, empathy, and mindfulness. Greason and Cashwell analyzed the data according to path analysis protocol. The researchers found that mindfulness, counseling self-efficacy, attention, and empathy were related. The results indicated that mindfulness predicted counseling self-efficacy and that attention was a mediator of that relationship. The researchers

did not find that empathy predicted self-efficacy; however, they found that mindfulness predicted empathy. Greason and Cashwell noted important implications of their study, including the potential for counselor educators to integrate mindfulness into counselor training to help students develop essential counseling skills.

Dunn et al. (2013) examined the impact of counselors' practice of mindfulness centering exercises 5 minutes before session on the counselors' ability to stay present in the session and on client outcome. The researchers included 25 trainee therapists and 89 clients in the study. Assessment measures included the Therapist Presence Inventory and the Session Rating Scale. Results indicated that therapists who practiced mindfulness before sessions perceived themselves as more present during the sessions. The client report of presence did not differ among therapists. However, clients perceive sessions as being more effective when their therapists engaged in mindfulness practice before the start of the sessions. The researchers noted that their study supports the positive relationship between counselor mindfulness practice and clients' perceptions of therapeutic outcome.

Finally, Ryan et al. (2012) examined the association between therapist dispositional mindfulness and therapist self-affiliation, the therapeutic alliance, and treatment outcome. Twenty-six therapists participated in the study. The researchers measured the therapists' baseline "trait" level of mindfulness and then assessed the therapists on attitudes towards self and perception of the therapeutic alliance. The participants' clients also completed an instrument measuring the therapeutic alliance and treatment outcome. The researchers found a positive association between counselor mindfulness and positive self-affiliation. Specifically, results indicated a connection between therapists' ability to maintain focused attention and clients' perception of the therapeutic alliance. Ryan et al. also found a positive association between

Accept without Judgment scores and client improvement in interpersonal functioning. The researchers noted that therapists' mindfulness might be particularly relevant for clients' interpersonal concerns. They did not find a significant relationship between therapists' mindfulness and global distress.

The growing body of literature on counselors' mindfulness seems to support the overall notion that counselors' mindfulness influences the counseling process. The results of the above studies indicate relationships between counselor mindfulness and positive client outcome, positive therapeutic alliances, and improve counselor self-efficacy. The researchers involved in these studies frequently recommended incorporating mindfulness training, an essential component of IPNB, into counselor education programs. Studies related to IPNB and counselor training are discussed in the final section of this chapter. I first examine the available literature on IPNB and clinical practice.

IPNB and Clinical Practice

Little empirical evidence regarding IPNB and clinical practice has been published. However, many authors have published journal articles and texts that include numerous case studies and anecdotal experiences applying IPNB principles with clients. Professionals have written about their IPNB-informed work with children (Badenoch, 2008; Siegel, 2011), adolescents (Codrington, 2010; Siegel, 2013), adults (Badenoch, 2008; Siegel, 2011), groups (Badenoch & Cox, 2010), couples (Fishbane, 2007, 2013; Schnarch, 2009), and families (Siegel & Hartzell, 2003; Siegel & Bryson, 2011). Counselors have applied IPNB to their work with individuals struggling with addictions (Woodford, 2012) and clients recovering from traumas (Solomon & Siegel, 2003).

Furthermore, IPNB principles have been integrated with and used to explain the effectiveness of a wide-range of counseling approaches, including narrative therapy (Beaudoin & Zimmerman, 2011), systems theory (Meyer et al., 2013), spirituality based practices (Clinton & Sibcy, 2012), and other more traditional approaches, including cognitive, behavioral, and psychodynamic (Cozolino, 2010) theories. Cozolino noted that all counseling theories are merely heuristics that help explain complex and detailed processes of human development and experience. From that perspective, IPNB is another heuristic that can help counselors conceptualize clients and select interventions. What is unique about the IPNB heuristic, however, is that it offers scientific evidence in addition to theoretical understanding for evaluation and selection processes.

Explanations offered through IPNB help explain why counseling works (Cozolino, 2010). Cozolino identified the following factors as critical for successful counseling: an empathic and supportive relationship, maintenance of moderate states of arousal, activation of both cognition and emotion, and co-construction of narratives. Cozolino noted that “a safe and empathic relationship establishes an emotional and neurobiological context conducive to neural plasticity . . . it also serves as a scaffold within which a client can better tolerate the stress required for neural reorganization” (p. 342). The addition of counseling techniques aimed at expressing emotion, restructuring cognitions, and developing coherent narratives sets the foundation for lasting neural change.

Finally, IPNB includes psychoeducation about the brain and mind into the counseling process. Siegel (2012b) and Fishbane (2013) referred to this practice as neuroeducation. An extensive literature search yielded no studies examining the impact of neuroeducation on the therapeutic process or client outcome. However, Donker et al. (2009) conducted a meta-analysis

regarding the impact of passive psychoeducation on symptoms of depression and psychological distress. The researchers defined passive psychoeducation as the giving of information, educational materials, and advice without the requirement that clients take any direct action. The results of the meta-analysis indicated a small but significant effect ($d = 0.20$) for passive psychoeducational interventions on depression and psychological distress. Donker et al. (2009) noted that their findings support the use of psychoeducation in counseling.

A number of clinicians have anecdotally reported their experiences in integrating education about the brain into counseling sessions (Badenoch, 2008; Cozolino, 2010; Siegel, 2010). These clinicians reported that understanding organic structures and functions of the brain can be empowering for both counselors and clients. Badenoch noted that teaching clients about the brain can decrease feelings of shame, increase self-compassion, increase empathy for self and others (i.e., embracing the intergenerational tragedy), decrease the deregulating intensity of memories, and give non-pathologizing terms to states of rigidity and chaos. Cozolino suggested that clients can benefit from understanding that “many human struggles, from phobias to obesity, are consequences of brain evolution and not deficiencies of character” (2010, p. 356). Understanding the power of neuroplasticity may help move clients from a state of despair to a place of hope, normalizing the ups and downs of the therapeutic process.

In summary, IPNB seems to be a promising approach for working with a wide variety of client populations and presenting issues. The approach is consistent with many existing models, yet adds new elements that could strengthen the clinical experience. Notably, the inclusion of psychoeducation as part of the approach seems consistent with scholarly literature on effective counseling. I now address the final body of literature included in this chapter, IPNB and counselor education.

IPNB and Counselor Education

Thus far this literature review has focused on exploring literature related to IPNB and counselors and the counseling process. In this final section, I identify relevant literature on IPNB and counselor training. Notably, the 2009 standards of the Council for Accreditation of Counseling and Related Educational Programs (CACREP) provide at least preliminary rationale for including neuroscience principles into the education of counselors:

HUMAN GROWTH AND DEVELOPMENT – studies that provide an understanding of the nature and needs of persons at all developmental levels and in multicultural contexts, including all of the following:

- a. theories of individual and family development and transitions across the life span;
- b. theories of learning and personality development, *including current understandings about neurobiological behavior . . .* (italics added, p. 11)

Initial drafts of the 2016 CACREP standards include continued attention to neurobiological processes. Leaders within the counseling profession have also called for the education of neuroscience principles within counselor education programs (D’Andrea, 2012, Ivey et al., 2011).

Additionally, some evidence exists regarding continued needs for innovative models for training counselors. Buser (2008) reviewed research on existing counselor education training models. He identified a number of models that have some evidence of effectiveness in fostering students’ interpersonal and cognitive skills. Buser noted, however, that research in this area has been limited and fraught with methodological concerns. The author called for additional research on models for training effective counselors. Courses in the personal and professional application of IPNB could positively impact aspects known to facilitate effective counselor

development. In the paragraphs below, I discuss existing training programs in IPNB. In the absence of research regarding effectiveness of IPNB training, I review literature regarding mindfulness training and counselor education. As has been noted throughout, mindfulness is a component of IPNB.

Formal Training Programs

Although there is no current evidence of IPNB in counselor education programs specifically, two nationally known, well-respected education programs currently offer certificates in IPNB. Portland State University offers an Interpersonal Neurobiology Certificate of Completion (Nurturing the Heart with the Brain in Mind, 2010) is program combines face-to-face and distance learning modalities and can be taken for credit or noncredit. Participants must complete 13 core credits (five classes) and additional 9 elective/track specific credits for a total of 230 hours of instruction. The core classes include: introduction to IPNB, ethics and IPNB, IPNB of difference and diversity, the science of IPNB, and an integrative seminar. Application classes include: mental health and addictions, education, conflict resolution, restorative justice, and criminal justice, and a four part “being a brain-savvy practitioner” series. Electives include mindfulness, trauma, anger and rage, and other related topics. The courses are taught by professionals from around the Oregon and Washington State areas. A complete program description that includes course objectives and the certificate program mission statement is included in Appendix F.

The Mindsight Institute offers a fully on-line certificate program for mental health professionals (Mind Your Brain, Inc., 2010). The 500 series track includes 96 hours of video streamed lectures, as well as handouts and power points. The series covers IPNB fundamentals, IPNB applications, and teaching IPNB and is taught completely by Daniel Siegel. Each level

(i.e., beginner, intermediate, and advance) includes four 8-hour courses for a total of 32 hours per level. Level 1 course includes: IPNB from the inside out: an overview of IPNB, brain fitness: mindfulness skills training and the brain, IPNB and relationships: The neurobiology of we, and IPNB for psychotherapists: the mindful therapist. The intermediate level courses include: clinical assessment, treatment planning, therapeutic interventions, and beyond the therapy suite. Finally, level 3 courses include: teaching and learning from the inside out, IPNB sphere of knowledge, embracing science and subjectivity, and the mindfulness approach in action. Participants log in on-line to the Mindsight Institute homepage and can watch courses anytime, proceeding through the program at their own pace. Discussion boards are also available for participants to actively engage with fellow learners. Once participants complete each level, they take a written test. If they pass the test, they receive a certificate of completion from the Mindsight Institute. The course is easily accessible and provides a wealth of information on IPNB, however the costs may be prohibitive for many counselors.

Nurturing the Heart with the Brain in Mind (Nurturing the Heart with the Brain in Mind (2010) offers a number of non-certificate based learning opportunities related to IPNB. Bonnie Badenoch, along with other mental health professionals, lead IPNB study groups, provide individual and group consultation for clinicians, and facilitate 3-day workshops on attachment and related constructs. The course that provides the experience explored in this study is a year-long experiential training in IPNB taught by Badenoch. The course is capped at 16 participants to ensure a small group learning environment. Badenoch relies on experiential learning activities and traditional didactic methods to facilitate participants' exploration of IPNB principles. The group meets face-to-face for four three-day workshops in Portland. These meetings occur in March, May, August, and November. Each meeting has an intended focus.

The first meeting is designed to facilitate deep understanding of the nature and importance of the therapeutic relationship and to help participants gain knowledge about the brain. A major component of the course is participants' reflection on their own development, relational experiences, and present styles of relating. The second meeting is aimed at integrating learning about attachment styles and exploring the neurobiology of memory systems. The third meeting is oriented towards participants' inner community. Participants dive into their implicit worlds to explore ways in which past experiences influence current ways of perceiving self, others, and the world. The final meeting is focused on exploring participants' changing narratives, with particular attention to implications for the therapy process. A more complete description of the course is provided in Appendix F.

Thus far, none of the program facilitators mentioned above have published any empirical measures of effectiveness or outcome for their courses and programs. Badenoch informally collected responses from the 2013 year-long training participants. These comments are provided along with the course description in Appendix F. Overall, participants identified the following areas of learning as most meaningful: improved clinical presence and attunement, increased integration of IPNB concepts, and improved self-awareness. In the absence of research on IPNB trainings in counselor education, I review the literature on mindfulness training.

Mindfulness Training in Counselor Education

Although no researchers to date have explored counselors learning IPNB principles specifically, a number of scholars have investigated mindfulness in the education of mental health professionals (Aggs & Bambling, 2010; Ballinger, 2013; Andersson, King, & Lalande, 2010; Chrisman, Christopher, & Lichtenstein, 2009; McCollum & Gehart, 2010; Schure et al., 2008; Shapiro, Brown, & Biegel, 2007). Mindfulness is an important component of an IPNB

framework and mindfulness processes overlap with skills and attitudes of effective counselors (Aggs & Bambling, 2010; Siegel, 2012b).

Shapiro et al. (2007) investigated the effects of Mindfulness-Based Stress Reduction (MBSR) on 54 therapists in training. The authors discussed the experience of compassion fatigue among mental health professionals and the need to teach self-care strategies. Shapiro et al. noted that MBSR is based on the idea that improving “the capacity to be mindful – that is, to attend to the present moment in a receptive manner – will, over time, reduce the identification with self-focused thoughts and emotions that can lead to poorer mental health” (p. 106). The experimental group participated in an 8-week MBSR manualized treatment program. The researchers used a number of pre- and post-measures, including the Mindful Attention Awareness Scale, the Positive and Negative Affectivity Schedules, the Perceived-Stress Scale, the State/Trait Anxiety Inventory, the Reflection Rumination Questionnaire, and the Self-Compassion Scale. The results indicated improved mental health for MBSR course participants. Of particular significance, participants showed improved emotional regulation and self-compassion. Although the study had limited generalizability and a smaller sample size, the results offer initial quantitative support for many of the concepts previously only identified through qualitative means.

Schure et al. (2008) examined master-level counseling students’ perceptions of the learning three mindfulness practices: yoga, meditation, and qigong. Specifically, the authors were interested in how the practices influenced students’ lives and work with clients. Participants were all students in a 15-week, three-credit course elective focused on teaching contemplative practices and promoting counselor self-care. The course included weekly in-class meditative practice, as well as routine homework practices. The researchers collected journal

writings from 33 participants over the course of four years. Schure et al. analyzed data according to qualitative principles. The researchers identified more than 23 themes, categorized by responses to specific questions. Many of the resulting themes corresponded with related studies on mindfulness and contemplative practice. Of particular relevance to counseling, the students reported experiencing increased capacities to deal with negative emotions, increased clarity of thought and capacity for reflection, and increased capacity for empathy and compassion.

Related to Schure's et al. (2009) study, Chrisman et al. (2009) conducted a qualitative study exploring master's-level counseling students' experiences learning a specific type of mindfulness practice, Qigong. The participants were enrolled in the same 15-week, three-credit elective course described by Schure et al., although the specific focus of this study was the qigong practice. The participants wrote in journals after their first and last experiences with the Eight Brocades of qigong. The researchers collected journal writings over the course of three years and analyzed data according to content analysis procedures. The researchers identified three consistent themes: physical, emotion, and mental changes. They also identified two additional themes present in the second journal writings but not the first: familiarity/routine and group awareness/consciousness. The researchers noted the immediate impact of the students' practice, highlighting the importance of body awareness, relaxation/calmness, acceptance, and connection to others. As has been noted, these are counseling skills and attitudes associated with effective counseling.

McCollum and Gehart (2010) explored the impact of beginning counselors learning mindfulness, a component of IPNB. In their qualitative study, McCollum and Gehart integrated mindfulness instruction and practice into their practicum course consisting of 13 counseling students. Through thematic analysis, the researchers identified a list of themes related to

students learning mindfulness, including being present, effects of meditation, shift in mode, and compassion and acceptance. The researchers found that students reported an increased awareness of their inner states and the inner states of their clients and reported they were better able to balance “doing” and “being” within sessions. Students in the study also reported increased compassion and acceptance for themselves and for their clients. The researchers interpreted their findings as initial evidence of the potential benefits of mindfulness instruction in counselor education. The researchers linked their findings to studies that demonstrate the importance of the therapeutic relationship in counseling effectiveness and identify therapeutic presence as a critical component in creating and maintaining a therapeutic relationship.

Andersson et al. (2010) explored the experiences of mental health professionals engaging in Mindfulness-based Role-play (MBRP) supervision. This workshop included instruction in mindfulness practices and an experiential supervision session. The researchers used Consensual Qualitative Research methodology to identify themes in 13 counselors’ experiences. Andersson identified four themes relevant to this study: empathy with the client’s emotional experiences, enhanced awareness of functioning as a therapist, thoughts about how to proceed in therapy with the client, and observed effects in therapy with the client. Although this study was a pilot project, the results suggest the potential of mindfulness to help foster important counselor characteristics.

Aggs and Bambling (2010) investigated the impact of an eight-week Mindfulness Training programme on counselors’ mindfulness skills and attitudes in session. The researchers used a number of mindfulness measures, including the Mindful Therapy Questionnaire, Mindful Therapy Scale, and The Five-Minute Mindfulness Scale. The mindfulness training increased counselors’ declarative knowledge scores, decreased perceived stress and tension, and increased

counselors' ability to invoke mindful states. Of particular significance, participants had higher scores on the non-judging/acceptance and non-reactivity/equanimity scales of the mindful therapy measure. These higher scores indicated that participants experienced fewer judgmental feelings towards their clients during sessions and were less reactive to negative emotional states with clients.

Finally, Ballinger (2013) piloted an on-line, eight-week mindfulness-based practices learning management system for counselors (MBLMS-C). The researcher sought to specifically promote the development of qualities associated with effective therapeutic relationships. Ballinger explored pre- and post-measures examining counselor mindfulness, interpersonal reactivity, empathy, rumination-reflection, and self-compassion. Although the small sample size limited the interpretation of analyses, the results indicated an overall positive trend toward development of traits associated with the development of therapeutic relationships. The largest gains were in the area of self-compassion. The accessibility of the training and the relatively short time frame required for participation are certainly strengths of the program and warrant further empirical investigation.

In reviewing the CACREP standards and calls from professionals within the counseling field, there appears to be a need for training counselors in principles of neurobiology. IPNB is a potentially viable framework for this training. Although some programs exist for training counselors in IPNB, these programs have not been empirically examined. Training in mindfulness, a component of IPNB has been increasingly explored in the last decade. The results of these studies provide preliminary support for mindfulness as a teachable skill that can contribute to the development of necessary traits and attributes in counselors.

Conclusion

In the preceding chapter, I detailed concepts and research related to the emerging field of IPNB. Although little empirical support is available regarding IPNB specifically, aspects of IPNB including attachment theory, mindfulness, and psychoeducation have growing bodies of empirical support. Researchers have found evidence to substantiate links between counselors' attachment styles and aspects of the therapeutic process (Mohr et al., 2005; Romano et al., 2008; Rubino et al., 2000; Saucer et al., 2003; Schauenburg et al., 2010; Tyrrell et al., 1999). Furthermore, researchers have explored the influence of mindfulness on a number of counselor characteristics and attributes (Dunn et al., 2013; Greason & Cashwell, 2009; Grepmaier et al., 2007; Kietaibl, 2012; Ryan et al., 2012). Mindfulness training is emerging as a viable means for teaching counselors essential skills and dispositions. Evidence also exists regarding the helpfulness of psychoeducation in counseling (Donker et al., 2009).

The literature reviewed in this chapter suggests the potential usefulness of IPNB within the counseling field. Specifically, there seems to be the potential that training counselors in IPNB facilitates the development of qualities associated with traits and attributes of effective counselors. However, as I noted time and time again, little to no empirical support directly addresses this claim. Although some formal training programs in IPNB exist, the administrators of the current programs have not provided formal evidence of learning outcomes and potential effectiveness. Because of this gap, it would appear that a significant need exists to empirically explore the experiences of counselors learning and applying IPNB. If professionals are going to continue calling for an increased need of neuroscience training within the counselor education field, it would seem valuable to understand the anticipated outcomes of such instruction.

The present study is designed to help fill this gap. I have chosen the year-long course in the application of IPNB offered through Nurturing the Heart with the Brain in Mind (2010) to serve as the learning experience for which to begin this empirical exploration. This course covers IPNB topics in depth and presents material using methods associated with facilitation of meaningful learning. Specifically, the instructor includes experiential activities, is knowledgeable in the subject matter, encourages personal reflection and application, creates a learning community, and evokes cognitions and emotions in the learning process (Cozolino & Sprockay, 2006). Given the required time and costs to participate in the program, it is likely that the participants were invested and motivated throughout the learning experience. These requirements are important for my chosen methodological approach, Interpretative Phenomenological Analysis. In the following chapter, I outline a methodology for engaging in this exploration.

APPENDIX C
EXTENDED METHODOLOGY

The purpose of this study was to explore counselors' experiences of learning principles of IPNB. I used a qualitative, phenomenological approach for this study. In this chapter, I outline my philosophical and methodological approach to the study. I also detail the procedures I followed, including selection of participants, data collection, data analysis, and attention to quality concerns.

Research Problem

The following questions guided my initial inquiry:

- 1) What are the experiences of counselors learning principles of interpersonal neurobiology?
- 2) How do these experiences impact counselors' view of or experiences with self?
- 3) How do these experiences impact counselors' view of or experiences with clients?

Interpretative Phenomenological Analysis

Phenomenological approaches to research are consistent with inherent philosophies and practices of counseling professionals (Hays & Wood, 2011). Wertz (2005) recommended phenomenology for areas of study that have little empirical research, such as the case with the current intended study. Finlay (2011) identified similarities between conducting phenomenological research and engaging in counseling, noting that both processes "involve similar skills, values, and interests, like interviewing skills; critical, reflective intuitive interpretations; inferential thinking; bodily awareness; and a capacity for warmth, openness, and empathy" (p. 7). Phenomenological researchers seek to assess rich details of participants' individual perceptions and ways of making meaning of particular experiences. Phenomenology allows for the necessary exploration, description, and holistic understanding of complex phenomena. Individuals engaging in phenomenological research are generally respectful and

appreciative of diversity, complexity, ambiguity, subjectivity, and issues inherent in experiences of living.

My specific methodology followed the Interpretative Phenomenological Analysis (IPA) framework as articulated by Jonathan Smith (2009). I selected this approach because my research questions are open and exploratory, directed primarily at participants' understanding of a particular experience (i.e., learning IPNB). The IPA framework is epistemologically consistent with these types of research questions (Smith, Flowers, & Larkin, 2009). In the remainder of this section I outline the philosophical foundations of IPA.

IPA is a relatively new method of phenomenological inquiry (Finlay, 2011; Smith et al., 2009). Smith formally articulated the approach in 1996 and more recently published a comprehensive textbook on IPA (Smith et al., 2009). The majority of published IPA studies originated in the fields of human, social, and health sciences in the United Kingdom (e.g., Knight, Wykes, & Hayward, 2003; Larkin, & Clark, 2010; McCandless & Eatough, 2012; McManus, Peerbhoy; Rizq & Target, 2008; Smith, 1999; Williams, McManus, Muse, & Williams, 2011). The approach is gaining popularity in North America (Nixon et al., 2013) and within the counseling profession (Tovar-Murray & Tovar-Murray, 2012). Although the specific methodology of IPA is new, many of the underlying philosophies are quite old.

Theoretical Underpinnings

The two major philosophical and theoretical underpinnings in IPA are embedded in the very name: *interpretative* (i.e., based on hermeneutic theory) and *phenomenological* (i.e., grounded in a first-person perspective). Most descriptions of IPA start with attention to phenomenology. Smith et al. (2009) defined phenomenology as “a philosophical approach to the study of experience” (p. 11). In the broadest terms, phenomenological researchers seek to assess

rich details of participants' individual perceptions of and ways of making meaning of particular experiences. Often the subject matter in phenomenological research is implicit processes of existence; aspects that often go unobserved or unexamined (Finlay, 2011). A number of scholars have contributed to the development of phenomenological philosophy, including Edmund Husserl, Martin Heidegger, Maurice Merleau-Ponty, and Jean-Paul Sartre. The IPA approach draws on many of these philosophers' ideas.

Husserl is credited with creating such terms as *phenomenological attitude*, *lifeworld*, *eidetic reduction*, and *bracketing* (Smith et al., 2009; Wertz, 2005). Husserl also emphasized reflection on everyday lived experiences, intentionality of consciousness, and identification of the essence of an experience. The philosopher's ideas are evident in IPA's central focus on describing individuals' reflections on their lived experiences and their meaning-making processes regarding those experiences. Researchers operating from an IPA perspective also incorporate elements of bracketing, setting aside automatic ways of perceiving in order to see experiences as they are in the present. The IPA approach differs from Husserlian phenomenology in that IPA researchers do not seek to find the essence of a given experience; rather, they focus on illuminating particular aspects of an experience for particular people.

Heidegger is credited with developing hermeneutic and existential focuses within phenomenology (Smith et al., 2009). Heidegger viewed individuals as always embedded within their environmental and relational contexts (i.e., person-in-context; intersubjectivity). Smith et al. noted that IPA researchers incorporate Heideggerian phenomenology into their work through the belief that "our being-in-the-world is always perspectival, always temporal, and always 'in-relation-to' something" (p. 18). Researchers using IPA place an emphasis on interpreting participants' reflective and meaning-making processes with regard to a particular experience.

Merleau-Ponty integrated elements of Husserlian and Heideggerian phenomenology. However, he placed a greater emphasis on the embodied aspects of person-in-context (Smith et al., 2009). An IPA approach incorporates Merleau-Ponty's attention to sensations, physiology, and body-in-the world. Stare is credited with furthering the existential roots of phenomenology, focusing on the developmental and "always becoming" nature of human beings, as well as the influence of *nothingness*. From an IPA perspective, individuals are always changing and are influenced by forces both present and absent in individuals' lived experiences.

A second major theoretical foundation in IPA is hermeneutics (Smith et al., 2009). Hermeneutics is a term used to describe the theory of interpretation. Scholars originally used hermeneutics as method for evaluating ancient texts and historical documents in an effort to understand intentions and meanings of an author or how context influences interpretation of meaning. As with phenomenology, many individuals have contributed to hermeneutic thought. Smith et al. identified Friedrich Daniel Ernst Schleiermacher, Heidegger, and Hans-Georg Gadamer as the three individuals most influential to hermeneutic thought as it relates to IPA. Schleiermacher emphasized the art of interpretation, highlighting the role of researcher intuition and the importance of examining participants' meaning making systems. This process can lead to researchers understanding implicit aspects of participants' experiences that perhaps participants were unable to explicitly express. Heidegger's most relevant influence in hermeneutics was his cyclical and dynamic explanation of bracketing. Smith et al. summarized Gadamer's continuation of Heidegger's view on bracketing, noting "our preconceptions are inevitably present" stressing the "dialogue between what we bring to the text, and what the text brings to us" (p. 26). Bracketing is an interactive and continuous process.

Smith et al. (2009) noted the importance of the hermeneutic circle in describing and explaining methods within IPA. The authors noted that a key tenet in IPA is that “the process of analysis is iterative – we may move back and forth through a range of different ways of thinking about the data, rather than completing each step, one after another” (p. 28). In line with hermeneutic theory, researchers are also recognized for exploring participants’ meaning making as well as their own meaning of participants’ meaning (i.e., double hermeneutics).

Characteristic Features

Smith (2004) identified the following characteristic features of IPA: idiographic, inductive, interrogative, and illustrating. In the most basic sense, idiography is the study of an individual or an individual experience (Larkin et al., 2006). Idiography is often contrasted with nomothetic styles of inquiry (Smith, 2004; Smith et al., 2009). Idiographic researchers are primarily concerned with understanding particular experiences of individual participants, whereas nomothetic researchers are concerned with making group and population level observations and predictions. The selection of participants (e.g., use of small, purposively-selected samples) and the detailed nature of analysis (e.g., single case analyses) are examples of an idiographic focus in IPA. Researchers following IPA analysis protocol conduct detailed analyses of each transcript or document of data at a time, moving on to cross-case analyses only after a reasonable degree of closure has been achieved with each single case (Smith, 2004). This process allows for researchers to present information about the specific life worlds of individuals, as well as more general themes derived from the cross-analysis. Smith et al. (2009) noted that “idiography does not eschew generalizations, but rather prescribes a different way of establishing those generalizations ... it locates them in the particular, and hence develops them

more cautiously” (p. 29). In this manner, idiography helps frame the meaning and implications of the results in an IPA study.

Although IPA includes both inductive and deductive methods, inductive reasoning predominates (Smith, 2004). Researchers using IPA engage in analytic induction, beginning with broad tentative hypotheses derived from scholarly literature and then revising them as individual cases are explored. Each aspect of the IPA process informs other aspects of the process, allowing for revision of hypotheses throughout the data collection and analyses phases. This approach is similar to many qualitative approaches but significantly differs from quantitative approaches that start with an a priori hypothesis and seek to prove that hypothesis. In IPA, the real meaning from a study is often what emerges from the process of the study itself as opposed to a pre-determined assumption or belief (Smith et al., 2009).

Smith stated that IPA has an inherent interrogative emphasis (Smith, 2004). The researcher noted that this focus links IPA and the larger fields of psychology-related disciplines (e.g., counseling). Smith noted that IPA studies should play a role in questioning and/or informing existing research. An essential component of IPA analysis is comparing the findings from a current study to the findings from prior or existing research.

Finally, IPA research is illustrating (Smith, 2004). As has been noted, IPA provides descriptive and interpretive accounts of participants lived experiences. Researchers using IPA illustrate these descriptions and interpretations throughout the final project (e.g., research report, scholarly article). Reports of IPA studies often include charts, tables, and diagrams illustrating themes and processes. Researchers almost always include raw data (e.g., excerpts and quotes) from participants within article texts as examples of themes or interpretive frameworks. Many scholars have worked to translate the philosophies of IPA into practical steps for conducting

research projects (Smith et al., 2009; Storey, 2007). I discuss these critical considerations and procedures below.

Procedures

A number of researchers have outlined basic procedural steps for conducting IPA studies (Smith et al., 2009; Storey, 2007). These researchers, however, have also urged for creativity and flexibility in applying such steps (Finlay, 2011; Smith et al., 2009). In the following paragraphs I describe my research protocol. Although my goal was to maintain consistency with the established IPA framework, I remained open to creativity throughout the research project.

Selection of Participants

Smith et al. (2009) recommended small sample sizes of relatively homogeneous participants for IPA studies. The aim is to obtain an in-depth detailed account of participants' experiences and/or understanding of particular phenomena. Most samples in IPA studies consist of approximately 5-10 participants (Smith, 2004). Smith recently called for researchers to apply the IPA approach with a single case (Smith, 2004; Smith et al., 2009). Smith suggested that if researchers are conducting analyses and find that a single case is particularly rich, they should stay with that single case and give it absolute treatment. Although on the surface it may appear that a single case produces less generalizable information, Smith (2004) argued that "delving deeper into the particular as takes us closer to the universal" (p. 42). Individuals have, at their deepest levels, much more in common, allowing them to connect with each other's experiences regardless of how different the circumstances may appear on the surface.

The population of interest for this study was mental health professionals who hold a license to practice counseling, have completed formal training in IPNB, and use IPNB in counseling practice. Consistent with IPA, I used purposive sampling to select participants

(Polkinghorne, 2005). I first sought approval from the University of North Texas Institutional Review Board (IRB). Once this approval was obtained, I contacted the director of NHBM. The director sent out an e-mail to all the individuals who participated in one of her two year-long courses in the application of IPNB. I included a summary of this training in course in Appendix B; a detailed course description is included in Appendix F. The e-mail included an invitation to participate in the research study as well as information regarding informed consent. A copy of this e-mail is included in Appendix F.

Within the text of the e-mail, I directed interested participants to complete an online demographic questionnaire that included questions about age, sex, ethnic identity, educational background, licensure, years of practice, location of practice (e.g., agency, private practice, university, school, etc.), populations served (e.g., children, adolescents, adults, couples, groups, families, etc.), and prior training in IPNB. A copy of this screening survey can be found in Appendix F.

A total of 11 individuals completed the demographic survey. I sent a follow-up e-mail to 10 participants inviting them to participate in an individual interview. The eleventh participant was not a mental health professional, a necessary requirement for inclusion in the study. Six participants responded to schedule an interview time. All participants were females who identified as Caucasian or European American. All participants also reported working in private practice setting and seeing clients across the developmental life span. Five participants were located in the West Coast, 1 in the Midwest. I confirmed with the director that participant demographics matched her sense of those who completed the course. Table C1 presents information about participants' age, licensure, and years of practice. Pseudonyms are used in an effort to ensure anonymity. Once interviews were scheduled, I reminded participants that I

would be asking about their experiences learning IPNB in the year-long course. I noted that this learning could relate to personal and professional areas of growth. Prior to the interview, I encouraged participants to review notes, reflective journals, or projects created over the course of the class.

Table C.1.

Participant Characteristics

Participant	Age	Licensure	Years of Practice
Helen	57	LPC-Intern	5
Pam	48	LPC	6
Vivian	50	LCSW	6
Susan	43	LMFT	7.5
Angela	43	LMFT	13
Anita	61	LMFT	29

Data Collection

My primary means of data collection was semi-structured individual interviews. Interviews are a useful means for gaining detailed and rich explanations of experiences and phenomena and are the most commonly used method of data collection in qualitative research, including IPA (Englander, 2012; Polkinghorne, 2005; Smith et al., 2009). Smith and Eatough (2007) recommended semi-structured interviews for IPA because such an approach allows for the researcher to follow interesting leads and for the experience between the researcher and the participant to guide data collection rather than allow a predisposed inflexible structure to guide the process. Due to geographical distance between researcher and participants, I conducted interviews using distance technology (e.g., skype and facetime). I video recorded five

interviews. I audio recorded a sixth interview. The interviews lasted approximately 45-60 minutes.

Although participants acknowledged consent before completing the demographic form, I readdressed informed consent before beginning individual interviews and activating the recording device. In accordance with the *ACA Code of Ethics* (2014), I explained the purpose and procedures of the study, acknowledged risks and benefits, discussed confidentiality, reminded participants of their freedom to withdraw from the study at any point in time, and allowed participants to ask me questions.

I began interviews with introductory questions to help build rapport and collect general information about participants' understanding and background in IPNB (Smith et al., 2009). I then used a grand interview question, followed by additional questions that helped further describe and illuminate the participants' experience of the phenomenon. The grand question was "What was your experience learning the principles of IPNB?" Follow-up questions included "How did your experience learning IPNB influence the way you thought and felt about yourself?" and "How did your experience learning IPNB influence the way you thought and felt about clients?" The entire interview schedule is included in Appendix F. After the interviews, I sent a follow-up e-mails asking two participants to clarify particular comments. I contacted all participants at the end of the data analysis process to engage them in a member checking protocol. This process is further described in the section regarding validity.

Research Partner

For the data analysis portion of the study, I collaborated with a research partner. One purpose of adding an additional researcher is to triangulate researcher perspectives (Yardley, 2008). Yardley noted that this practice "ensures that the analysis is not confined to one

perspective, and makes sense to other people” (p. 241). An additional researcher also contributes to the process of reflexivity. The research partner worked with the lead researcher to identify and explore assumptions and reactions that can influence the research process.

The additional researcher was a licensed mental health professional and a faculty member at a university located in the southwest region of the United States. Prior to joining this study, she completed advanced training in qualitative analysis and worked on a number of qualitative research teams. The research partner was also familiar with IPNB.

Data Analysis

After each individual interview, I transcribed recordings verbatim and saved transcriptions on a password-protected computer for secure storage. I destroyed the video and audio recordings after the analysis phase. In order to protect participants’ anonymity, I assigned each participant a pseudonym to use throughout the coding and reporting process.

There is no one right way to conduct data analysis within the IPA framework (Smith & Eatough, 2007; Smith et al., 2009; Storey, 2007). However, all IPA studies share the same analytic focus, namely attention to participants’ experiences and ways in which they make meaning of those experiences. Analysis in IPA can be summarized as “moving from the particular to the shared, and from the descriptive to the interpretative” (Smith et al., 2009, p. 79). Finlay (2011) synthesized common strategies and steps in IPA (p. 142):

1. Reading and re-reading – immersing oneself in the original data. Initial noting – free association and exploring semantic content (e.g., writing notes in the margin)
2. Developing emergent themes – focus on chunks of transcript and analysis of notes made into themes

3. Searching for connections across emergent themes – abstracting and integrating themes
4. Moving to the next case – trying to bracket previous themes and keep open-minded in order to do justice to the individuality of each new case
5. Looking for patterns across cases – finding patterns of shared higher order qualities across cases, noting idiosyncratic instances
6. Taking interpretations to deeper levels – deepening the analysis by utilizing metaphors and temporal referents, and by importing other theories as a lens through which to view the analysis.

Following these general steps, the research partner and I started by reading through all the transcripts to get an overall sense of the interviews. We then re-read the transcripts one by one making notes of any responses and/or questions. These exploratory comments included attention to descriptive, linguistic, and interpretative aspects of the participants' perceptions and experiences. Next, we recorded emergent themes on the right margin of each transcript, identifying key terms that seemed to capture the essence of the important components in the text. After we identified emergent themes, we began looking for connections among themes in an effort to cluster themes that seemed to reflect the similar experiences. We followed this same process for the remaining transcripts. For each participant, I identified super-ordinate and sub-ordinate themes and confirmed them with the participants. Once all the transcripts were individually analyzed and confirmed, I conducted cross-case analysis, identifying super-ordinate and sub-themes that best represented the shared experiences of participants and answered the research questions. I organized all themes into a table that presented superordinate themes, sub-themes, and exemplar quotations (Smith & Eatough, 2007; Storey, 2007). I also constructed an

analytic narrative. In the narrative, I used raw data to illustrate identified themes, as well as illuminate the interpretation process (i.e., account for differences in accounts or interpretations). This narrative is fully described in the results section.

Larkin et al. (2006) called for a distinction between first and second-order analyses. The authors noted that the goal in the initial phase of IPA analysis is to “produce a coherent, third-person, and psychologically informed description, which tries to get as ‘close’ to the participant’s view as is possible” (p. 104). The researcher and the participant influence this description; therefore, it can never be a purely first-person account.

In second-order analysis, researchers move beyond purely description toward interpretation. In this phase, researchers view “the initial ‘description’ in relation to a wider social, cultural, and perhaps even theoretical context” (p. 104). It is during this stage of the analysis that IPA researchers conduct a double hermeneutic, attempting to make sense of the participant making sense (Smith et al., 2009). Researchers rely on a number of sources to inform this level of analysis, including theory, intuition, and previous research. Multiple levels of interpretation are possible in IPA (Smith, 2004). Although Smith noted that researchers should stay as close to the text as possible, it is often appropriate and even necessary to bring in theory. Smith stressed that such interpretations are always speculative and should be presented in such a manner.

At this point in the research process, I contacted my participants once more and allowed them to review my results. This process is referred to as member checking, participant feedback, or respondent validation in qualitative literature (Yardley, 2008). I asked participants to comment on the degree to which I represented their stories accurately. All participants responded and confirmed the analysis.

Assessing Validity

The concept of validity, or quality, is viewed differently among phenomenological qualitative researchers than it is among quantitative researchers. Yardley (2008) noted that at a basic level, “evaluating the validity of research involves making a judgment about how well the research has been carried out, and whether the findings can be regarded as trustworthy and useful” (p. 235). For the purposes of this study, I followed the 4 R’s defined by Finlay (2011) and the four broad principles identified by Yardley (2008). Finlay’s 4 R’s include rigor, relevance, resonance, and reflexivity. Yardley’s four principles include sensitivity to context, commitment and rigor, transparency and coherence, and impact and importance.

In terms of rigor, I worked to align all my decisions and stages with the IPA framework. Philosophical consistency and integrity is critical in producing meaningful qualitative work (Finlay, 2011; Smith et al., 2009). This includes attention to sample size (small and homogenous), method of data collection (sufficient idiographic engagement), and thoroughness of analysis (detailed and comprehensive; descriptive and interpretative). I also sought to triangulate researcher perspectives in an effort to enrich the data analysis.

I also worked to maintain transparency throughout the research process (Yardley, 2008). I included important decisions made throughout the research process in the final write-up. I also engaged in a member checking process in which I share my final write-up with participants and ask for feedback regarding the accuracy and relevance of my interpretations.

In terms of relevance and importance, I took steps to connect my findings with the larger body of research on counseling and counselor education. I worked to fulfill my goals of significance, conducting my study in such a way that it will truly add to the empirical research base and provide guidance to counselors and counselor educators.

Finally, in an effort to strengthen the overall quality of the study, I engaged in researcher reflexivity throughout the research process. Researchers using IPA engage in a double hermeneutic in which they focus on “making sense of the participant, who is making sense of x ” (Smith et al., 2009, p. 35). The person of the researcher, with his or her prior knowledge, experiences, and biases, plays an important role in this sense making process (Smith et al., 2009). Researchers need to be aware of these influences in order to avoid use them inappropriately. This process is often referred to as bracketing in phenomenological literature (Finlay, 2011). Throughout the research process, I reflected on my prior knowledge, experiences, and biases. I engaged in reflective journaling, noting my thoughts and feelings related to various aspects of the research process. At times I had to suspend these constructs in order to see the present phenomena with openness and curiosity; however, at other times I openly used these constructs to inform the interpretative phases of the research process. I also maintained dialogue with my supervising researcher and research partner to identify preconceptions and evaluate their impact on the research. With my supervising researcher, I reflected on the interviewing process, reviewed transcripts, and debriefed throughout the experience.

I was aware from the beginning of the research process how my prior experiences and knowledge may impact the research process. My interest in the subject stemmed from my personal experiences learning IPNB. I have attended multiple workshops by experts in the field of IPNB. I recently completed a certificate training program in IPNB through the Mindsight Institute. I worked closely with the instructor of the course that my participants took in the study, although I have not taken the specific course myself. I have found great value in applying IPNB both personally and professionally. I was cautious, however, in not letting what I value

about IPNB unduly influence the questions I asked during the interviews or the ways in which I respond to and interpret the data.

APPENDIX D
COMPLETE RESULTS

In this chapter, I present the results of an IPA study exploring mental health professionals' experiences learning IPNB. A research partner and myself conducted thematic analysis according to IPA recommended protocol (Smith et al., 2009). The researchers identified four super-ordinate themes and nine sub-ordinate themes across participants. The themes are represented in Table D1.

Table D1

Themes

Super-Ordinate Themes	Sub-Ordinate Themes
1. Learning process as dynamic and engaging.	1.a. Experiential learning 1.b. Learning through group process
2. Deepening knowledge and understanding of self and others	2.a. Influence of the past on the present 2.b. Increased understanding of the change process
3. Personal and professional growth	3.a. Increased compassion, empathy, and acceptance for self and for others 3.b. Increased confidence
4. Impact on therapeutic practice	4.a. Using IPNB to conceptualize clients 4.b. Using IPNB to select interventions 4.c. Using IPNB to educate clients

The researchers identified additional patterns embedded within and across themes. These higher-order constructs reflected the ongoing and evolving nature of learning and the characteristics, values, and backgrounds of the participants and the instructor. A complete diagram of the themes and higher-order constructs is represented in Figure D1.

Also represented in Figure D1 is the directional flow of the themes. The themes seemed to emerge in participants' stories in a somewhat linear manner, beginning with the actual learning process and ending with its impact on therapeutic practice. Changes in understanding seemed to precede changes in attitudes and behaviors. This entire linear flow was cyclical in that when new experiences occurred, participants cycled back through the change process.

Figure D.1. Cross-case analysis diagram.

Super-Ordinate Theme 1: Learning Process as Dynamic and Engaging

All of the participants described learning experiences that were dynamic and engaging. The participants noted the use of multiple instructional methods that allowed the material to come to life within themselves and within the learning community. The participants regularly used the terms “deep,” “rich,” and “intense” to describe their learning experiences.

The process seemed to evoke a wide range of positive and negative emotions within participants. Many of the participants described feeling relief from gaining new insights or

healing old wounds, support from encouraging group members, and excitement from feeling a sense of resonance and intellectual intrigue with the subject matter. Some participants also reported feeling anxious and fearful at times, most often in relation to interpersonal work that triggered attachment insecurities or intrapersonal work that brought into awareness difficult life experiences. There was a sense that learning IPNB in an experiential manner was not always *comfortable*. In the following paragraphs, I describe prominent sub-themes that further illustrate participants' perceptions of their learning processes. I include excerpts from the participants that illustrate each theme. I used pseudonyms in an effort to maintain participant anonymity.

Sub-Ordinate Theme 1a: Experiential Learning

All six participants identified experiential components of the course as most meaningful to their learning. Many participants noted that they appreciated the didactic information, but found the experiential pieces most valuable:

It was all the experiential stuff that stands out . . . I mean the didactic stuff was great as well, but being able to experience it, you just learn it in a very different, deeper way.
(Vivian)

I was very comfortable with it being experiential . . . she is giving tons of didactic stuff, it's just there is not a black board . . . it's much more of a right brain format [to learning].
(Anita)

For some participants, the experiential component was somewhat unexpected. They came into the course expecting to learn how to apply IPNB to their clinical work, but they found that much of the emphasis was on applying IPNB concepts to themselves. They were surprised to the degree that people would use the learning experience for personal growth and healing, as the following excerpt highlights:

I didn't go into it thinking this was going to be group therapy for some people . . . it was a gift to be able to watch that process . . . in some of these members. (Angela)

In some cases, participants were surprised to the degree which they would use the learning experience for their own healing:

I wasn't sure it applied to our own personal stuff . . . but I had just been hitting into a confluence of things that I realized were deep and rich and really struggling to work through . . . just a huge powerful, powerful experience with a very early memory. (Helen)

I didn't see that [the therapeutic enactments] coming . . . actually I didn't see any of this coming. (Susan)

Three specific experiential activities participants brought up most often were listening partnerships, sand tray exercises, and therapeutic enactments. In almost every interview, participants talked about their listening partnership experiences first, explaining in detail the emotions that the relationship evoked and the IPNB concepts that it brought to life. Some participants found that their partner was the perfect person to highlight aspects of their attachment styles or implicit patterns from family-of-origin experiences. Other participants referred to their listening partners as more so a safe person with whom they could explore their own learning in a more intimate and personal way. The participants talked often about connecting with their listening partners to explore the concept of inner community, most notably the role protectors played in their lives. There was a sense in all of their narratives that these exercises took a great deal of vulnerability and trust in the instructor and the other group members. Many participants spoke about the experience of anxiety inherent in growth. The following excerpts illuminate participants' perceptions of the various experiential activities:

I think it was an amazingly effective way to demonstrate the distress and the comfort of implicit memory and how we make sense of ourselves. (Tammy, referring to the listening partnerships)

It was a great way to be able to go deeper with someone into the things you were learning. (Vivian, referring to the sand tray work)

We would do work together, working with sand trays and then just being able to have a felt experience about what was produced there and be able to have someone to share that with. (Helen)

Participants reported that the experiential learning opportunities allowed them to gain an embodied sense of the material. Embodied learning is difficult to define, but in general embodied learning conveys a sense of deep learning beyond mere intellectual comprehension. Participants who had taken courses or workshops in IPNB before this learning experience noted a shift from knowing the information intellectually to feeling the concepts within themselves. Many of the participants evoked the term “felt sense” when referring to aspects of their learning:

I have a more embodied sense of how it’s working in the brain . . . the felt sense of the understanding of how those parts work together. (Angela)

Just doing it and being, being in it, embodying it, is very different than just learning about it. (Vivian)

We were not just learning about it, we were living it. (Anita)

All participants demonstrated openness to this active and personal way of learning. There was a sense that they brought their whole selves to the experience: their histories, pains, strengths, and weaknesses. Many of the participants conveyed a sense that this way of learning was difficult, but worth the challenge in the end.

Sub-Ordinate Theme 1b: Learning Through Group Process

A second sub-ordinate theme relates to group process. From accounts of the participants, much of their learning seemed to occur as a result of their participating in and/or witnessing group process at work. The instructor facilitated therapeutic enactments, demonstrated pieces of counseling work with group members, and encouraged connection through rituals of eating,

resting, and engaging in mindfulness exercises and bodywork. The participants reported exploring various IPNB principles through group process, including the impact of history, attachment theory, the role of new experiences in the change process, and implicit memory. Some participants chose to volunteer for therapy work, whereas others preferred to play the role of observer. In both cases, participants recounted meaningful learning from interactions with other members of the learning community.

Many ways in which participants recounted learning evoked concepts related to Yalom's therapeutic factors in group therapy (Yalom & Leszcz, 2005). The participants spoke often about feeling connection and cohesion with other group members. This connection itself seemed to have a healing effect:

I met people I will never forget . . . that live inside me. (Susan)

all of the sudden instead of a very old pattern that I have had, of being isolated, seeing myself as separate, all of the sudden, just all this love in the room, all these people that were just there, were meeting my gaze, were just being present with me. (Helen)

The participants also talked often about learning through observation. Yalom and Leszcz, (2005) referred to this manner of learning in a group as interpersonal learning and imitative behavior. They reported an appreciation for being able to watch IPNB concepts come to life within group members and within the group itself as they watched the instructor engage in IPNB-informed interventions:

Watching [IPNB concepts] move in our class, in our group, was really powerful. (Helen)

People would have these experiences and it was, um, that was very impactful as well . . . to watch Bonnie work . . . just seeing people without having to use too many words, seeing people just feel these big shifts . . . really powerful. (Vivian)

I think watching Bonnie work and seeing how . . . she did a piece of work with someone and just watching the way that she was with people helped me feel like it's okay to like kind of sit back more and be more subtly active. (Tammy)

The idea of recapitulation of family-of-origin issues within the group came up often as well. Many of the participants noted that the learning community felt like a family and often brought up feelings similar to those experienced with their families-of-origin:

We did this in a group environment and anytime you do a group, it, it takes on almost a family, at least this one did, took on more of a family felt sense. (Angela)

In some cases, this mirroring of family-of-origin figures allowed for personal healing in a new way:

That [group component] really brought up that, a lot of our own issues around family and around our own attachment and safety, and what was getting triggered. (Anita)

Finally, members reported feeling a sense of universality and altruism through the group experience. For example, some participants had not experienced trauma in their own childhoods, but they were able to see the impact of such experiences through observing within the group. Other members noted that they were able to gain a sense of normality in their own experience through hearing the stories of others. The participants also spoke about feeling positive about the role they played in helping other members.

There was such a wide range of things that were big for people . . . whether it is in family dynamics or friendships or something that had happened at school . . . for those balls of empathy to come to the surface, it really is very clear to me that there is a piece of all of our experiences in everybody. (Angela)

It was just fun to empty myself and really be and try to be what they needed me to be. (Susan)

Super-Ordinate Theme 2: Deepening Knowledge and Understanding of Self and Others

A second predominant pattern among cases was the deepening of knowledge and understanding of self and others. The participants conveyed a sense that their very philosophies

on human nature, development, and the nature of change expanded, and in some cases completely changed, as a result of their learning experiences in the course. In the following paragraphs, I elaborate on two distinct sub-ordinate themes that emerged in this category.

Sub-Ordinate Theme 2a: Influence of the Past on the Present

All of the participants indicated growth in their understanding of how past experiences, most often early family-of-origin experiences, influence current functioning. The participants discussed how past experiences are internalized and filter present perceptions, cognitions, affect, and behaviors. As with many of the concepts, this learning seemed to occur first through an understanding of their own experiences:

I think that, I, the most compelling thing that I have realized is how really . . . the impact of my role in my family-of-origin and how I duplicate it now. (Anita)

It shifted my paradigm about who I was and how, how I came to be . . . I think that the course added a really unexpected dimension to my understanding of who we are . . . like how we are made up . . . it made everything fall into place. (Tammy)

Participants also began to see others in a deeper way:

A surprising depth to people . . . I was fascinated by, oh my word, there is so much more . . . I had absolutely no idea. (Susan)

The IPNB concepts most often associated with this increased understanding were attachment theory and implicit memory:

After going through Bonnie's training, it's like, well, now you can have little pockets of avoidant and pockets of disorganized, and . . . it really helped me to look at that [attachment theory] in a different way. (Vivian)

There is an essence of connectedness that we all share because that's the attachment process from early on . . . a lot of that stuff can be traced back so early on . . . to what the

present is . . . the biggest learning piece for me has been how I've developed . . . understanding of how all of this can affect you throughout a lifespan. (Angela)

Learning too that the ways that I was thinking about myself and the world and the people in it, I had learned those things before I could speak . . . I had learned it by watching and learning how to stay safe in a really unsafe environment. (Tammy)

The participants found that learning about how brains develop through relationships helped them makes sense of their own experiences and the experiences of clients. This understanding seemed to contribute to developing and/or affirming a non-pathological view of self and others:

How that implicit memory can flood us and it just becomes the present moment truth all over again, and we don't have a time stamp on it, we don't realize that it is actually a replay . . . awareness of implicit memory and the impact that it has and how debilitating . . . this used to keep us safe and now it is in our way. (Helen)

They are not, you know, all these things make sense that they are doing . . . these are traumatic responses. (Tammy)

Sub-Ordinate Theme 2b: Increased Understanding of the Change Process

All participants reported increased understanding about how people heal. The concepts most frequently associated with this theme were neuroplasticity, disconfirming experiences, integration, the role of relationships in change, and the importance of acknowledging and fully experiencing emotions. The concept of neuroplasticity seemed to foster a sense of hope that change was possible. Many participants spoke about their understanding of neuroplasticity and the sense of hope that such knowledge can inspire:

The fact that we do have so much more possibility to influence our state of being and our health . . . it gives people some sense of empowerment . . . and hope. (Anita)

We used to believe that attachment damage done early in a child's life, if they were not met in the right way that it was over and done . . . and now they are finding that . . . you

can create those networks that we used to think were only limited to the first couple years of life. (Helen)

Many participants evoked the idea of disconfirming experiences when talking about their understanding of change. They referred to their own experiences in the course as disconfirming, and they recalled talking to clients about the power of disconfirming experiences in changing the neural structures of the brain:

The more new experiences that are positive you have, the more likely it's going to be disconfirming that this is going to be everything that it has been for fifteen years . . . we all have the capacity to do that. (Angela)

It's been really helpful for me to have a framework . . . and to realize for myself that the more I can have disconfirming experiences, the more I can really calm down that vigilance and be more present. (Anita)

memory gets stored back again and now there is a 'we' in there, somebody witnessed it . . . and that in of itself is so healing. (Helen)

Another piece of significant learning regarding the change process seemed to be the role of relationships and emotions in healing. Participant described the central role relationships play in the change process:

When you are present with someone who can connect with you, that actually. . . that part of our brain that understands attachment can actually be healed . . . if we are in solid enough resonance with them, they can actually be building circuits off of our solid places in our ability to hold space and challenges and the like. (Helen)

It's hard to put into words sometimes, but just being with that young self and making enough room for everything that she was experiencing to be allowed . . . and allowable . . . let her, I think, connect with these very very wounded parts and for us to see what it was they needed. (Tammy)

your presence . . . your caring . . . being in the right brain and being accepting and regulated . . . that's the most important piece. (Vivian)

Finally, participants reported appreciating learning about specific brain functions and structures involved in change. They noted that they believed this knowledge helped validate what works in counseling, namely a relational focus that acknowledges the important role of emotions:

It's giving us this deeper understanding and kind of a validity . . . we're seeing the science behind what we are doing and hopefully it is influencing us as therapist to work in a different way and validating that, at least a lot of the stuff that we've been doing, that there is a reason why it works. (Vivian)

I think for the very left brain, still left brain shifted portion of our population, within the counseling community, [IPNB] probably is a bridge . . . to say 'no, this [emotion] is really happening, so it is really okay to use this. (Helen)

I love that she [taught the science of IPNB] first because it grounded you . . . and why you are going to be risky later. (Susan)

Understanding more about what is happening in a person's brain and where are these feelings are coming from . . . I just don't know how I would have worked with this person . . . I mean I have an idea we would probably do a lot more EMDR and I do still really feel like EMDR helps . . . it's just that when you are working with somebody that is so deeply traumatized, going in there with the big drill is not what they need. (Tammy)

Super-Ordinate Theme 3: Personal and Professional Growth

All participants identified ways in which learning IPNB served as a catalyst for personal and professional growth. Whereas the preceding super-ordinate theme attended to changes in philosophies, this theme reflects changes in attitudes and behaviors. Participants' shifts in philosophies about development and change seemed to influence shifts in the ways they thought and felt about themselves and others. They spoke of healing and transformation:

Now I am really moving, I am really having a different experience of being able to reach out, connect, stay connected. (Helen)

I think it's been a real gift and it has really helped me . . .the whole year was one huge disconfirming experience. (Anita)

Being steeped in this for a year, you know, it really changes who you are and how you work . . . it was a deeper kind of work than I have ever done . . . it's very freeing, it's very liberating . . . I am much more integrated now that I was a year ago. (Vivian)

Specific areas of personal and professional growth are further described in the sub-themes.

Sub-Ordinate Theme 3a: Increased Compassion, Empathy, and Acceptance for Self and for Others

The participants reported increased compassion, empathy, and acceptance for self and for others as a result of learning IPNB in the course. Some participants specifically reported less self-blame and less shame. Many of the participants conveyed a sense that knowing the neurobiology, specifically regarding implicit memory and the stress response system, helped them normalize and make sense of experiences:

I was totally hooked on IPNB because it felt like my understanding of what was going on was not a problem with myself, but that figuring out where my “self” resided. . . I have got a brain in my heart, and a brain in my belly, and that's why all of this is going on . . . it just made so much sense in terms of I am doing these things for reasons that don't have to do with weakness or being damaged or any of the things . . . they are about neural networks. (Tammy)

I think I have more self-compassion . . . I feel more integrated myself after having gone through the experience. (Vivian)

Understanding the nature and the function of implicit memory . . . there is compassion and understanding that is generated for me in so many contexts . . . it's just to realize when somebody has gotten something triggered and they are inside that . . . that just raises my compassion and my understanding of what is going on. (Helen)

Along with changes in attitude, participants reported a sense of opening up to a wider-range of experiences. They noted feeling more curious about emotions, bodily sensations, and thoughts. There was a sense in their narratives that they were more aware and observant of their inner worlds and the inner worlds of others and more able to be present with that world. They also noted feeling more tolerant of certain emotional states within themselves and within others.

I think it [learning IPNB] has given me more empathy for myself . . . compassion . . . curiousness . . . some openness of slowing down and observing what I am doing or how I do things. (Susan)

I really do, when I get triggered, I know, I know what's happening . . . and I try to pause, to walk away, and really with curiosity. (Anita)

Bonnie spends quite a bit of time with us as we are setting in, or coming back from a break, or whatever, but is really being present with our heart sense, and our gut sense, and that wisdom that is not just 'brain', but also that body sense, so we were always working on staying very present, so I also use that. (Helen)

Sub-Ordinate Theme 3b: Increased Confidence

Many participants reported that learning IPNB increased their self-confidence. They said they found that as they were able to attune to their bodies, they were able to better trust their intuition. Some participants reported feeling more confident working in the world of emotions:

reinforced my own intuitive strength . . . it gave me confidence that I could do that . . . that I could feel someone's overwhelming need and I could hold myself intact with that [emotion]. (Tammy)

it helped confirm my sense of being with clients . . . to trust myself in the client/therapist relationship. (Helen)

Additionally, many participants reported feeling increased confidence as clinicians. They referred to using IPNB as a framework to help them make better sense of the people they were working with in counseling:

Anchoring in the IPNB [approach] has been really powerful . . . it gives me a better foundation . . . it has amped up my confidence in working with [clients]. (Helen)

Some participants also reported feeling more confident with therapeutic interventions as a result of their experience in the course, specifically related to the bodywork and sand tray activities:

I have always done some guided meditation with people, but Bonnie's class . . . has me doing it more with people and feeling more comfortable doing it, like in individual sessions. (Vivian)

Super-Ordinate Theme 4: Impact on Therapeutic Practice

The final group of super-ordinate theme relates to the ways participants reported that learning IPNB impacted their therapeutic practice. Almost all of the participants explicitly said their learning had greatly impacted their therapeutic work. Others demonstrated the impact through stories about clients. Specifically, learning IPNB seemed to change the way the participants' engaged in psychoeducation, client conceptualization, and selection of interventions.

Sub-Ordinate Theme 4a: Using IPNB to Conceptualize Clients

Interwoven throughout the interviews was a sense that the participants were viewing their clients through an IPNB lens. They labeled clients' attachment styles, they described how clients' histories impacted their current functioning, they spoke about using the therapeutic relationship to create disconfirming experiences, they noted nonconscious processes, and they talked about the importance of acknowledging and holding clients' emotional experiences:

for her to be attuned to her body . . . because she had some ruptured attachment with her Mom too . . . but not to the degree of her daughter that she adopted . . . what IPNB does is allow for her to be with the little girl in her, compassionately, and her own mother who was abused, but then also she gets to be with her daughter's earlier memories. (Susan)

And it's interesting because in terms of her attachment, her attachment is definitely avoidant attachment. And what got touched when she had this traumatic experience was that someone got through. And she felt connected to another human being adult for the first time in her life. (Anita)

it's been really helpful in my work, in my own work, and then my work with my clients about 'how is what you are doing right now helping to keep you safe but it is actually keeping you locked in these patterns of not feeling loved and connected. (Tammy)

especially when her description of it is ‘I can’t do anything different’ . . . it’s like, ‘oh this feels like an implicit well, this feel like something stuck in that place. (Helen)

everybody needs a space to be held for whatever experience they are bringing into the room . . . and to recognize if there is one of those protectors that comes up so that . . . felt sense of something closing off to be able to acknowledge ‘what is that part that is closing off’ and if it can be acknowledged for where it is coming from, then I feel like there is a truer sense of me being able to be present in the room for them. (Angela)

Sub-Ordinate Theme 4b: Using IPNB to Select Interventions

In addition to conceptualizing clients through an IPNB framework, participants reported engaging in new interventions based on their learning of IPNB. Participants talked about recognizing the limitations of talk therapy and the necessity to connect with clients in more experiential, right hemisphere ways. They reported using more mindfulness and sandtray interventions. They also reported increased use of emotion-focused interventions:

Well if you are hurt, the theory is that you should heal, right? You should be able to heal . . . but understanding how that happens, it’s not going to happen by, you know, reading the book and filling in the worksheet about the thoughts you are going to think instead when somebody triggers your attachment stuff, you know . . . that’s just not going to happen. (Tammy)

They described doing more bodywork with clients and spending more time simply feeling and containing emotional states:

whereas before if someone were feeling emotional and uncomfortable, I, I wouldn’t have stopped and said well ‘now where in your body are you feeling that?’ And kind of ‘Let’s honor that and let’s breathe through that’ . . . it’s very different than the, um, you know, staying in your head, you know, that I probably did more of before. (Vivian)

One of the new areas that participants reported incorporating most was inner community work. They noted that they talked with clients about this concept and engaged in interventions

that allowed clients to acknowledge and appreciate aspects of their inner community (e.g., protectors, guardians):

It's about feeling better and feeling our way to where the hurt parts are . . . because you can't just talk about them . . . most of the hurt parts are not in the language place.
(Tammy)

The inner community work is something I have done with some clients . . . would like to do more of, and you know, kind of looking at those pairings and look at the protectors.
(Vivian)

Another thing that is different for me in my work is, you know, kind of first the understanding about the gut brain and the heart brain . . . more body based work.
(Vivian)

Many participants reported a shift in their therapeutic approach. They noted greater emphasis on slowing the therapeutic process down, using immediacy with clients, and attending to relational, less directive, aspects of counseling. There was a sense that participants trusted clients' self-directive capacities to a greater degree:

It has come to my attention through doing this work that what they, they are the compass and I am part of that vessel that holds whatever comes into the room . . . and that's been an amazing shift in my therapy . . . that piece of knowing that they really, they just need a holding space for whatever it is that they need to bring into the room . . . and to be able to sit in that stillness . . . slow things down. (Angela)

The participants reported operating more out of their right hemispheres:

while I have always considered myself more of a right hemisphere person, I realized that I was probably a little too left brain in my sessions and so, you know, that is something that I really pay attention to, trying to stay more in the right mode . . . aware of the, you know, what's happening in my body and noticing what's happening in their bodies and so, you know, trying to kind of stay more in the right brain. (Vivian)

I could name what I was seeing and what they were experiencing, but I was . . . what I was doing when I was naming it was not being with it, I was immediately taking it into this left hemisphere making sense of it place . . . without allowing it to kind of fully unfold. (Tammy)

Sub-Ordinate Theme 4c: Using IPNB to Educate Clients

Many of the participants reported using IPNB concepts to educate clients. They recounted teaching clients about IPNB concepts in an effort to normalize experience, provide rationale for interventions, and foster hope for change. Specific areas of education included the hand model of the brain, physiological responses to stress, implicit memory, the embodied brain (e.g., heart brain, gut brain, skull brain), and the influence of history on current functioning (e.g., inner community and attachment theory). Although participants varied in the degree to which they felt comfortable using technical neurological terms or labeling specific behavioral manifestations, they all gave examples about how they talked to clients that included direct or indirect neuroeducation:

I teach [clients] how I see the mind first . . . almost like what Bonnie did for me, by grounding me in why we are here, what we are going to do, before we go and do it. (Susan)

Communicating that idea [hand model of the brain] to my clients helps them outside understand like ‘oh my, my amygdala just went off’ . . . you can give somebody immediate relief by showing them the brain in the hand. (Tammy)

I teach [clients] about the brain . . . flipping their lid, and that a trigger is actually a clue for curiosity and empathy . . . and sometimes we also simply talk about the whole idea of the amygdala and if you are worried about something it’s going to set you off. (Anita)

Many of the participants reported positive responses from clients when teaching IPNB concepts.

And talking to clients about that [implicit memory] . . . it just . . . opened up a whole buy in from them, I don’t know that I have gotten any resistance when they are clear about that sense of the implicit memory. (Helen)

I can speak to the belly and to the heart, and . . . these things people respond, believe it or not, so well to. (Susan)

Higher-Order Constructs

In addition to the super-ordinate and sub-ordinate themes, three higher-order constructs emerged from the analysis that appeared embedded within and across cases. These constructs reflect the nature of the learning process itself and the individual traits that greatly influenced that process. The higher-order constructs served to contextualize the more discrete themes already described. The higher-order constructs include learning as ongoing and evolving, the person of the participant, and the person of the instructor.

Learning as Ongoing and Evolving

All of the participants conveyed a sense that their learning was ongoing and evolving. Participants brought knowledge and conceptual frameworks into learning IPNB and built upon those frameworks throughout their learning experiences. Despite the length and intensity of the course, many participants still considered themselves at the beginning of their journey to truly understand and apply IPNB:

Even though I have done this training I still feel like I am just on the edge of really knowing it . . . I use the word understanding loosely because, you know, I still feel like I, you know, even though I have studied this now for over a year, I still feel like I am new at it. (Vivian)

[I am] beginning to learn how to put it into language so that I can communicate that with a client. (Helen)

The conversation you and I might have in two years might look really different because there will have been a big enough well of experience that I can draw upon . . . you are in my infancy stage. (Angela)

Additionally, many of the participants' narratives suggested a developmental process to learning IPNB. Participants used terms such as "unfolding" and "evolving" to describe their learning process.

I can't unfold everything at the same time. (Anita)

so trying to find those two places that can co-exist together is the unfolding part. (Angela)

to have a felt sense for the person on the other end and then still be able to move forward with whatever the agenda was for that meeting . . . that's, that's going to be the really interesting piece for me . . . to see how that evolves. (Angela)

Some participants shared how they envision continued learning in the future, connoting a sense of anticipated progress.

I love IPNB and if that could be my only theoretical orientation then that would be wonderful, but I cannot figure out how to make that be true right now. (Helen)

I will probably always study it . . . until I feel, umm, as if I can teach it to the ones I work with . . . you know, at a level I am comfortable with. (Susan)

Person of the Participant

All of the participants seemed to share characteristics, values, and backgrounds that were well-matched for the subject matter and the structure of the course. They all demonstrated a sense of openness to learning new concepts, an ability to be self-reflective, and a strong commitment to their personal and professional growth. For example, when one participant was first introduced to IPNB by a colleague, she responded:

I didn't know anything about it [IPNB] . . . I said 'sure, I am open'. (Anita)

Another participant talked about her struggle to find time to read about IPNB on her own. She said she decided to attend the year-long program in an effort to immerse herself in the material. She conveyed a sense of openness to the learning experience:

I am just going to go up there . . . to explore whatever it meant to do this stuff. (Angela)

Many of the participants demonstrated self-reflective tendencies. They referred to their own personal therapy experiences and identified ways in which they were learning to make sense of their own histories and current ways of being:

for a long time I have been working on that stuff . . . and I had really come to a nice place that I am at even before this [course]. (Susan)

my therapist and I had done some of the pieces of work, which is what I think heightened my awareness. (Helen)

I am really just realizing how much I have contained all my life . . . and how that has been my, my way in the world to make sure everybody is okay around me. (Anita)

Many of the participants shared a belief in the interconnectedness of who they are as people and who they are as professionals. They seemed to believe that self-growth was the first step to professional growth. Many participants conveyed the sense that they wanted to engage in the very experiences that were going to ask clients to engage in for healing:

It's important for me also to try things that are vulnerable because I ask that every day of clients . . . and so I just value putting myself in situations that are uncomfortable. (Susan)

It's not going to be experienced as authentic if it's not . . . if I don't understand my own right brain and left brain processes. (Angela)

It's funny, you know, I finally understand something and boom it shows up in my work. (Anita)

In addition to the year-long commitment participants gave to this course, many of them reported staying in an extension of the learning experience for another year or joining a different group led by the same instructor. The participants identified IPNB texts they were in the process of reading and noted goals for their future learning. Many of the participants expressed a desire to teach IPNB to others:

being able to communicate it to someone else who is curious . . . maybe being able to turn around and teach it to other therapists . . . being able to communicate it to others so that they get a felt sense. (Helen)

I would really like to bring it more to parents . . . sometimes I think about, well maybe I should do something on a smaller scale, like Bonnie does, to parents, so that they can have this knowledge in working with their children . . . definitely I will continue studying it. (Vivian)

At least three of the participants are already teaching IPNB to others. One participant reported teaching IPNB to her supervisees, one participant talked about her inclusion of IPNB in cultural diversity trainings, and another participant talked about her efforts to integrate IPNB into a graduate seminar course.

Participants' personal lives outside of the course also seemed to impact the ways they learned IPNB. Participants faced issues ranging from divorce to death of a close family member. In such cases, the individuals reported using the learning experience for growth and healing. Some individuals, however, talked about the limiting nature of external influences. They noted that work and family obligations limited the amount of time they could invest in learning IPNB outside of the scheduled weekends.

Finally, all of the participants noted past experience with IPNB-compatible frameworks, including mindfulness, Eye Movement Desensitization and Reprocessing (EMDR), existential-humanistic theories, non-violent communication, Neuro-Linguistic Programming (NLP), Dialectical Behavior Therapy, and relationally oriented therapies. They reported feeling excited and energized by the science underlying IPNB. They talked about IPNB fitting with and building upon their prior knowledge:

[IPNB] also fits in with my background. (Helen)

it excited me more than anything had in a long, long time . . . and it felt like a coming together of everything I had already learned with my life experience that this was sort of the 'oh, okay, so this is what's happening' . . . the whole flipping your lid, I mean all that

stuff is very similar to when I talk to people about what's the need that is not, isn't getting met . . . because non-violent communication is very need, consciousness based. (Anita)

I knew that I would become a therapist and focus on EMDR and sort of more brain based physiological approaches because my experience in talking was that maybe I solve some of my day to day problems or learned some new thoughts and behaviors, but I never got to the part that hurt. (Tammy)

I was doing a mindfulness work with anxiety and relationships. (Susan)

Person of the Instructor

As participants told their stories of learning IPNB, it was clear that the person of the instructor played an integral role in their experiences. Many of the participants reported first meeting the instructor in another educational setting and being so intrigued by her ability to teach neuroscience in a relatable manner that they felt compelled to learn more from her specifically:

And when I met her, I instantly liked her . . . when I shook hands with her, it was just this 'yep, I, whatever you are doing, I have got to follow more of. (Susan)

I went to one of Bonnie's classes, loved it . . . and said 'how can I get more of you'? (Anita)

And one day I found Bonnie's book . . . it was like 'yes, yes, yes, yes' you know, it was just like 'yes!' . . . I thought . . . I just want to go sit on this woman's porch . . . I don't even care if she talks to me . . . I feel she just gets it and if I could just sit by her, I could just start to get this on like, an all the way through. (Tammy)

The participants spoke about the instructor's warm and authentic way of being. They also held in high esteem her intellect and ability to communicate complex neurobiological principles into more easily understood concepts for application in clinical practice:

she does her work in a genuine, compassionate way, but yet she knows her stuff. (Susan)

she had taken everything I had learned and just deepened it so much and she is constantly pulling out, it feels like the essence of healing using our brain, and our bodies. (Tammy)

it just spoke louder to what I have already kind of always felt, but Bonnie is able to articulate it so beautifully. (Angela)

she has no idea how it just seeps out of her. I mean there's, she, she has such a handle on this stuff. . . .and she, I mean she is quite brilliant and she is so understated. (Anita)

so this to me is really complex information, right, that we are getting about the brain . . . and Bonnie has a way of explaining it that I can understand it and apply it. (Vivian)

Areas of Divergence

As is highlighted in the themes, a number of areas of convergence emerged in the participants' narratives. However, there were some areas in which the participants differed. One such area relates to prior IPNB learning experiences. Anita and Tammy had much more formal exposure to IPNB before the start of the learning experience central to this study. They had taken one or more graduate courses in IPNB and had been part of a consultation group with the instructor for over a year prior to the start of the course. Susan and Vivian had taken a one-day workshop with the instructor before deciding to pursue more intense training. Angela and Helen, on the other hand, had been introduced to IPNB through professional colleagues shortly before beginning the course and had little to no prior IPNB knowledge. These differences in exposure and experience likely impacted their different levels of learning and integration in the course. These differences were associated with a second area of divergence, the degree to which participants felt confident applying IPNB in their clinical work.

The two participants who had the most prior training, Anita and Tammy, demonstrated the most confidence in integrating IPNB into their work. On average, these participants reported using more technical IPNB terms with clients. Angela, Vivian, and Helen expressed the most hesitancy in using technical IPNB terms:

I don't feel versed enough to be able to explain to [clients] well enough yet . . . I need to feel confident enough as well that if they have follow-up questions about it, I am able to articulate whatever those are. (Angela)

I don't talk about attachment in those terms, in those technical terms . . . I don't think I feel comfortable enough to do that. (Vivian)

Get more facile with being able to express it to clients . . . what I really want to do is get more and more familiar with all the different pieces of the 'it's the neocortex that does what? (Helen)

Another area of divergence is the consideration of culture in understanding IPNB. Two participants, Anita and Angela, spoke in depth about how culture impacts brain development. They noted the importance of understanding clients' cultural backgrounds and trying to impact cultures at large in order to influence more healthy brain functioning:

We are supposed to be connected and it's challenging in a culture that from the very onset has been pioneers to be able to stand on your own and not need everybody else, but it's so counterintuitive for how our brains are mapped. (Angela)

My thing about IPNB is it, for me there is not enough of a cultural piece. (Anita)

Finally, only two participants spoke about a spiritual component to their learning IPNB. Susan noted her particular faith system and the ways that learning IPNB influenced her spiritual development. Vivian acknowledged the similarities between IPNB and contemplative faith systems.

it was this beautiful work I did with prayer and my own work in my room. (Susan)
if I don't have presence, and the, you know, just the loving compassion, now I am sounding Buddhist, but you know, that's the most important piece. (Vivian)

Summary

The participants in this study shared rich and detailed accounts of their experiences learning and applying IPNB. In the above chapters I identified and described predominant themes and high-order constructs that emerged from the analysis of their narratives. This account included four super-ordinate and nine sub-ordinate themes. I also noted areas of divergence between participants' experiences.

The findings corroborate with existing IPNB and pedagogical literature. The findings also suggest potential implications for future research, clinical practice, and counselor education. I discuss these points further in the next chapter.

APPENDIX E
EXTENDED DISCUSSION

Neuroscience is increasingly part of the national dialogue regarding mental health (D'Andrea, 2012; McHenry et al., 2014). The field of interpersonal neurobiology may offer a framework for helping mental health professionals identify and apply the most relevant neuroscience principles to counseling. Although a number of formal training programs exist for teaching IPNB principles to counselors, an extensive literature review yielded no empirical studies examining the experiences and outcomes of such programs.

In an effort to address this gap in the literature, I designed a qualitative research study exploring the experiences of mental health professionals learning IPNB. Participants were all licensed mental health professionals who completed a year-long training in the application of IPNB through Nurturing the Heart with the Brain in Mind. I conducted semi-structured individual interviews with participants ($n = 6$) and analyzed the data, along with a research partner, according to Interpretative Phenomenological Analysis (IPA) protocol. Four super-ordinate themes emerged from the analysis: (1) learning process as dynamic and engaging, (2) deepening knowledge and understanding of self and others, (3) personal and professional growth, and (4) impact on therapeutic practice.

A number of sub-ordinate, or supporting themes, also emerged through the analysis. These sub-ordinate themes included experiential learning; learning through group process; influence of the past on the present; increased understanding of the change process; increased compassion, empathy, and acceptance for self and for others; increased confidence; using IPNB to educate clients; using IPNB to conceptualize clients; and using IPNB to select interventions. Finally, I identified three higher-order constructs that appeared embedded within and across themes: learning as ongoing, person of the participant, and person of the instructor.

The purpose of this study was exploratory, aimed at understanding the perspectives of a small group of mental health professionals' experiences learning IPNB. The results of this study are not statistically generalizable; however, scholars have noted that rigorous analysis of a few rich and detailed cases can offer a degree of theoretical generalizability (Yardley, 2008). Yardley noted that theoretical generalizability "means that [researchers] would not expect their findings to be exactly replicated in any other sample or context, but would hope that the insights they derived from studying one context would prove useful in other contexts that had similarities" (p. 238). Thus, a number of potential insights emerged from this study that may be useful to other professionals interested in understanding the experiences of mental health professionals learning principles of neuroscience through an IPNB framework.

The findings in this study suggest that participants' learning of IPNB had a significant impact on their personal and professional development. Notably, areas in which participants identified personal growth correlate with qualities of effective counselors (e.g., self-awareness, compassion, empathy, acceptance, attunement, and presence). The participants' narratives also suggested that their increased understanding of human nature, development, and the change process influenced the way they entered relationships, conceptualized clients, and engaged in interventions. In many cases, participants' knowledge of neuroscience led to educating clients about the brain in an effort to normalize experience, provide rationale for interventions, and foster a sense of hope for change. The new knowledge also seemed to lead to participants' facilitating therapy in a deeply relational and more emotion-focused manners, often integrating new interventions such as bodywork and experiential activities. Overall, they noted feeling more grounded and confident as clinicians. In regards to their learning process, participants reported

experiencing meaningful change in a learning environment characterized by emotional engagement, experiential activities, and group process.

In the following sections, I place the findings within a larger context of literature on qualities of effective counselors, clinical practice, and experiential learning. I then offer implications for future research, teaching, and clinical practice. Finally, I evaluate this study in terms of potential limitations.

Findings and Existing Literature

The findings from this study link with many related bodies of existing literature. Specifically, the results connect with research on counselor characteristics and master therapists, therapeutic practice, and learning theory. In the following paragraphs, I discuss relevant connections between my findings and these other areas of important research.

Counselor Characteristics and Master Therapists

The findings in this study suggest that teaching IPNB could help facilitate counselors' personal and professional development, specifically in regards to characteristics associated with effective counselors. In response to learning IPNB, participants reported feeling increased compassion, empathy, and acceptance towards self and others. They also reported increased self-awareness, increased presence in relationship with others, increased attunement to self and others, and increased confidence in their own intuitive sense as clinicians.

The importance of the person of the counselor is well-established in counseling literature, thus making the cultivation of many of the characteristics identified above critical (Duncan, Miller, Wampold, & Hubble, 2010). Duncan (2013) noted that "psychotherapy is a relational endeavor, one wholly dependent on the participants and the quality of their interpersonal connection . . . after the client, the therapist is the most potent aspect of change in therapy" (p.

58). Researchers have noted that characteristics such as empathy and acceptance help counselors develop effective therapeutic relationships and facilitate change (Lambert & Barley, 2001).

Researchers have also found that self-awareness, reflection, and presence are correlated with characteristics of master therapists (Jennings & Skovholt, 1999; Ronnestad & Skovholt, 2003).

Participants specifically reported gaining self-awareness around their attachment styles. Many of them noted movements towards more secure attachments, allowing them to go deeper with clients. They also noted becoming more aware of reactions to clients that were due to their own personal histories, allowing them to respond more accurately to clients' needs rather than their own needs. A number of scholars have found links between counselors' attachment styles and aspects of the therapeutic process. Romano et al. (2008) found a positive association between clients' experiences of attachment security with counselors and session depth. Mohr et al. (2005) found that counselor attachment insecurity led to counselors becoming emotionally overwhelmed and engaging in self-protective behaviors. Rubino et al. (2000) found a correlation between counselors' attachment styles and the degree to which counselors empathized with their clients. As was the case with participants in this study, experiential learning of IPNB concepts may help counselors strengthen their attachments and connect with clients in deeper and more effective ways.

Therapeutic Practice

Many participants shared ways that learning IPNB strengthened or changed their approach to conceptualizing clients. Participants noted that understanding the impact of early experiences on brain development, as well as social and emotional development, helped them see individuals' struggles as less pathological. They used phrases such as "coping strategy", "protective tendencies", and "doing the best they could" to describe clients' thoughts, feelings,

and behaviors. Such viewpoints are consistent with the counseling profession that overwhelmingly supports wellness and developmental models (Ivey et al., 2011).

Furthermore, participants conveyed a sense that learning IPNB impacted the way they worked with clients. Many participants reported a shift to more humanistic ways of interacting with clients. They noted being less directive, using more immediacy, engaging in more experiential interventions, and trusting more in clients' self-directive capacities to heal. This approach to counseling has strong empirical support (Cooper, Watson, & Holldompf, 2010).

They also reported attending more to emotions, including ways that the emotions are expressed through physiology, and having greater tolerance for clients' experiences of strong emotions in counseling. They repeatedly noted an increased ability to "be with" clients in an immediate and present manner. Counselors' ability to self-regulate in the presence of overwhelming emotions, and thus truly 'be with' clients in their experiences, is critical in helping clients work through such subcortical brain processes (Badenoch, 2008). Johnson (2012) identified a need for professional training programs to teach counselors how to understand and effectively use emotions. Johnson noted how important counselors' understanding and use of emotion in their own lives and the lives of clients is to therapy:

"therapists have to deal with powerful attachment dramas, which unleash rivers of emotion in their clients, and their own emotional issues can be triggered as they watch these dramas unfold . . . such therapists had better know their rivers, and how to swim . . . otherwise, it's safer to sit on the bank, hold on to the traditional distrust of emotion, and try to create change through purely cognitive or behavioral means." (p. 2)

Creating change solely through higher cortical regions is limiting because clients can lose their abilities to apply such learning in daily life when stress levels start to impede executive functioning (Raio, Orederu, Palazzolo, Shurick, & Phelps, 2013). Attending to subcortical experiences in counseling is likely to help clients identify and regulate those subcortical experiences outside of counseling, opening the possibility for deep and sustained change. The participants reported such lasting change through their learning of IPNB and reported successful client outcomes when applying IPNB-informed interventions in their clinical work.

Learning Theory

Participants reported meaningful learning through experiential, emotionally engaged means. This finding is consistent with a large body of literature on effective teaching and learning. Almost a century ago John Dewey called for educators to teach in a manner that allows students to engage actively in their learning, a notion considered progressive in his day (1938). Since that time other scholars, most notably Kohlberg, have articulated theories of experiential learning (McAuliffe, 2011). These theories include immersing students cognitively and emotionally in the subject matter being taught, creating opportunities for students to observe and reflect, and guiding students through a process of application and experimentation. These components of experiential learning were apparent in the participants' narratives.

For example, the instructor presented the concept of implicit memory, provided an emotionally charged opportunity for participants to feel the power of implicit memory in a present relational context, and facilitated reflection and insight regarding this learning. She also demonstrated what it would look like to work with clients' implicit memory systems and provided consultation to participants as they experimented with this new learning outside of the course in relationships and in clinical practice. At the end of the course, participants reported

having an *embodied* knowledge of implicit memory. Embodied knowledge implies a level of learning deeper than mere intellectual comprehension; it implies an internal knowing based on personal experience.

It is also important to note that the manner of instruction reflected the very essence of IPNB. In other words, the philosophy of *how* it was being taught matched the philosophy of *what* was being taught. Siegel (2010), writing specifically about teaching principles of IPNB, noted that “the best way to help [students] grasp the power of integration is through immersion in direct experience” (p. 65). From an IPNB perspective, experience facilitates neuroplasticity, thus it makes sense that learning IPNB would take place through lived experiences with the concepts.

Recent neuroscience literature in the field of adult learning further supports the methods reported by participants. Cozolino and Sprokay (2006) noted that “the brain is a social organ innately designed to learn through shared experiences . . . brains grow best in this context of interactive discovery and through co-creation of stories that shape and support memories of what is being learned” (p. 11). The authors identified five necessary components for deep learning (p. 12): (1) a safe and trusting relationship with an attuned other, (2) maintenance of a moderate level of arousal, (3) activation of both thinking and feeling, (4) language of self-reflection, and (5) co-construction of narrative that reflects a positive and optimistic self.

The participants reported feeling safe in the learning environment, often characterized by connections with their listening partners (i.e., relationship with an attuned other). They often used emotionally latent words to describe their learning process (i.e., moderate level of arousal). The participants demonstrated clear activation of thinking and feeling and used a language of self-reflection throughout their narratives. Finally, participants identified the ways in which their

self-narratives shifted to include greater self-compassion and self-understanding (i.e., narrative reflects a positive and optimistic self).

The preceding descriptions of the findings and existing literature highlight the potential relevance of this study. The participants' experiences connect with and add to significant bodies of literature. In the following section I identify specific implications for research, practice, and counselor education.

Implications

This study represents a beginning to the exploration of mental health professionals' experiences learning and applying principles of neuroscience. In this study, experienced and highly motivated mental health professionals reported personal and professional growth in a number of critical areas. Future research is needed to explore the experiences of other groups of individuals learning IPNB, such as counseling students in graduate school. The development of a graduate-level curriculum in IPNB would be a promising start. This curriculum could serve as a framework for other educators interested in incorporating IPNB into graduate programs across the country. Researchers could then qualitatively investigate the experiences of these diverse participants to gain a greater understanding of the impact of learning IPNB across developmental levels.

The current study examined experiences of mental health professionals learning IPNB in a unique setting. Participants seemed to credit much of their learning to the nature of the learning process (e.g., experiential, group) and the nature of the instructor. A number of other institutions and organizations currently offer training in IPNB that likely employ varied instructional methods and are certainly taught by different instructors. A brief internet search yielded more than ten such training opportunities, including courses offered by the Mindsight Institute, Portland State University, California Southern University, PESI, and Therapy Training

Boston. Qualitative research should be conducted to explore counselors' experiences learning IPNB in these different settings as well as in more general or time-limited counselor education settings. Such exploration could help illuminate differences and similarities in learning based on a number of variables. This information could be used to further inform IPNB instruction.

Future research can also focus on quantitatively exploring many of the constructs identified in the current study. Specifically, researchers could measure levels of compassion, empathy, presence, and other such essential counselor characteristics in a large representative sample of counselors before and after learning IPNB. Sufficient instruments exist to measure such constructs and are being used to assess IPNB-compatible approaches in counselor education, such as mindfulness (Ballinger, 2013; Dunn et al., 2013; Greason & Cashwell, 2009; Ryan et al., 2012). This approach would help illuminate the degree to which teaching IPNB fosters the development of characteristics associated with effective counselors and counseling. In addition, researchers may investigate the experiences of clients working with IPNB-trained counselors. Researchers could assess clients' perceptions of empathy, the therapeutic relationship, counseling outcome, and other related factors. Such research could help assess the effectiveness of IPNB as a therapeutic approach.

In regards to implications for practice, the findings suggest the potential of IPNB instruction in helping counselors bring together intuition and science in a way that fosters confidence and ethical practice. In the study, participants were able to use IPNB to translate what was an intuitive sense about human nature, development, and change into a scientifically supported view of such processes. Grounding counselors in scientifically supported approaches to counseling allows them to align with current national initiatives in mental health, while also maintaining consistency with a traditional developmental and wellness oriented worldviews

(Ivey et al., 2011). Having at least a basic framework in neuroscience allows practicing clinicians to integrate new findings as they are discovered. Knowledge of current research and use of scientifically supported approaches is necessary for ethical practice (ACA, 2014).

Furthermore, findings also support the idea that learning IPNB may offer new ways to engage and motivate clients. There was considerable evidence from the participants that neuroeducation was well-received by clients. The participants reported that teaching clients about neuroplasticity often helped foster a sense of hope for change. They also noted that clients' understanding of the implicit memory system and attachment theory helped reduce shame by normalizing experiences, freeing clients up for growth.

The findings in this study also offer implications for counselor educators and supervisors. This study demonstrates the potential of teaching IPNB to cultivate personal and professional growth in students. It also demonstrates the potential usefulness of the IPNB framework for teaching students about neurobiological underpinnings of mental health and unhealth. Both of these outcomes are critical according to American Counseling Association *Code of Ethics* (2014) and CACREP Standards (CACREP, 2009, 2013). Counselor educators and supervisors should consider implementing IPNB learning experiences into didactic and clinical courses. Principles of neuroscience are relevant when talking about interpersonal skills, group process, ethics, multicultural competence, couples therapy, theories, human development, and just about every other core or elective course offered in graduate programs. Every human experience has a neurological basis.

The findings in this study also suggest ways to effectively teach IPNB. Counselor educators and supervisors should first establish a safe and trusting learning community that encourages personal exploration and sharing. Students' discussion of personal struggles should

be encouraged and facilitated. Instruction should evoke sufficient emotion for optimal learning and include interpersonal connections (Cozolino & Sprokay, 2006). Instructors should use a variety of experiential methods that allow students to experience the relevance of IPNB principles in their own lives. For example, instructors should allow opportunities for students to explore their attachment styles, have disconfirming experiences, and tune in to their implicit worlds. Instructors should provide students the opportunity to observe IPNB-informed practice through role-plays and individual/group facilitation. Finally, instructors and supervisors should provide consultation to students as they work to integrate their IPNB-informed knowledge and skills with others outside the learning environment.

Limitations

I followed a rigorous protocol for conducting IPA studies to ensure this study was as trustworthy as possible, however, it does have limitations. IPA is relatively new. Although this approach is gaining popularity within the counseling profession, I had fewer resources to rely on for guidance and fewer opportunities to consult with researchers experienced in the approach. Larkin et al. (2006) noted that “as with so many qualitative methods, IPA can be easy to do badly, and difficult to do well: it demands a number of rather testing ‘balancing acts’ are maintained by the researcher” (p. 103). The authors suggested that such balancing acts are particularly difficult for novice researchers to recognize and manage. Within the methodology of this study, I included a number of safeguards to help with this balancing act. I engaged in researcher reflexivity throughout all stages of the research process, consulted with my supervising researcher and research partner on a regular basis, and conducted member checks at the end of emergent theme analysis.

An additional limitation of this study was reliance on a single method of data collection, namely a single individual interview. Researchers using IPA rely on participants to reflect on their experiences meaningfully and articulate those reflections with sufficient depth and breadth (Smith, 2004). Some participants may have been more expressive through writing or other means of expressive arts as opposed to talking. Participants might have also felt less comfortable with distance technology and not shared as much as they would have in face-to-face interviews. Furthermore, some participants completed the course many months ago and may have forgotten some meaningful details of their experiences. However, the participants' motivation to learn IPNB in a rigorous way, their advanced education level, and their likely higher degrees of psychological mindedness increase the likelihood that they were able to reflect meaningfully on their experiences and articulate those reflections sufficiently.

The fact that participants self-selected the learning experience, expressed an interest in neuroscience, and were willing to engage in anxiety-provoking learning experiences also serves as a limitation. Not all counselors welcome the integration of neuroscience principles into counseling (D'Andrea, 2012). Similarly, not all counselors are willing to engage in a learning process that requires vulnerability and emotional engagement. As evidence of these realities, several participants reported that a small group of individuals left the course at some point during the year. According to the participants in the study, these individuals did not appreciate the experiential nature of the course and could not tolerate the personal pain such a process often brings to the surface.

Finally, as with all with all qualitative research, the results of this study are not statistically generalizable (Yardley, 2008). Many scholars consider this reality a limitation of qualitative research. The subjective and interpretative nature of IPA, as well as the inclusion of

only a few participants, means that the results could be completely different for a dissimilar set of researchers, participants, and IPNB learning experiences. The participants in this study had some unique characteristics. They were all women who identified as Caucasian or European American, and all were highly self-motivated to learn IPNB; all but one participant lived in the Western United States. It is possible that the individuals who responded to my research request were the individuals most impacted by the learning experience. The learning experience itself also had some distinctive features. The course was one year long, consisting of approximately 16 days of face-to-face meetings and involving a high percentage of experiential learning. The length and intensity of the learning experience would be difficult to replicate in more formal academic settings. Furthermore, the instructor had extensive background in IPNB study and in clinical practice. Based on the participants' perceptions, she conveyed a combination of competence and warmth that promoted their learning in an exceptional manner. It is difficult to assess whether another person could provide a similar learning experience.

Conclusion

A growing body of mental health professionals consider neuroscience the next force in the counseling field (McHenry et al., 2014). However, little research exists regarding the experiences of counselors learning and applying principles of neuroscience. Overwhelmingly, participants illustrated that engaging in experiential learning of neuroscience through an IPNB framework may facilitate professionals' personal and professional growth. Notably, areas of growth included increased empathy, compassion, attunement, acceptance, and presence. The participants in this study also reported greater self-awareness and confidence as clinicians. All of the participants reported changes in their therapeutic practice, specifically regarding their abilities to organize and make sense of clients' experiences, their understanding and use emotion,

and their ability to engage in neuroeducation. Many participants also found that they focused more on the immediate relational experience in counseling (i.e., right brain to right brain connections), incorporating more humanistic interventions into their work.

These findings correlate with bodies of literature on counselor characteristics, therapeutic practice, and learning theory. These findings offer many implications for research, practice, and counselor education. This study is one of the first studies to empirically explore counselors' experience learning neuroscience. More research needs to be conducted to examine learning across different groups of counselors, including counselors of different demographic backgrounds, at different developmental levels, and in different training organizations and/or institutions. Future researchers could also focus on measuring changes in some of the constructs that emerged in the study, such as empathy and compassion. In regards to counselors and counselor educators, this study suggests that learning IPNB could be a way to facilitate personal and professional growth. The approach could also serve as a framework to guide integration of neuroscience principles into counselor education and/or to guide clinical practice.

The study is not without limitations. The IPA approach is relatively new to the counseling field and I relied on only one method of data collection. Furthermore, the small homogeneous sample size disallows for any statistical generalizability. However, I carried out the study in a rigorous manner, taking many steps to ensure trustworthiness. The participants all confirmed that I represented their experiences accurately and meaningfully. It is my hope that this study is the beginning of many more studies exploring the impact of neuroscience findings on counselors, counselor education, and clients.

APPENDIX F
SUPPLEMENTAL MATERIALS

E-MAIL TO POTENTIAL PARTICIPANTS

SUBJECT: Invitation to participate in research regarding counselors' experience in learning interpersonal neurobiology

Hello,

You are receiving this e-mail because you participated in Bonnie Badenoch's year-long experiential training in the application of interpersonal neurobiology (IPNB). I am a doctoral candidate at the University of North Texas conducting a study on counselors' experiences learning IPNB. This study will help counselor educators better understand how counselors experience and make meaning of IPNB principles. This understanding can then be used to develop curricula, formulate additional research questions and studies, and enhance application of IPNB in clinical work.

As a participant, you would be asked to participate in a semi-structured interview. If you are located within approximately 120 miles of Denton, Texas, this interview can take place face-to-face. If you are located outside of this distance, this interview will take via phone or skype/facetime. I anticipate that the interview will take approximately one hour. I may contact you after the initial interview to ask follow-up questions, clarify points, or check with you to make sure I represented your thoughts and feelings accurately.

After all the interviews have taken place, I will analyze the data according to Interpretative Phenomenological Analysis protocol. I will share the results of the study with you; as well any other information related to the study that you might wish to receive. Your identity will be kept anonymous.

To date, there has been no published empirical study regarding the impact of learning IPNB. Your participation in this study would provide a critical gap in the literature. Your time and insights would be highly valued.

If you are interested in participating in this study, please click the link below to complete a short demographic survey. I will contact you directly if you are chosen to participate in the study. If you have any questions or concerns, please feel free to e-mail me at raissa.miller@unt.edu or call me at [940-552-1397](tel:940-552-1397).

LINK: https://unt.a21.qualtrics.com/SE/?SID=SV_6SAMbZvpMRVb3Z

Thank you,

Raissa

Raissa Miller, M.Ed., LPC Intern
Doctoral Candidate
University of North Texas
Raissa.miller@unt.edu

DEMOGRAPHIC SURVEY

Thank you for choosing to complete this demographic survey. The information will be used to select final participants for the study titled: Experiences Learning Interpersonal Neurobiology: An Interpretative Phenomenological Analysis. You may skip any items that you are not comfortable answering.

Name (First, Last)

Age

Phone number

E-mail address

With which racial/ethnic group(s) do you identify?

Name and type of highest degree earned

Mental health licensure (select all options that apply)

Licensed
Professional
Counselor
(LPC)	Licensed
Marriage and
Family
Therapist
(LMFT)	Licensed
Clinical Social
Worker
(LCSW)	Licensed
Psychologist	Psychiatrist	Other (please
specify)
☐	☐	☐	☐	☐	☐

Years of clinical practice

Location of practice

Private practice	School	Hospital	Community agency	Religious institution	College	Corporationspecify)	Other (please <input type="text"/>
☐	☐	☐	☐	☐	☐	☐	☐

Primary clinical population served (select all options that apply)

Adults	Adolescents	Children	Couples	Family	Group
☐	☐	☐	☐	☐	☐

Have you had previous training in Interpersonal Neurobiology? If yes, please specify type and length of training.

University of North Texas Institutional Review Board

Informed Consent Notice

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose, benefits and risks of the study and how it will be conducted.

Title of Study: Experiences in Learning Interpersonal Neurobiology (IPNB): An Interpretative Phenomenological Analysis

Student Investigator: Raissa Miller, University of North Texas (UNT) Department of Counseling and Higher Education. **Supervising Investigator:** Casey A. Barrio Minton.

Purpose of the Study: You are being asked to participate in a research study which involves sharing your experiences of the ways in which learning interpersonal neurobiology has influenced you personally and professionally.

Study Procedures: We will first invite you to complete a brief form regarding your personal and professional characteristics. Based on responses to the form, we may invite you to participate in a 45-75 minute individual interview. This interview can take place face-to-face if you live within 120 miles of Denton, Texas or via distance communication (e.g., skype, facetime) if you live outside this distance. After the initial interview, you may be contacted with follow-up questions and/or to verify the accuracy of my interpretations and conclusions.

Foreseeable Risks: Participation in this study poses a risk for breach of confidentiality. To minimize this risk, we will not use your name or any other identifying information on any study records, presentations, or publications. We will instead assign you a unique code and use that code on all information collected. We will keep the list of participant names and corresponding unique number on a secure, locked, password protected server. Otherwise, no foreseeable risks are involved in this study.

Benefits to the Subjects or Others: We expect the project to benefit you by giving you the opportunity to reflect on your learning in a meaningful way. We expect that this study will help counselor educators better understand how counselors experience and make meaning of IPNB principles. This understanding may be used to develop curricula, formulate additional research questions and studies, and enhance application of IPNB in clinical work.

Compensation for Participants: None

Procedures for Maintaining Confidentiality of Research Records: Interested participants will complete a demographic survey on-line through Qualtrics. We will download the information and keep it on a server secured by the University of North Texas until it is destroyed in three years. Once final participants are selected, interviews will take place via face-to-face interviews or distance communication (e.g., skype, Face Time). We will audio record these interviews. The recordings will be transcribed and de-identified. We will destroy the audio

recordings once we complete transcription. The de-identified transcriptions will be kept on the student researcher's password protected computer. The confidentiality of your individual information will be maintained in any publications or presentations regarding this study.

Questions about the Study: If you have any questions about the study, you may contact Raissa Miller at raissa.miller@unt.edu or Casey Barrio Minton at casey.barrio@unt.edu

Review for the Protection of Participants: This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 565-3940 with any questions regarding the rights of research subjects.

Research Participants' Rights:

Your participation in the demographic survey confirms that you have read all of the above and that you confirm all of the following:

- Raissa Miller has explained the study to you and you have had an opportunity to contact her with any questions about the study. You have been informed of the possible benefits and the potential risks of the study.
- You understand that you do not have to take part in this study, and your refusal to participate or your decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel may choose to stop your participation at any time.
- You understand why the study is being conducted and how it will be performed.
- You understand your rights as a research participant and you voluntarily consent to participate in this study.
- You understand you may print a copy of this form for your records.

INTERVIEW SCHEDULE

Greeting

Thank you for agreeing to talk with me about your experiences learning IPNB. Before we get started, I would like to share with you a little bit about what to expect from our time together. First and foremost, I am interested in learning about your experiences. My goal is to facilitate an interaction with you that allows you to tell your own story. There is no right or wrong answer to any of the questions I will ask. And it is important that you know your answers will be anonymous.

Some of the questions I ask may seem self-evident, but it is important that I understand your perspective as you see/feel it. I will not be saying very much, so as to keep the focus on you and your experiences. I may take notes as we go along just to keep track of important points that I may want to come back to. Please take as much time as you need to think and to talk.

What questions do you have about how our time together will go today?

Informed Consent

When you completed the demographic survey, you were provided with an informed consent. I would just like to mention that this conversation will be video recorded. I will be transcribing our talk for analysis. The video and transcriptions will be kept on a password protected server.

What questions do you have about your rights as a research participant?

Introductory Questions

1. Tell me a little about yourself . . .
Prompt: What kind of work do you do?
2. How would you define, in your own words, the field of Interpersonal Neurobiology?
3. How did you decide to seek formal training in IPNB?
Prompt: Why Bonnie's year-long course specifically? How did you get introduced to IPNB?

Grand Tour Question

4. What was your experience learning IPNB?

Follow-Up Questions

5. How did learning IPNB influence how you think and feel about yourself?

Prompts: Can you tell me about a specific aspect of yourself that changed as a result of training in IPNB? What was the source of that change? What were you like before learning IPNB?

6. How did learning IPNB influence how you think and feel about clients?

Prompts: Can you tell me about a recent time when you applied IPNB to your clinical work? What are some differences in your work before and after the training? What do you believe accounted for those changes? What was your clinical approach before learning IPNB?

7. I would like you to think about specific experience or topic in the course that was most meaningful for you . . . tell me about that experience.

Prompts: How did you feel? What did you think?

8. What do you think is the most important contribution of IPNB to the field of counseling?

Prompts: Why?

9. How do you envision your relationship with IPNB in the future?

Prompts: Aspects that you would like to learn more about? Plans for additional trainings?

10. If you had prior training in IPNB, how was this training experience similar or different?

Closing

Thank you so much for your time today. I really appreciate your willingness to share about your experiences. I may be in touch if additional questions come up. I will provide you with a final copy of my analysis at the end of the study.

Portland State Interpersonal Neurobiology Certificate of Completion

Interpersonal Neurobiology (IPNB), a term coined by [Dr. Dan Siegel](#), studies the way the brain grows and is influenced by personal relationships. Recent studies have discovered that brain growth occurs throughout the lifespan. IPNB explores the potential for healing trauma by using positive and secure influences on the brain. Conditions once thought to be permanent now have the bright potential for healing and growth. IPNB has broad applications that are useful for parenting, mental health, addictions, education, health care, business professionals, and more. Interpersonal Neurobiology (IPNB) is an exciting interdisciplinary perspective, drawing from the fields of neuroscience, psychology, complexity theory, and relationship studies. Other related fields of study include, affective neuroscience, social neuroscience and social cognitive neuroscience. The interpersonal neurobiology perspective extends from the intricacies of neurobiology to the level of the interpersonal world. Because interpersonal neurobiology involves so many disciplines and areas of practice, this program is designed with flexible components to promote a central core of knowledge while facilitating each participant's professional and personal application of the information.

Distance delivery

We have structured this program to be accessible both locally and at a distance. Most courses are taught in three-days face-to-face and then finished online.

We are also using video streaming to deliver the face-to-face portion of the class. Through this approach, participants join the class live, directly from their computer. If you are unable to join the live class, you can view the archived video streams from the online portion of the class. A reliable high-speed internet connection is needed for this to be successful. Dial-up connections are not satisfactory. Other distance technology such as webcasts and teleclasses may also be used.

To view either live or archived streaming video you need Internet Explorer 5.0 or higher, **Windows Media Player 9 Series or higher** and a broadband (LAN, DSL or cable) internet connection. Free download of **Windows Media Player for PC or Mac** is available at windows.microsoft.com/en-US/windows/downloads/windows-media-player.

Please see the online access information ([credit](#), [noncredit](#)) for technical requirements.

General Information

The program is comprised of core classes, special topics classes, specialization tracks and electives. Some courses involve nationally known experts. Courses will be available in various combinations of face-to-face and distance learning. The curriculum can be taken:

- As individual continuing education workshops/classes
- As a continuing education certificate of completion
- As individual graduate credit classes
- As a graduate-level academic certificate of completion

Learning objectives

Participants will be able to:

- Describe and critique the history of neuroscience and development of interpersonal neurobiology.
 - Identify the leaders and emerging leaders in the field - includes identifying the research and practice sites where IPNB is being utilized and the ongoing research agenda and specific research questions
 - Discuss the major theoretical strands that underpin IPNB, e.g., attachment theory
 - Monitor, track and assess information on IPNB and contribute to the healthy development of the field
 - Describe the impact of IPNB and implications for health, education, parenting, mental health/addiction, parenting and relationships, early childhood education and other fields
 - Demonstrate the structure and key functions of the brain and show the relationship of the interpersonal world and the brain
 - Discuss the strengths and weaknesses of brain imaging technologies and their role in IPNB
 - Identify and discuss the ethical issues in the interpersonal neurobiology field
 - Develop and disseminate practical applications for their own profession
 - Develop and/or participate in research and intervention projects wherever possible
- Take a look at our mission—you'll see that we want people to critique the work (research and conceptual) that supports IPNB. We also hope people will find opportunities to participate in furthering the research and application of this new interdisciplinary field.

Mission

The Portland State University certificate in Interpersonal Neurobiology

- Promotes the use of research findings on the brain and relationships to create healthier minds and a healthier world
 - Prepares professionals to continuously critique, extend and amplify the knowledge base of IPNB
 - Provides highly qualified education in IPNB to people who work at the intersection of brain, relationships, and mind
 - Develops interdisciplinary thinkers who integrate their knowledge and experience into practical applications
- It is our vision that recipients of the Certificate in Interpersonal Neurobiology will go on to produce significant research and develop powerful applications in this new interdisciplinary field.

What is a Certificate of Completion?

Certificates of Completion are awarded to all students who successfully complete a series of linked courses with a defined focus. The certificate distributed upon completion of the identified courses reflects the total number of credits earned (graduate or undergraduate). These certificates of completion have been approved by the appropriate department(s). The individual courses will appear on your PSU transcript. The title of the certificate of completion will not. This series of courses is not eligible for federal financial aid unless taken as part of a degree program.

Nurturing the Heart with the Brain in Mind

A Year-Long, Experience-Rich Training in the Application of Interpersonal Neurobiology for 16 Participants

Portland, OR/Vancouver, WA area March - November 2015

Presented by Bonnie Badenoch, PhD, LMFT Bonnie is an in-the-trenches therapist, mentor, teacher, and author who has spent the last ten years integrating the discoveries of relational neuroscience into the art of therapy. Out of this experience, combined with her two decades of working with survivors of trauma and attachment struggles, came her books *Being a Brain-Wise Therapist: A Practical Guide to Interpersonal Neurobiology* (2008) and *The Brain-Savvy Therapist's Workbook* (2011). People are saying that these books fill the gap between science and practice, and do it with compassion and heart. In the last few years, Bonnie has been increasingly aware of the value of longer-term immersion experiences that can support the personal healing she believes is at the heart of an ethical practice that nourishes we therapists as well as our clients. These year-long trainings have emerged to meet that need.

Nurturing the Heart with the Brain in Mind This year-long advanced program in interpersonal neurobiology (IPNB) is held in the quiet, supportive environment of Bonnie's home and garden, about 15 minutes from Portland, Oregon's international airport. Having discovered that three-day meetings in a small group seem to be optimal for this depth of learning and personal transformation, we will meet for four three-day gatherings beginning in March 2015. At each meeting, we will address particular topics in ways that are designed to foster both right hemisphere and left hemisphere learning on the first and second days, and will spend most of the third day with in-depth consultation about your relationship with your clients or doing some personal work with Bonnie. We will use sand, miniatures, art, and clay, as well as reflection, meditation, and conversation to cultivate embodiment of IPNB and support personal healing experiences. At our first gathering, we will create Listening Partnerships for the year, a process that provides a unique depth of support. People are reporting that this way of exploring fosters a rich felt sense experience for making IPNB their own. This deepening awareness of ourselves and our clients can give our presence a foundation of solid understanding coupled with broad compassion.

March 5-7, 2015 Deepening into the Therapeutic Relationship/Beginning Exploration of Attachment

Meeting and settling; understanding the nature and importance of the therapeutic relationship; becoming acquainted with our embodied and relational brains as the foundation of presence with ourselves and others; exploring our current therapeutic narrative; seeing from the perspectives of our two hemispheres; deepening our understanding of relationally-based brain development in the first two years of life; establishing Listening Partnerships for the year.

May 14-16, 2015 Continuing Our Exploration of Attachment/The Experience of Implicit Memory and its Transformation

Deepening our understanding and experience of our attachment processes and styles as a foundation for being more present with ourselves, our families, and our clients; exploring the neurobiology of memory processes; developing a felt sense of our implicit memory stream; providing understanding and experiences of implicit memory transformation; working in Listening Partnerships with sand and miniatures and non-dominant hand drawing.

August 13-15, 2015 Fostering Warm Connections in Our Inner Communities

Understanding the neurobiology of the inner community; experiencing the implicit change process through working with the internal pairs; meeting and supporting our inner selves within our Listening Partnerships and through the process of sand tray and non-dominant hand drawing.

November 5-7, 2015 Exploring Our Implicit and Explicit Narrative/Celebrating Integration of Our Experience

Unfolding the neurobiology of narrative transformation; deepening the experience of our implicit and explicit narratives; moving narratives into expression with an action practice; exploring how IPNB can guide the therapeutic process from start to transition; delving into our implicit and explicit narrative of therapy, a culminating step in creating a solid foundation on which to practice; celebrating the transformations that have happened in our year together.

Who might want to consider coming: therapists, social workers, psychologists, bodyworkers, healthcare professionals, pastoral counselors – anyone for whom relationships are central to his or her work.

Cost of Program: \$2400 (includes nourishing breakfast and lunch, all supplies for experiential work) – lodging and dinner on your own – CEUs for some professions available for a small extra charge – please let us know if you're interested in that.

\$200 non-refundable deposit to hold your place. Balance to be paid in 4 installments/\$550 each – 9/20/14, 11/22/14, 1/21/15, 4/10/15. \$200 discount if full amount paid at time of registration and prior to 11/1/14.

For more information and to reserve your place, please contact Bonnie at bonnie@nurturingtheheart.com.

What some participants in the 2013 year-long training found most meaningful....

"A necessary deepening experience for learning to be with others and self."

Kathy Blumentritt, LMFT

"One of the unique gifts that Bonnie brings to her IPNB training is the opportunity to experientially work with a master therapist using these scientifically proven concepts through clinical supervision and personal therapy in the group setting. This has led to a powerful level of integration of the material for me both personally and as a clinician as well as enhancing the natural cohesion of the group."

Vicki F. Allen, LISW

"Bonnie's experiential training was transformative both personally and professionally for me. I learned how to be a more present and attuned therapist. But, most of all, I learned how to listen to myself and how to honor and attend to my inner needs."

Peggy Sharr, LISW

"The main thing about Bonnie's year-long is Bonnie. Hard to describe the feeling of being held by her, and also the group, in this container. Could try something poetic like 'a hall of mirror neurons,' or 'a garden where implicit flowers into awareness.' Mostly you just have to be there. I hope you get the chance."

Neil Meili, poet, Voice Dialogue trainer/facilitator

"My experience of Bonnie's year-long class has allowed me the most profound experience of how to be with myself, how to be with my clients, and the transformation of one of my most foundational implicit memories. I also have gained a great appreciation and growing understanding of the wiring, healthy and otherwise, of the brain itself. In this course, we have learned how to nurture the heart of our therapeutic work by way of deepening our understanding and familiarity with the neurobiology of the embodied brain (brain cells in skull, heart, and gut). Experientially we are invited, in Bonnie's guiding presence, to learn the dance of the implicit as it speaks in and through our lived experience and that of the others with us. In this way we come to learn to perceive the language of the deeper mind and its implicit signals, and with this learning we can assist our clients in some of the most profound healing possible."

Katharyn Waterfield, MA

"As a non-therapist, I felt welcome, respected, and comfortable. I've always had a fascination with how the brain and body work together, or against each other. Bonnie is one of those rare individuals who not only makes complex material easy to understand, but also makes the most intricate and difficult situations worth pursuing and resolving. Even though I was surrounded by therapists, I never felt out of place or ill at ease. The IPNB study was not an academic course, rather it was a truly delightful learning experience which enriched both my personal knowledge and my life."

David Bearden, retiree

Figure F.1. Angela's case analysis.

Figure F.2. Tammy's case analysis.

Figure F.3. Vivian's case analysis.

Figure F.4. Susan's case analysis.

Figure F.5. Anita's case analysis.

Figure F.6. Helen's case analysis.

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