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Contextual Adaptation. Human Functioning as Dynamic Interaction: A Social Work Perspective

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Contextual Adaptation. Human Functioning as Dynamic Interaction: A Social Work Perspective

Abstract

Despite the recent development of theories in the social sciences that define human development and functioning in an integrated, nuanced and complex manner, the social work concept of “person-in-environment” remains outdated and limited. This is in part due to the “person” and “environment”--the biological, psychological, and social environments--being defined in distinction from one another. In order to remain current and effective in arguing on behalf of a clear professional voice in the field, social workers must not only engender but also promote a fundamental practice perspective that addresses complexity. A reformulation of “person-in-environment” can help social workers more fully realize the desire to unite under the common professional mandates requiring that both a “person-in-environment” perspective and a full biopsychosocial picture be taken into clinical accounts. To meet this aim I develop the concept of *contextual adaptation*, a new definition of “person-in-environment” reliant on tenets of nonlinear dynamic systems theory, specifically chaos theory. Nonlinear dynamic systems theory offers a unique opportunity for social workers to retain the core potentiality and utility of “person-in-environment,” that which enables them to account for the importance of environment, but reformulate it so as to create a more viable concept. *Contextual adaptation* is defined as a biopsychosocial process allowing for an integrated focus on the influence and management of the overlapping contexts of self, interpersonal experience, and sociocultural demands. Human development and functioning are established as a spectrum of adaptive behavior based on the regulation of the needs and requirements of internal processes, relational experience, and external influence.

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CONTEXTUAL ADAPTATION
HUMAN FUNCTIONING AS DYNAMIC INTERACTION:
A SOCIAL WORK PERSPECTIVE

Naomi B. F. Pollock, MSW, LCSW

A DISSERTATION

in

Social Work

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In

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DEDICATION

To my clients, whose lives take shape in a manner at times unthinkable and whose strengths have prompted me to search for alternative ways to explain difficulties in living. To our struggles and triumphs together on this path.

ACKNOWLEDGMENTS

I am deeply thankful for the wisdom carefully laid in my path by my husband, Iain, and for the patience granted to me by my mother.

I am indebted to the time and energy bestowed upon me by my chair, Dr. Applegate. Your commitment to shepherding new scholars into the doctorate level of our field is remarkable.

And with thanks to my father, my brother, and my beautiful son.

ABSTRACT

CONTEXTUAL ADAPTATION

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A SOCIAL WORK PERSPECTIVE

Naomi B. F. Pollock, MSW, LCSW

Jeffrey Applegate, PhD

Despite the recent development of theories in the social sciences that define human development and functioning in an integrated, nuanced and complex manner, the social work concept of “person-in-environment” remains outdated and limited. This is in part due to the “person” and “environment”--the biological, psychological, and social environments--being defined in distinction from one another. In order to remain current and effective in arguing on behalf of a clear professional voice in the field, social workers must not only engender but also promote a fundamental practice perspective that addresses complexity. A reformulation of “person-in-environment” can help social workers more fully realize the desire to unite under the common professional mandates requiring that both a “person-in-environment” perspective and a full biopsychosocial picture be taken into clinical accounts. To meet this aim I develop the concept of *contextual adaptation*, a new definition of “person-in-environment” reliant on tenets of nonlinear dynamic systems theory, specifically chaos theory. Nonlinear dynamic systems theory offers a unique opportunity for social workers to retain the core potentiality and utility of “person-in-environment,” that which enables them to account for the importance of environment, but reformulate it so as to create a more viable concept. *Contextual adaptation* is defined as a biopsychosocial process allowing for an integrated focus on the influence and management of the overlapping contexts of self, interpersonal experience, and sociocultural demands. Human development and functioning are established as a spectrum of adaptive behavior based on the regulation of the needs and requirements of internal processes, relational experience, and external influence.

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Preface

Re-Envisioning the *Environment* in Social Work Practice

Social workers in the field of mental health have long been known to consider context, a consideration that is addressed through the profession's promotion of the "person-in-environment" framework. This commitment to taking context into account also provides the basis for the argument, per the biopsychosocial perspective, that biological, psychological, and social environments not only influence human development and functioning but are essential components to consider in order to work effectively with the range of clients that social workers serve. Social workers are theoretically unified in their promotion of the idea that the individual is a product of systemic interactions among these various influencing contexts--an idea that is woven into social work models for clinical assessment and intervention. It seems to follow that systems theory, introduced into social work in the latter half of the 20th century, continues to inform social work education and field practice due to its demonstration that interacting contexts influence human functioning.

Despite the foundational nature of a systems perspective that cuts across social work education and practice, however, most of the theoretical models utilized in clinical work tend to require clinicians to focus on the relationship between the individual and one of these contexts at the cost of ignoring the others. A challenge has arisen in maintaining the profession's foundational systems-oriented practice theory and applying systems approaches in the field. This challenge is in part due to the "person" and "environment"--the biological, psychological, and social environments--being defined in distinction from one another. This core construct therefore promotes a

mentality that encourages separation, rather than integration, of the many key contextual factors related to human functioning.

Concepts Defined

One of the major contributions that social workers have made, and continue to make, in the field of mental health is the promotion of the idea that individuals must be seen in light of their environmental influences. Social workers champion the notion that people cannot be assessed or treated for their difficulties in living without appreciation of the complexity of the interrelated contextual factors that affect functioning. While social workers ultimately operate from a multitude of practice perspectives, the underlying influence of the type of systemic thinking that drives seeing individuals inextricably linked to their contexts has resulted in the promotion of concepts such as the biopsychosocial perspective and "person-in-environment," both found rooted in current educational mandates (CSWE, 2004) and in much social work professional literature (Simpson, Williams & Segall, 2007).

The biopsychosocial concept functions to help practitioners assess the nature of the relationship between biological, psychological, and social environments as they influence, and are influenced by, individual experience. This perspective pushes social workers to see an individual's relationship with the biological, psychological, and social factors that continuously influence development and functioning. The nature of this perspective leads to a definition of the biological, psychological, and social environments as separate agents that can act independently from one another yet bear influence on each another.

The "person-in-environment" concept, hereafter referred to as "p-i-e," has over time and depending on particular perspective had many names, including "person-

environment” (Gould, 1987; Wakefield, 1996b) and “person-in-situation” (Cornell, 2006; Phillips, 2008; Simpson et al., 2007). For clarity in this work I will rely on the term p-i-e because it is the primary term utilized in social work education and practice literature as well as by the International Federation of Social Workers (Hare, 2004). It will be used in representation of the other above-mentioned terms. Though I am aware that ecosystemically linked p-i-e on which I rely may have some conceptual differences from these other terms, the underlying idea consistent among them is that individuals must be seen as influencing, and being influenced by, environmental elements.

In reviewing arguments that both promote and critique the p-i-e concept it is clear that the current use of the term is intended to address the external, or social, environment (CSWE, 2004; Hare, 2004). I argue that critiques of p-i-e can be seen as a demonstration that the concept does not effectively account for the biological or psychological areas necessary for a complete biopsychosocial rendering. Saleebey’s (1992) argument that the p-i-e concept should better attend to biological aspects of human experience and Norton’s (2009) proposal that ecopsychology and relational-cultural theory be combined to reformulate p-i-e are two clear examples. I believe social workers rely on multiple perspectives to understand and assess aspects of individual psychology and biology in part because the p-i-e concept has not provided a sufficient account of biological and psychological experience.

I argue, however, that the groundwork is present within this fundamental concept to address these three pertinent areas of human functioning. A reformulation of p-i-e can help more fully realize the desire for social workers to unite under the common professional mandate requiring a full biopsychosocial picture be taken into clinical accounts. To meet this aim I will develop the concept of *contextual adaptation*,

a reworked construct for p-i-e reliant on tenets of nonlinear dynamic systems theory, specifically chaos theory. I will change the terms *biological* to *internal*, *psychological* to *relational*, and *social* to *external*. I will rely on the terms internal, relational, and external and speak of these factors in terms of *contexts* rather than *environments* because I am promoting a change in the way social workers understand the nature of the systemic relationship between individuals and these contextual areas. Importantly, the terms will be developed in a manner that provides for definitional overlap among the three spheres of influence in a way that the discretely defined biological, psychological, and social does not currently permit.

Methods

This project began to take shape during my foundational doctoral-level courses. As I expected, the themes of these courses moved my thinking into areas relevant to the historical development and adoption of professional theoretical perspectives. Through certain key papers, on which I draw in this work, I was tasked to evaluate aspects of these perspectives, including the ever-evolving definition of the *person* and the *environment*. This included evaluation of both systems and postmodernist perspectives. As a family therapist practicing from an ecosystems orientation, I was less drawn to the foundational psychodynamic literature; but I found great relevance in the more recent work in attachment theory, also here examined.

Concurrently, I found it interesting that there seemed to be a natural focus on the debate between psychodynamic theorists and the more environmentally focused perspectives. There seemed an inherent difficulty in reconciling these foundational social work practice aims--to bring together a focus on the intrapsychic world and a focus on the influence of society. Yet these two foci on human functioning had clearly

driven social work practice because both fundamentally looked at the person in *context*. So why did they often appear as irreconcilable?

In my own examination of the “person-in-environment” concept, for which I followed the lead given by Kondrat (2008) in her *Encyclopedia of Social Work* article, I found a path for further exploration. The call to evaluate the appropriateness of nonlinear dynamics, which has since echoed in other works, became of great interest to me. I also found that the historical tracing of the p-i-e concept, in this article as well as others, seemed to be missing a broader analysis that drew themes together in a satisfactory manner. The core social work systemic orientation that drives ecosystems and the linked p-i-e, the focus on the relationship and attachment theory, and the biopsychosocial orientation, seemed also to be, ironically, the very thing that critics of p-i-e were calling for. The complexity of human adaptability to context (whether external or internal to the individual) seemed missing in the very concept that was tasked to define it. Social workers appeared to be looking for a rendering of the dynamism of human life in context, with all the idiosyncratic manners in which persons and environments interact and adapt to one another. Thus, through chaos, I began the development of *contextual adaptation*.

Chapter One

Social Work and the Environment: The P-I-E Concept

In a 1958 publication for the National Association of Social Workers, Harriett Bartlett wrote an often-cited definition of social work practice. As part of this definition, she commented on the purpose of the helping relationship, saying that it can facilitate change in three main ways: “(1) within the individual in relation to his social environment; (2) of the social environment in its effect upon the individual; (3) of both the individual and the social environment in their interaction” (p. 269). In this definition lies one of the main tenets of social work practice: an individual’s functioning is tied to the environment and the nature of this tie is of concern to social workers.

Indeed, Kondrat (2008) notes in the article, “Person in Environment,” in *The Encyclopedia of Social Work*, that the concept is paramount in defining social work practice as “a practice-guiding principle that highlights...individual behavior in light of the environmental contexts in which that person lives and acts” (para. 1). In July 2000, the International Federation of Social Workers adopted a revised international definition of social work that highlights the environment:

The social work profession promotes social change, problem-solving in human relationships, and the empowerment and liberation of people to enhance wellbeing. Utilizing theories of human behavior and social systems, social work intervenes at the points where people interact with their environments. Principles of human rights and social justice are fundamental to social work. (Hare, 2004, p. 409)

In his two-part critique of the ecosystems perspective Wakefield contends, “social work, by definition, is concerned with certain kinds of interactions between the individual and the social environment” (1996a, p. 13). He asserts that while a social work intervention might not focus on the entirety of the external environmental system,

practitioners can “still be genuine social workers if the organizing principle behind their interventions is to improve person-environment interactions” (1996b, p. 195). The concept of p-i-e has become so inextricably tied to social work that even in critiquing the use of the concept as a sole basis for assessment and intervention, one cannot avoid articulating its necessity for aspects of practice for all social workers.

Person-in-environment has become an overarching concept used in social work education and clinical practice because it aids social workers in addressing the influence of external contextual factors on individual functioning, this being one fundamental area that has consistently differentiated social workers from other mental health professionals. The idea that individuals are connected to their environments contributes to the rationale for the extensive social policy and advocacy aspects of the social work profession (National Association of Social Workers [NASW], 2008). Because of the focus on external influences the concept assists in depathologizing problems in individual functioning, a crucial social justice aspect of social work practice. Further, the systemically-oriented p-i-e offers a basis for the stance of working on behalf of change in societal systems. It highlights the relationship between these institutions and individual functioning. This formulation offers an understanding that all individuals affect, and are affected by, their environments.

The p-i-e concept can also be said to account for the influence of family, society, and the physical environment and as such highlights the importance of relationships. This thinking leads to a perspective wherein attention to the relationship between the social worker and the client is deemed essential in direct practice. Not only does this perspective help clinicians in conceptualizing problems holistically, it also provides the impetus to practice with awareness of the role social workers play in their clients' lives.

The p-i-e concept provides a platform for defining the existence of relational attributes in social systems.

The systemic constructs of boundaries, hierarchies, and homeostasis assist clinicians in finding language for describing interactions between individuals and groups of individuals based on naturally-occurring phenomena seen in other systemically organized structures. The p-i-e concept allows integration of variables in a systemic way. As such it is well suited to provide a basis for describing aspects relevant to the biopsychosocial perspective of human functioning. Social workers are invited to look at the implications of living a biologically based human life with a psychological experience in constant interaction in navigating the social environment. Yet, as discussed below, the concept falls short of realizing a full rendering of the biopsychosocial perspective.

It seems clear that p-i-e will continue to be an organizing principle in social work practice, education, and research; individuals are increasingly seen in the interactional complexity of their biology, psychology, and social contexts. Though the concept currently distinguishes social work from psychology and psychiatry, growing schools of thought within the latter professions do take environment and human adaptiveness into account (Baptista, Aldana, Angeles & Beaulieu, 2008; Brune, 2002; Kaiser & Sachser, 2009). This trend demonstrates movement toward acceptance of the relevance of external context in individual functioning.

The promotion of “person-in-environment” is seen as a binding mechanism for social workers in both micro and macro practices. As Hare (2004) comments “social work provides [assistance] to human beings as they interact with their human, societal and physical environments, whether on an interpersonal level or in a broader social

context, constantly reflecting the person-in-environment construct” (p. 413). For these reasons I believe p-i-e has, and should, remain a central social work construct.

Conceptual Limitations and Practical Implications

The p-i-e concept is part of mainstream social work education and practice because of its history and attributes (Cornell, 2006) but it is not without limitations. This research proposes to remedy the shortcomings of p-i-e which create a dilemma for social workers: practitioners must determine how best to assess and treat a client's full biopsychosocial experience and incorporate the p-i-e concept, and yet also find assessment and intervention perspectives that can be used in the field. The dilemma of finding an integrative manner in which to attend to the duality of the *person* and the *environment* has been the topic of numerous papers since the beginning of social work practice (Larkin, 2005). I will later address many of the specific arguments social workers make against p-i-e. In sum these authors either attempt to reformulate p-i-e so as to meet the needs of a certain practice perspective (e.g. Saari, 1992) or argue that its current orientation does not meet the practice needs of all social workers as it is intended (e.g. Nelson, 2009).

Social workers in this country are increasingly practicing within the parameters of managed care and under the influence of ongoing professional practice debate regarding how to evaluate the effectiveness of interventions (Cohen, 2003). They are positioned in a mental health system that often promotes medication of mental health issues. Social workers are routinely practicing under certain constraints such as responding to managed care companies that require interventions focused on individually ascribed disorders.

At the same time the profession is uniquely suited not only to recognize complex interactions but also to begin to offer interventions that address them. Recent arguments for the reshaping of the p-i-e concept reflect this challenging interplay between professional awareness of systems complexity and the reality of individual service delivery (Norton, 2009). Despite the contention that an individual and the environment are not disconnected from but rather in relationship with one another, social workers have yet to find a way to argue convincingly for broad acceptance of complex assessments and interventions.

The various arguments to reshape p-i-e speak to the failure of the concept to fully accommodate dynamism in the relationship between the *person* and *environment*, thus making it difficult to use across settings (Larkin, 2005). Part of the challenge is that the construct is composed of two distinct linguistic concepts and therefore conceptually promotes separation between them¹. In current social work education and practice curricula, the p-i-e concept is an assessment mechanism employed to better understand how individuals are related to and influenced by their external environments (Rogers, 2010). Besides its inability to account for all contextual areas of individual functioning, the assessment-only relevance of the concept seems due to a number of additional limitations that lead to criticisms.

One major critique of the ecosystems perspective, and the linked p-i-e concept, is that it fails to provide its intended overarching framework and thereby lacks practical application (Wakefield, 1996a, 1996b). Wakefield asserts that the ecosystems perspective does not hold up under scrutiny yet has been readily incorporated into

¹ A more thorough evaluation of how language impacts perception is beyond the scope of this work but the idea is addressed in part in a later examination of the relevance of postmodernist thinking.

social work literature and education without a full understanding of its practical applicability. He contends that while ecosystems offers assessment tools that underscore social work's practice strengths, the perspective ultimately does not point practitioners toward any new areas of assessment. Instead it relies on other theories of human development and functioning.

Wakefield (1996a) also takes issue with the absence of guidance toward particular interventions. He finds that the ecosystems perspective "provides a set of categories to guide thinking about cases but says nothing about the nature of specific causal processes; it does not actually explain why or how the person and the environment respond to each other in a specific case" (p. 4). He further claims that it is thus an illusion to think that the perspective can "focus our vision" or "lead us to notice" relevant connections because, in order to do so, one must distinguish a salient target from among a background of many possibilities. If anything, he believes, "the assertion of many connections without guidance as to their importance is likely to blur the practitioner's vision" (p. 11). Though authors who promote the ecosystems perspective have attempted to remedy this limitation with recommendations of interventions at the level of the "interface" of individuals and environments (e.g. Germain, 1978) their suggestions have gone largely unheeded because the mechanism by which individuals and their environments interact has gone undefined.

This is in part because the p-i-e concept maintains a problematic description of the relationship between the individual and the environment. There exists a conceptual minimization of the individual because the person is positioned *within* the external environment. While proponents speak of interaction between and mutuality of influence among different levels of systems, from the "smallest" to the "largest" systems,

there is the acceptance of either “upward” or “downward *causality* [emphasis added]” rather than dynamism among these levels (Anderson & Carter, 1999). The individual system is conceptually minimized when described with terms such as “smaller” in reference to “larger” social systems (Anderson & Carter, 1999). Therefore, despite being interactional, the potential relational influence in the system is often seen as hierarchically beginning from the larger environment and going into or toward the smaller individual.

Because the p-i-e concept posits individuals as smaller than and under the influence of external environments, it can appear to discount the idiosyncratic experience of, and contribution to, the external environment (Kondrat, 2002). The world of human interaction and adaptation encourages creation of meaning for almost every relational exchange, yet p-i-e conceptually struggles to accommodate the individual’s *experience* of the environment (Saleebey, 2004). Social workers find difficulty in using the p-i-e concept to account for the active, participatory individual. The *internal* environments--the contexts of self-experience and associated meaning-making--seem lost. The relative absence of attention to intrapsychic experience overlooks the individual’s participation in the construction of aspects of the external environments. This aspect of human creative and adaptive behavior must be accounted for if social workers are to bring the concept to its proposed intention.

There is an ensuing lack of practical applicability of the concept for social workers in describing the nature of relationships. They are able to note that the environment and individuals influence one another, but without a dynamic description of how individuals and environments interact over time the concept remains a static assessment (Hutchison, 2012). This further limits social work professional reflection in

addressing the role of social workers in clients' lives. Without knowing how environments (such as the organizational setting, the person of the clinician, and her or his theoretical perspective) interact in relationship with the individual (who maintains a complex, adaptive biology and psychology) they cannot know how to deepen the understanding of how social workers exist in relationship with clients. While the definition does account for the reactive nature of these relationships, in that individuals and environments are posited to be in relationship so as to achieve homeostasis, there is limited account for how these exchanges occur.

The concept is said by some to be able to attend to both the individual and the environment simultaneously (Gitterman & Germain, 2008) but in practice this has posed a challenge. This is partly because the requirement to have a “dual” focus and assess “reciprocal” relationships indicates the presence of a real boundary between the individual and the environment. So in practice, instead of being able to maintain simultaneous focus, social workers are commonly said to either practice in the external, social environment through *macro* level work or with the individual through *micro* level work. The manner by which p-i-e is defined contributes to this dichotomization of assessment and intervention in social work practice (Larkin, 2005; Simpson et al., 2007). As a result, social workers can usually only attend to one area at a time instead of being given a tool to address the complex systemic interrelatedness of biopsychosocial factors.

Contextual Adaptation: An Integrated P-I-E Construct

I agree with authors such as Larkin (2005) who call for the development of integrative perspectives to resolve the professional dualistic split under which “the majority of social workers choose between clinical and macro methods” (p. 18). Others,

such as Simpson et al. (2007) argue that the separatism inherent in the p-i-e concept contributes to the social work profession falling “into traps of duality” influencing “policy, program development, practice and education” (p. 5). They also suggest that due to “recent advances in social work’s own knowledge base and in other social and biological sciences” social workers are provided with the opportunity to offer “*integration of the biopsychosocial theories that inform the person-in-situation perspective*” (p. 5).

There is a necessity to define human biological processes, psychological processes, and social processes as separate entities in order to understand functioning at a basic level. When defining the more complex processes of human functioning relevant to mental health and clinical practice, however, these distinctions fail to capture the nuances of experience. Social workers must resolve this discrepancy in order to remain true to professional mandates and account for the need for differing practice perspectives. Some of the above limitations may be said to be due to how social workers interpret the p-i-e concept rather than limitations in the theoretical nature of its definitions. But if the nature of its definition leads to a lack of practical application and the concept falling short of its potentiality, I agree with those who challenge social workers to redefine the concept.

In this work I take up this challenge with a redevelopment of p-i-e as an integrative theoretical concept that defines the dynamics of human functioning. This reformulation is attempted in order to increase conceptual viability and promote the concept in such a way that it attends to additional important social work perspectives. While it may be useful to define biological, psychological, and social environments as separate from one another for conceptual clarity, I argue it is a hindrance to see them as

distinct when defining how an individual comes to develop and function in the social world. If social workers have an integrative definition for person-in-environment such that it accounts for the dynamic complexity of human experience they will be better positioned to advocate for the unique way that social workers understand and treat individuals in practice.

In order to address the need for a better conceptual synthesis of the variables that make up the biopsychosocial perspective, I will here develop the theoretical construct of *contextual adaptation*. This is an integrative, interactional reformulation of person-in-environment that describes the interactive processes at play in human functioning as based on the biopsychosocial perspective. I use nonlinear dynamic systems theory, specifically chaos theory, to define the mechanisms by which humans function in relation to context. I also draw from constructs in attachment theory, postmodernism, and structuration theory (Giddens, 1984) to further functionality of this concept. Contextual adaptation creates a bridge between the now discrete areas of internal, relational, and external contexts to resolve the ambiguities present in current disparate theoretical constructions.

There is some discrepancy in the field as to the exact application of dynamic systems theory (DST) to human beings, but it is generally agreed that under the large umbrella of DST one observes systems that behave in either a linear or nonlinear manner (Warren, Franklin & Streeter, 2008). Human systems, both on the individual level and on the large-scale, are in the category of nonlinear systems due to the nature of human developmental and behavioral attributes. At the level of nonlinear dynamics it is then generally agreed upon that there exist chaotic systems and complex systems. At this point some authors use only the term *chaos theory* to describe human functioning

with the assumption that the human characteristics that make us complex systems are also an assumed part (Halmi, 2003; Thelen, 2008) while others separate chaos and complexity (Warren et al., 1998).

Often those separating chaos from complexity talk about human systems operating as somewhat orderly but at the “edge of chaos” (Johnson, 2008) and because of this deny aspects of chaotic features of human systems. I will use the umbrella term *nonlinear dynamic systems theory* in speaking about the relevant research in the literature. In developing contextual adaptation I will rely on *chaos theory* with awareness and inclusion of the characteristics of human systems that make them complex. I will do this because others who have my same primary focus of describing and integrating human development and functioning have thought this appropriate (e.g. Thelen, 2008).

Contextual adaptation describes the ongoing, adaptive human process of managing the continuous interplay between biological/internal, psychological/relational, and social/external contexts. It is a biopsychosocial process that allows for integrated focus on the influence and management of the overlapping contexts of self, interpersonal experience, and sociocultural demands. Human development and functioning are established as a spectrum of adaptive behavior based on the regulation of the needs and requirements of internal processes, relational experience, and external influence. The concept of contextual adaptation will make it possible to address the dynamic mutuality of influence of all the biopsychosocial contexts. It will focus the social worker on the individual's adaptive process of managing these various contextual inputs.

Why Nonlinear Dynamic Systems Theory?

As stated above, the discrepancy between social work's foundational systems-oriented professional practice theory (and the ensuing promotion of the p-i-e concept) and the more separatist models of assessment and intervention applied in the field is in part due to the biological, psychological, and social environments being defined in distinction from one another (Buchbinder, Eisikovits & Karnieli-Miller, 2004). Despite the adoption of recent theoretical developments that permit integration of certain contexts (which I discuss later) the profession continues to assess and intervene with strategies that rely heavily on separatist, rather than integrative, models. Social workers have begun to promote the use of nonlinear dynamics, including exploring the nature of person-environment interactions (Halmi, 2003; Warren et al., 1998).

Social workers are perhaps just coming out of a lengthy period when the landscape of theory development in many areas of the social sciences has remained rooted in separatist and linear perspectives. In his explication of how dynamic systems approaches might be utilized to understand human behavior, Resnick (1994) commented on this process, saying that

formal, logical, abstract, and analytical ways of thinking, typically associated with men, have been privileged in our society - viewed as superior, more advanced, more likely to lead to 'truth.' On the other hand, relational and contextual ways of thinking, typically associated with women, have been undervalued and discouraged. (p. 18)

While there remains a strong undercurrent in American society, and by proxy the profession, to avoid more complex and integrative definitions for human experience, there is movement toward increased recognition and acceptance of the complexity in human functioning.

Halmi (2003) supports the use of chaos theory as a basis for theory development influencing social work practice perspectives. He notes the requirement to integrate theory “midway between” positivists and postmodernists; he contends that chaos theory is uniquely positioned to do so because of the ability to sustain the “particularity and plurality of the social world while preserving the rational canons of scientific understanding” (p. 89). Resnick (1994) discusses this societal and academic shift in theory development in terms of theoretical “decentralization” in arguing that “these challenges to the dominant epistemology resonate with the growing interest in decentralization several ways...[including that] they are based on ideas such as relationships and interdependencies, not logical hierarchies” (p. 19).

I argue that the failure of p-i-e to wholly address that which the social work profession promotes as a requirement for ethical practice is due to the conceptual inability to focus on the relationships and interdependencies among contextual agents. In order to remain current and effective in arguing on behalf of a clear professional voice in the field social workers must not only engender but also promote a fundamental practice perspective that addresses complexity. Nonlinear dynamic systems theory offers a unique opportunity for social workers to retain the core potentiality and utility of p-i-e, that which enables them to account for the importance of environment, but reformulate it so as to create a more viable concept. Like General Systems Theory (GST) and ecosystems, nonlinear DST addresses the influences among systemic parts; yet it is the *relationships* among them over time, rather than the changes in the agents themselves, that serve as the unit of focus. This aspect of nonlinear DST permits a focus on the full biopsychosocial spectrum at any given time.

As Wood (1994) accurately surmised, “systems paradigms have a unique advantage in multi-level integration of theory because they promote application of isomorphic systems concepts at biological, psychological, social and cultural levels of analysis” (p. 54). When applied to individual functioning, nonlinear DST accounts for the adaptive nature of components such that the nature of the relationship that might occur between two components in the future can never be predicted. This forces a “here-and-now” perspective while also accounting for developmental processes over time, solving the limitation in p-i-e which renders the individual static, non-adaptive, and somehow inside physically larger systems. Wolf-Branigan (2009) noted that “non-linearity seeks to identify the interconnectedness and networks that support and maintain clients’ involvement [in treatment]...non-linearity includes the apparently chaotic, dynamic and iterative process of clients and their eventual choices” (p. 120).

Looking Ahead

Despite the current development of theories in the social sciences that define human development and functioning in a more integrated, nuanced and complex manner, the social work concept of p-i-e remains outdated and limited. I argue that these limitations are due both to the definitional separation of the biopsychosocial contexts of influence and the manner in which ecosystemic thinking has been applied to the concept. Due in part to the lack of a more appropriate p-i-e concept in clinical practice and theory development, social workers struggle to make a strong case for professional perspectives in the broader mental health field. If they were better able to describe how it is neither the individual nor the environment, neither the external nor the internal, neither the biological, the psychological, nor the social, but rather the holistic experience of the entire interactive process that affects individual functioning,

they could better argue for contextual and relational definitions of problems. Social workers might therefore have the legitimate opportunity to intervene within these complex areas.

In this work I provide a brief overview of the development of environmental and contextual awareness in social work professional practice and the concurrent development of the p-i-e concept. I then discuss current education and practice perspectives and the manner in which p-i-e is taught. In my third chapter I briefly address how social workers have historically attended to the psychological and biological aspects of individual functioning. I then delineate the discrepancy that has developed in the management of professional ideals of integration by highlighting arguments against p-i-e as well as attempts to rework it. I follow with an examination of attachment theory and social constructionism, both currently promoted in professional education and practice literature. I explore why social workers are able to effectively employ in practice these more integrative and dynamic models. In the fourth chapter I develop *contextual adaptation* and employ the features of chaos theory in order to provide a dynamic rendering of the p-i-e concept. In the fifth chapter I address how contextual adaptation can be used in practice to define difficulties in functioning. To meet this aim I apply the concept to assessment and intervention for a client with a diagnosis of Reactive Attachment Disorder. I conclude with implications for social work practice, education and professional group process. I address conceptual limitations and offer closing remarks.

Chapter Two

Social Work and the Environment: Considering Context

In this chapter I give an overview of how social workers have historically conceptualized the external or social environment and the development of the p-i-e concept. Social work developed as a profession with many aims, one of which was to account for the influence of the “environment” or “the situation” on individuals’ lives. Social workers at the turn of the last century argued that it was necessary to understand an individual's external environment in order to properly assess and treat clients. Though differentiated from each other by focusing practice on the individual or the environment, this conscientiousness toward the external was a demarcating stance in the social service field. It has remained crucial to social workers’ attendance to issues of social justice.

The meaning of the concept of the environment has changed over time with increasingly broader reach from the most proximate surroundings of family and living quarters to considerations of the community and society. Assessing and treating with awareness of the social/external environment is paramount in the development of p-i-e as an organizing social work principle in the latter part of the 20th century and is seen as one attempt to bind the profession under a central set of constructs (Cornell, 2006). Bringing awareness of the influence of the external also finds congruence with the more recent interest in social constructionist perspectives that seek to critique individually-focused explanatory models for problematic functioning. (I will explore the adoption and current use of social constructionist perspectives in the next chapter.)

Early Conceptualizations

From the inception of social work as a unique profession, practitioners noted the connection between individuals and their environments. They looked at childhood experiences and social context in order to assess and treat individual functioning. The environment was understood to exist separately from and external to the individual. Because of this clear boundary, interventions were focused on either the individual or the environment. In her discussion of the p-i-e concept in *The Encyclopedia of Social Work*, Kondrat (2008) noted that both Addams and Richmond, while differing in intervention strategies, took the environment into account when discussing the etiology of compromised individual functioning.

Addams was a founding participant in the Settlement Movement and is known for beliefs contributing to foundational social work education and practice perspectives “based on social theory with an analytic and reform orientation and a focus on social policy and social philosophy” (Franklin, 1986, p. 511). Addams is widely understood to focus practitioner change efforts on societal mechanisms and her interventions are readily located on the side of environmental focus (Fisher, Nackenoff & Chmielewski, Eds., 2009). Richmond, on the other hand, is known for promoting individually- or family- focused assessment methodology through case work.

A close reading of Richmond’s work, however, as well as that of other individually focused practitioners, demonstrates that they too conceived of the individual as being influenced by, and in relationship with, the external environment. In an effort to define social casework, Richmond (1922) purported that the relationship between the social worker and the individual was a mechanism for change; environmental factors were to be assessed for potentially contributing to the client’s functioning problems. In her

writing, the environment was understood literally, as in a home, as well as socially, as in the communities with which individuals engaged and the social experiences of family and peer life. Richmond believed that in practicing casework, “the worker is no more occupied with abnormalities in the individual than in the environment, is not more able to neglect the one than the other” (p. 98). She wrote that treating the case meant attempting to change environments as well as addressing the individual’s problematic behavior.

Richmond (1922) utilized concepts later fundamental to systems theory when describing the interplay between an individual’s heredity, social heritage, and environment in contributing to personality formation. She used the term “interdependence” to describe the “way in which a human being’s knowledge of his very self is pieced together laboriously out of his observations of the actions and reactions of others” (p. 129). She saw the external environment as directly contributing to the individual’s functioning. Richmond (1917) wrote that the “social evidence” necessary to assess an individual’s diagnosis “consists of any and all facts as to personal or family history which, taken together, indicate the nature of a given client’s social difficulties and the means to their solution” (p. 43). While the focus for intervention was on the individual, Richmond viewed individuals in reference to both personal characteristics and social-environmental experience.

Similarly, Hamilton (1941) saw “no divorce between understanding the personal and social aspects of man” (p. 139). She promoted systemic thinking and stated that “the whole and its parts are mutually related; the whole being as essential to an understanding of the parts as the parts are to an understanding of the whole” (p. 141). This thinking led to her formulation that “personality is both biological and cultural”

and therefore social workers must address the “physical, psycho-social interplay,” (p. 141), a concept which has since formed the basis of the biopsychosocial perspective. She believed that individuals could either adapt to or work toward modifying the environment. Again, the environment is conceptualized as external to the individual and as a factor that contributed to individual functioning. Hamilton, like Richmond, focused on the diagnostic side of intervention, proposing that while personality develops in environmental contexts, the individual is the locus of intervention. Hamilton also believed that change for an individual will contribute to change for a family, and in this way demonstrated another early systems orientation.

Sheffield (1931) discussed understanding the *situations* of individual lives, both the physical as well as psychosocial environments, so that the social worker did not focus on too individualistic an intervention. She delineated how focusing on the “situation” moved practice away from individual personality diagnosis and instead focused intervention on concepts such a person’s adaptive fit with changing situations. Sheffield suggested considering how the situation met the client's needs. Sheffield described a systemic process when defining how interactive parts of situations contribute to a whole and because of this, social work intervention should focus on promoting “growth...in the relations between two or more persons and their setting, a mutual process” (p. 472). She believed the situation was external to the individual and had a time-span limited to when the problem was occurring. She clearly had a systems-oriented view that focused on relationships and processes between factors. In this way her concept of the environment differed from her contemporaries who conceived of the environment as static.

These early social workers conceptualized an individual's environment in social terms, regarding childhood development, personality, and family life. But they were also discussing a physical environmental context and socioeconomic characteristics. Although they conceived of the person's psychological functioning as contextually based, the practice environment for social work at this time created a schism between those who would focus on the individual and those who would focus on the environment. Between the 1920s and 1950s social workers began to rely on different types of rationales for problems – rationales that were often dependent on the setting of the social worker and the client (Morris, 2008). There was not an organizing social work practice perspective for conceptualizing the influence of the environment to bind social workers in different practice arenas. Social workers thus began to adopt many differing theoretical perspectives on human development and functioning.

The Influence of General Systems Theory and Ecological Theory

General Systems Theory. General Systems Theory (GST) was developed by different theorists in the fields of math and science throughout the 1940s and 1950s. Bertalanffy promoted it in *General System Theory* (1968) as a way of describing phenomena of relationships between components of the natural and social world. This theory defines organisms as systems and describes the processes by which they operate; it is further utilized to understand humans as living systems who live in relation to others. In his seminal work Bertalanffy spelled out terms such as open and closed systems, boundaries, and hierarchies to describe the nature of these systems, from a biological to a societal level. Concepts like energy flow, mutuality, homeostasis, and adaptation were used to describe the processes of interactive relationships between individuals and their environments.

Relevant to human functioning, Bertalanffy (1968) described the purposive nature of behavior to reach a final state of regulation. He demonstrated how different parts of the system take specialized tasks to contribute to the whole system in order to reach equilibrium. Individual behavior was seen in relation to the environment as a process of behavioral trial and error until a goodness of fit was reached. Bertalanffy showed the applicability of these natural and mathematical processes to a number of academic fields, including psychology, where he focused on Freudian drive theory. For example, he saw the defense mechanisms and the individual pathology as an attempt to restore equilibrium. According to GST, there is a boundary between the individual and the environment. They are defined to be in constant interaction with one another. One cannot define the features of the individual without the environment, and vice versa.

As the early social workers argued for understanding individuals in relation to their contexts, and as later social workers began to move away from the diagnostic, psychoanalytic schools, General Systems Theory appeared at a time to be readily mainstreamed into social work theory and literature. Hearn (1969) edited a volume of papers about how systems theory could guide practice in various social work arenas. The contributing authors provided compelling arguments that systems theory gave an integrating practice model for the profession. Hearn wrote that the papers in the volume took “the interdependence of the system and its environment and the inevitable interaction between them...as fact and...fundamental principle” (p. 64).

In his contributory paper Gordon (1969) reflected on the interplay between psychological theory, developed to understand the individual, and sociological or economic theory, developed to understand the environment. He noted that while the social work focus had been on the individual, with GST the focus could be on the

transactions between individuals and the environment. Gordon found in General Systems Theory support for the “central focus of social work...on the person-on-his-life-situation complex – a *simultaneous dual focus* on man and environment” (p. 6). He utilized GST to further the idea that exchanges existed in the interfaces between the individual and environment and that change-oriented activity, such as social work practice, involved both.

In the same volume Polsky (1969) found utility in the GST concepts of boundaries and energy flow because it helped explain interactions between the various social systems in which social workers were positioned. He used systemic thinking regarding service provision by noting the existence of normality and pathology in the service system; he argued that the system of service must function well to meet the needs of clients. Polsky further contended that social work intervention should be aimed at increased mastery of individuals over their situations. Shulman’s (1969) paper expanded the concepts of GST to look at how groups of individuals constitute systems. He focused his argument on the interactive process between individuals (as a group) and the service setting as the environment.

In his summative contribution to this volume, Hearn (1969) discussed the utility of conceiving of human systems as open systems, in energy exchanges with the environment. For example, social workers could focus on identifying interactions at the person-environment interface in order to determine if they were growth-producing. In each of these papers, the individual and the environment were seen as separate systems with a clear boundary between them. These authors contended that GST could assist social workers as a profession in better defining a long-held belief in the complexity of

human functioning and they challenged practitioners to assess and intervene at the person-environment intersystem.

Ecological theory. In a similar vein Germain (1973) began to explore how ecological thought can be applied to social work practice. Ecological theory considers the natural world and focuses on the adaptive fit of individuals with their environments as well as on the process by which they achieve equilibrium and mutuality. Germain found ecological theory useful for social workers because it placed the individual in an inseparable and continuous transaction with the environment. She believed social workers could therefore “avoid dichotomizing person and situation and direct our attention to the transactions between them” (p. 326). This approach is non-pathological toward the individual, and problems can be seen as problems of living instead of disorders of character or personality. Environments are seen as able to increase or decrease the likelihood that individuals achieve necessary developmental tasks. The environment is believed to have greater influence on the individual than the reverse.

Germain (1978) promoted ecological theory and developed its applicability to understanding human behavior and mental health problems. She discussed the boundaries between the person and the environment as being on a spectrum of rigid to loose. She contended that an appropriate boundary was a necessary aspect of a growth-promoting interface. She also suggested that boundaries between self and environment should operate fluidly so that the two systems make up “complementary parts of a whole in which person and environment are constantly changing and shaping the other” (p. 539). The environment is conceptualized as physical, social and cultural but continues to be seen as localized and external. The influence of a national or political environment, for example, is not addressed. The environment is considered separate

from the individual but problems occur in between the two in tandem. The individual and the environment are understood to have mutuality of influence but there remains uncertainty regarding how these transactions actually take place.

Germain (1981) later categorized the environment regarding its provision of a growth-promoting interface for individuals with terms such as “impinging,” “nutritive,” and “noxious.” She drew from ideas in ego psychology and attachment theory in order to explain the psychological aspect of self in relation to, and interaction with, the environment, though this aspect of her approach was not emphasized as part of the ecological model (Gitterman & Germain, 2008). Germain continued to expand the ecological perspective and promoted assessment and intervention by social workers at the level of person-environment interactions.

The notion of adaptation remained central to Germain’s writing as did the underlying concept of goodness of fit between the needs of the individual and the environmental context. She wrote of adaptation as a “transactional process in which people shape their physical and social environments and, in turn, are shaped by them” (1981, p. 325) and that this formulation should inform practice. Though she believed in the reciprocity between the individual and the environment, the goal of intervention was to improve individual functioning through improving person-environment transactions. However, as Young (1994) critiques, while the theory promoted the interface as the intervention point, in the ecologically based *Life Model of Social Work Practice* (Gitterman & Germain, 1976), intervention strategies focus on either the individual or the environment. None are specific to interactional problems. The interface proves a difficult space within which to intervene.

Other authors utilized ecological perspectives for social work theory development. Whittaker, Schinke, and Gilchrist (1986) discussed environmental modification, consisting of changing social support networks and service provision, and its applicability to child and family services. They based their approach on the ecological framework and the p-i-e concept. They found these perspectives provided an opportunity to avoid pathologizing individuals and their behaviors. The authors cited evidence in support of improving individual functioning through a dual focus on changing environmental factors in combination with individually-focused skill building. This model emphasized individuals coping with environmental contexts. Service providers were seen as part of the client system. The authors introduced the idea that practitioners and clients may have different views on the service system.

The Ecosystems Perspective

The ecosystems perspective combined the ecological perspective as adapted for social work by Gitterman and Germain (1976) with concepts from *General Systems Theory* (Bertalanffy, 1969) in an attempt to more broadly integrate biopsychosocial aspects of human functioning. Within the ecosystems framework, both individuals and the environment are understood to be physical as well as social entities. Individuals' adaptive capabilities are seen as having both psychological and biological underpinnings. Clinical interventions are therefore directed at the interchanges between persons and their environments; concepts of reciprocity and mutuality between these two entities are stressed (Greif & Lynch, 1983). Emphasis is on the systemic nature of relationships between individuals and on the therapist as a participant in the client system.

Hartman and Laird (1983) relied on both the ecological perspective and general systems features to evaluate the relational relevance of the larger community to family development and process. They developed the “ecomap” as a mechanism to assess the relationship between families, as individual systems, and the environment. The bidirectional flow between the family system and the external system maintains the idea of mutual influence between system components. This feature of system behavior is reliant on the idea of relational reciprocity between individuals and environments. Reciprocity indicates the existence of two discrete entities. Though the whole system is impacted by change in one area the components are conceptually differentiated from one another. Change, therefore, can be attributed to one component of the system at a time.

Greif and Lynch (1983) noted that the ecosystems perspective “when applied to practice...focus[ed] the social worker’s vision upon the way that people and environmental forces interact” (p. 35). They viewed the model as a conceptual umbrella used to focus the practitioner during assessment to aid in selecting appropriate interventions from the available person-focused repertoire. The authors highlighted the utility of the concepts of adaptation between organisms and environments in showing processes of change. They emphasized the need to define a system’s boundaries, structure, hierarchy, transactions, frame of reference, and time. The authors also used the ecological notions of an interface to describe the person-environment relationship.

Ecosystemic thinking led these authors to look at interventions “aimed at supporting, supplementing, or eradicating aspects of the situation to create changes that will provide for a better adaptive fit for the person-environment interaction” (Greif & Lynch, 1983, p. 67). They promoted a social work focus on making the “environment

and the individual more responsive to one another” (p. 68). They did not prescribe intervention, however, rather drawing social workers' attention to selecting appropriate strategies based on an ecosystemic assessment.

DeHoyos (1989) presented a “tri-level practice model” aimed at conceptualizing how a p-i-e treatment approach might work in practice, claiming that because systems theory focused on processes of change it did not aid intervention choice at a static moment. She proposed a model that demonstrated how social workers could choose to focus their practice on either the personality system (individual); the interactional system (the individual in social networks); or the sociocultural system (the individual in social networks in a societal context) (p. 135). DeHoyos defined problems as existing in one of these three systems, but not necessarily in a given system in tandem with another. The levels of systems interacted but were separate.

Promotion of Person-in-Environment

As social workers began to increase specialization in practice perspectives and theory utilization, the push to integrate practice under one conceptual framework was compelling (Cornell, 2006). Ecosystems and p-i-e provided social workers with much needed descriptions of what happens to individuals in their complex interactive environments. Social workers began adapting the systems language in practice and utilizing the term “person-in-situation” or “person-in-environment.” Hollis (1970) wrote that social workers were now practicing from the *person-in-situation* systems approach. Hollis built on Hamilton’s (1941) psycho-social formulation with the advent of systems language. She wrote that the “psychosocial view is essentially a system theory approach to casework” and that the major system “to which diagnosis and treatment are addressed is [that of] the person-in-situation” (p. 35).

Systems theory now informed assessment by not merely looking for an individual diagnosis but by undertaking a thorough understanding of all the factors that contributed to a client's problem. Systemic thinking contributed to an updated version of Hollis's earlier (1949) call for the social worker to practice "environmental modification" to improve client functioning. Hollis now (1970) commented that the individual should be "seen in the context of his interactions or transactions with the external world; and the segment of the external world with which he is in close interaction must also be understood" (pp. 35-36). She wrote that after assessment, treatment was based on the location of the transactional problem, and could focus on the person, the environment, or both, or the interactions between them.

DeHoyos (1989) noted how social workers developed an affinity for both the ecological approach, which brings attention to the influence of the environment over human experience, and GST, which describes the processes by which interactions with the environment occur. In combining these frameworks, ecosystems addresses both the individual management of a biological, psychological, and social self as well as the larger systemic processes by which this occurs. The ability of the perspective to integrate a biopsychosocial view on human functioning is critical. Biologically, the individual is seen as an adaptive being in transaction with the environment in order to achieve homeostatic existence. This process is regulated through interaction between the smallest system, the self, and the larger systems at the societal level. Psychological processes are understood to be at the interface of these systems. Despite being flexible enough to organize human experience systemically, however, the concept does not address the process by which the interactions among environments occur.

Greif and Lynch (1983) contended that the ecosystems perspective addressed the “adaptive transactions among impinging systems, and offer[ed] a way of organizing the complex variables in social work cases” (p. 11). Similarly, Germain (1978) wrote that “in the case of human beings, the adaptive processes are not solely biological but are also psychological, social, and cultural” (p. 539). She used concepts from ego psychology to describe the psychological experience in navigating the interface of the biological self and the social environment. While the psychological experience is accounted for, a clear articulation of how intrapsychic processes might influence an individual’s interaction with the environment is missing.

Some believed that in ecosystems formulations, biological processes became “translated metaphorically” to social processes, considering variables such as “culture, politics and economics, social policies, and organizational structures” (Greif & Lynch, 1983, p. 40). An individual acted “not only with his/her personality, but also with awareness of the scope of the situation in his/her role in the impinging social systems, and in reference to his/her particular cultural ideology” (p. 44). Systems theory had contributed to a shift in the early intervention-focus debate between either individual or environment and opened new areas for consideration.

The practice environment, informed by larger changes in American society in the 1960s and 1970s, created an ability to critique the society and systems within which individuals live. Social workers had yearned for an explanatory model for how clients are affected by the societal context. Because of this, early proponents of systems theory were able to argue for increasing attentiveness to the nature of the experience of a person in an environment. Social workers also began to conceive of the service delivery system itself as an entity within the client system. Social workers found an ability to

articulate a message and therefore advocate with more certainty for increased understanding of these interfaces and interactions. These perspectives continue to profoundly inform social work education and practice. Many of the concepts are now taken as professional beliefs about how individuals exist in relation to others and their external environments.

The Current Use of P-I-E in Social Work Education and Practice

As the p-i-e concept continued to assume prominence as an overarching social work perspective, social workers broadly incorporated it in educational and practice settings. In fact, social work practice, regardless of theoretical underpinnings, is now often categorized as *social work* because it incorporates a p-i-e lens (Wakefield, 1996b). One need look no further than the mandates from the Council on Social Work Education (2004) and current social work textbooks for examples of how well integrated the p-i-e concept has become.

One of the reasons that this concept has been so widely embraced in contemporary times is that it provides a format for systemic understanding of human functioning, crucial to the biopsychosocial perspective that is also fundamental to social work practice (CSWE, 2004). Secondly, the p-i-e concept provides a basis for arguing on behalf of the social justice issues that social workers see as an ethical mandate for their work (CSWE, 2004; NASW, 2008). Finally, p-i-e allows social workers to assess the existence of relationships between individuals and their environments that informs a depathologized view of individual issues in functioning. The type of assessment of human functioning that the p-i-e concept supports can be used throughout various social work practice settings.

In her widely used social work textbook *Human Behavior in the Social Environment*, Rogers (2010) discusses how understanding the social environment is paramount in order to understand human behavior. She comments that social workers must review and integrate theory into practice only when it supports the tenets of the p-i-e concept. The environment is conceptualized as the interactions between individuals and in the interrelationships between individual behavior and larger social environments. Rogers further asserts that assessment of individuals must take into account their problems with environmental context consisting of the interrelated micro, mezzo, and macro systems. Rogers discusses the contexts of social work practice as being influenced by mechanisms of practitioner choice, stating that the place of practice will likely “dictate, to some extent, how theories get used in practice” (p. 11). She then explores how different theoretical approaches would focus on different aspects of this interaction.

In another social work textbook, Hutchison (2012) explores the p-i-e concept from a somewhat more integrative standpoint. She argues for increased relevance of the concept through looking at environments from a “multidimensional” approach. Her approach remains rooted in systems thinking yet demonstrates a shift in the field towards more integrative and dynamic ways to explore the person-environment relationship. For example, she looks to increase awareness that the factor of time must be taken into account when assessing the person and environment relationship. Hutchison also promotes greater prominence for certain personal factors like spirituality that have arguably been left out of most p-i-e renderings. However, despite these shifts, the text still relies on separating the individual from the external environment and assesses social systems from the micro to the macro.

Dziegielewski and Wodarski (2002) edit a series of papers about how to incorporate the theoretical underpinnings of the p-i-e concept to meet the aims of evidence-based practice. They promote the need for increased research to demonstrate whether the client “changes really matter in terms of [their] ability to function in their environments” (p. 12). They formulate an environment that places demands on individuals as it continues to exist outside the client. They push for social workers to be literate in the many theories of human development and human behavior in the “environment” of evidence-based practice placing demands on practitioners.

In the *Person-in-Environment System* manual, first published in 1994, Karls and O’Keefe (2008) create an assessment tool specifically geared to identifying problems in individual functioning as related to the environment. The manual guides clinicians through four areas of assessment: social role and relationship functioning, environmental conditions affecting client functioning (which includes people as environmental systems), mental health functioning, and physical health functioning. Assessment includes determining the presence of issues such as discrimination, lack of social support, and availability of community resources. There is no prescribed intervention, but rather the manual is meant to act as a mechanism for gathering data about individual and environmental characteristics in order to identify possible intervention points. The authors note that their manual is geared to aid practitioners in evaluating effectiveness of interventions so as to be useful in practice under managed care requirements.

Systems as Separatist

These texts demonstrate the way in which the p-i-e concept is taught currently in social work education. Beginning with the early systems thinking that linked person

and environment social workers have primarily operated as if a real boundary exists between the individual and environment. This assumed boundary contributes to a continued professional conceptual differentiation in definitions of aspects of human functioning. This in turn contributes to separately defining the biological, psychological, and social environments. In addition there is an assumed existence of a hierarchical leveling of systems (i.e. from the macro to the micro) and it is taken for granted that there are real boundaries between these systems.

This theme is derived from the thinking of a number of social psychology theorists, most notably the concepts of “nested” systems from Uri Bronfenbrenner’s *Ecology of Human Development* (1980). Bronfenbrenner’s formulation is helpful in its ability to account for differing sociocultural contexts that influence human development. But the perspective contributes to a separatist mentality because human development is established as occurring first in the microsystems of proximal environments and then increasingly into larger meso- and macrosystems at the societal level.

This type of definition--which directs social workers to look at levels of environments--is similar to how GST defines different agents of the system. Despite requiring the presence of each agent in order to define the system, these separate aspects of experience are seen as having a capacity for action in and of themselves. The parts of the system are defined separately from one another. It is as if to say that because in a physical sense a home is separate from a community, or in a biological sense a mind is separate from a body, that social workers can intervene in the area of one of these environmental components without the other.

Most of these authors speak to the mutuality of influence among system components. Yet if social workers operate as if the external environment, the

interpersonal world, and biological experience must be defined separately on all levels of understanding because in certain theories they are defined as such, they miss seeing the dynamic interplay between these spheres. Some, such as Hutchison (2012), have begun to discuss a view of dynamic interrelatedness of components that can aid p-i-e concept in accommodating a complete biopsychosocial spectrum. But so far, social workers have hooked themselves to a definition of “person” and “environment” that suits them in some ways but not in the way they purport – as a mechanism to bind and unify the professional group.

Chapter Three

Current Education and Practice Environment

In this chapter I will look at how, despite its foundational systemic orientation, a large part of professional education and the practice environment remains separatist. I will look at how discretely defining biological, psychological, and social processes influences practice differentiation to such a degree that the p-i-e concept, promoted as fundamental, is limited in conceptual utility and practice application. The way that social workers were, and are still, positioned in the field also contributes to this splicing off of areas of focus. Social workers operate with professional discrepancies in conceptual orientation between researchers and clinicians, behaviorists and psychodynamic practitioners, and macro versus micro perspectives, to name a few. Practice perspectives do not often accommodate complexity or dynamism.

Embedded in the systems principles described earlier is a failure to take into account the interactive nature of individual participation in making meaning of external influences through construction of sociocultural processes, personal psychological makeup, or one's biological and neurological experience. Various social systems are assumed to actually exist in the manner in which they are being defined. Therefore, the influence of the larger systems is taken as more powerful than that of the individual's sense of, or creation of, external contexts (Kondrat, 2002). The external systems (family, neighborhood, community, etc.) are split off from one another in levels defined by virtue of their physical size with no differentiation regarding their relative power over individual experience (Saleebey, 2004). Personal perception of how a certain external system may be influential at any given moment is not taken into account in defining these levels.

Social workers historically have assessed the nature of the external environment and the influence of societal processes on clients. They have also intervened in areas of individual human health and functioning. In doing so they have developed and employed theories that assist in understanding and treating the areas of biological/internal and psychological/relational experience. It has proven a challenge to bind these discrete practice areas under the principles of p-i-e. Per Cornell's (2006) summary of this dilemma, there is

continuing difficulty of integrating the person, the environment, and the interaction between the two in the theories that guide clinical social work practice, as theories have traditionally focused on intrapsychic issues with minimal attention to the environment or socio-cultural issues with little emphasize on the individual. (p. 53)

I add that more biologically focused social workers also struggle in finding the p-i-e concept accommodating. These arguments, outlined below, are attempts to develop in social work a sense of the environment that captures certain discrete aspects of theoretical orientations. Each author believes that the "environment" as it is constructed does not capture an aspect of individual development and functioning that is crucial to the way in which social workers assess and treat clients.

In this chapter I briefly discuss how social workers in clinical practice have historically relied primarily on psychodynamic perspectives, with the later addition of developmental and cognitive behavioral theories, to understand and treat psychological or relational issues (Simpson et al., 2007). The psychological context is an area of focus in order to treat individuals and improve aspects of personal functioning.

Psychologically-focused theory has developed mainly in the absence of awareness of large scale, social, historical, and cultural processes, save for a few theorists who take these factors into account. I then look at how aspects of individual biology are

understood in social work practice and education. Social workers promote theories that look at "natural" tendencies and predispositions, biochemical processes, and brain processes.

I evaluate arguments against the p-i-e concept from social workers who contend it misses aspects of functioning in these two areas. The perceived lack of an account of the biological and psychological experience of the individual is crucial to why many have criticized or attempted to reformulate the p-i-e concept. Authors have addressed limitations in p-i-e through a number of different conceptual lenses. Several have attempted to reform the p-i-e concept so as to create a better account for biological and psychological processes. The p-i-e concept is shown to allow for a false rendering that an individual is a systemic summation of discrete parts that influence, but do not dynamically relate to, one another.

I then explore how, despite this separatist background, social workers currently incorporate more dynamic theories into education and practice. These have improved the ability to have simultaneous focus on different contexts. The first example, attachment theory, dynamically links the biological and psychological environments though mainly without incorporating large-scale sociocultural processes. In parallel, social workers adopt perspectives such as social constructionism and postmodernism, which accommodate the overlap between societal processes and areas of individual psychological functioning but without much reference to biological process. I will examine how the functionality of these theories can be examined to understand how a dynamic redevelopment of p-i-e can meet the goal of offering a concept that remains foundational in education and also operates across practice settings.

Psychological Experience and P-I-E

Simultaneous with the development of perspectives that accounted for external environmental factors, in the early part of the 20th century social workers in psychiatric practice began to look more closely at the influence of interpersonal experience and individual psychological makeup. These social workers, like other practitioners in the mental health field, relied heavily on psychodynamic perspectives in order to consider individual psychological experience (Cornell, 2006; Dore, 1990). First influenced by analysts such as Sigmund Freud, Carl Jung, and Melanie Klein, psychiatrically focused social workers looked at individual development and relational experience as a function of the development of internal psychological processes and constructs over time. Many differences between psychodynamic theorists ensued, yet they shared the belief in the necessity of evaluating childhood experiences, ongoing interpersonal functioning, and individual psychological personality or character traits (Simpson et al., 2007).

Psychodynamic theory as developed by Freud in his structural theory separates the different aspects of brain functioning and psychological experience (Freud, 1923/1962). Further, the psychological environment is conceived of as being able to be treated on an individual or familial basis. Psychologically-focused perspectives have developed with this separatist stance. The greater part of psychodynamic theory focuses on the relationship between the client and the therapist who are tasked to find ways to change psychological experience rather than change the external environment (Goldstein, 1996).

For the most part the therapist is not considered to be part of the client's psychological system. Though the concept of transference accounts for the influence of the therapist, the therapist is traditionally positioned as an objective observer of the

client's experience. Some psychodynamic theorists, notably Harry Stack Sullivan (1953), considered the influence of larger social and cultural processes in their work. Others continue to speak for increased awareness of links between cultural issues and individual experience (Applegate, 1990) though the mechanism of change still occurs through the therapeutic relationship regardless of the external influences.

The nature of the separated psychological experience can be seen in other social work practice perspectives. The development of functionalism and Erikson's (1959) psychosocial life cycle model, both built on aspects of psychodynamic theory, are notable for capturing how social workers have been influenced by separatist terminology. Functionalism partializes many aspects of social work practice and client experience (Dore, 1990). Role and function are highlighted and social workers are required to attend to discrete parts of systems in order to effect change. Erikson's life cycle model separates development into defined stages based on emotional, physical, and relational aspects of functioning. Erikson does promote the idea that these stages are not so much fixed as they are normative, but the overall effect is the creation of a boundary between the life stages. Therefore in the interpretation and ensuing application of his model, dynamism over the lifespan and among these stages can appear lost.

Cognitive behavioral theories, including social learning, have also been promoted in social work practice to explain how cognitive processes influence emotions and behavior (Simpson et al., 2007). These perspectives hold a separatist account regarding the manner in which individual psychological experience functions. In these perspectives "cognition influences behavioral and emotional adjustment" (p. 8). Cognition is separated from behavior and emotion in a manner similar to how GST

separates the individual and the environment: linked in influence but able to be assessed and treated separately.

The psychological environment has been defined in such a way that assessment and intervention can occur irrespective of societal or cultural processes. This is due to the landscape of human psychological experience being defined separately from other areas of human functioning. Goldstein (1996) demonstrates how separatist mentalities in the field create a dilemma for some social workers. Though she supports a p-i-e lens she summarized that those who see themselves as more *clinically* focused are faced with the following problem:

We cannot return to a reliance on those psychodynamic or other theories that conceptually isolate people from their interpersonal relationships or environment or psychotherapeutic models exclusively but we also cannot disregard clients' difficulties in coping that stem from impairments or deficits in their inner capacities and their need for more supportive and intensive individual, family, and group treatment. (p. 100)

Social workers who adopt these psychologically-focused development and practice perspectives must figure out how to apply them while also accounting for external influences as they have been instructed in their social work education.

Saleebey (2004) finds limitations with p-i-e but moves toward answering how personal perception might be better integrated into the model. He supports the ecological framework as it is linked to p-i-e in so far as understanding how the environment “promotes challenges and offers resources” is critical to social work practice (p. 7). He focuses attention on how children develop a sense of identity and behavioral patterns through proximal environments. Saleebey takes a constructionist perspective to convey the power of symbols in the creation of meaning and perceptions throughout a child’s development. He therefore critiques p-i-e from a psychological

development standpoint because it overlooks the smallest aspects of the environments, the more immediate social and physical environments such as classrooms and neighborhoods (p. 8).

Mishne (1982) directly argues that the ecosystems perspective is missing the intrapsychic system given that it colors how an individual interacts with the environment. She emphasizes the necessity for social workers to understand the intrapsychic system in order to “begin where the client is” in determining how to assist in the required environmental relational negotiations (p. 549). How this system is incorporated into the overall levels of systems, however, is still presented as a smaller, limited role within the larger systems.

Meyer (1983) furthers the conceptualization of the individual in interaction with the environment as she introduces more clarity regarding individuals as having a psychological makeup. She argues that ego psychology successfully addresses notions of adaptation and coping and can assist in assessing individual interactions with the environment. She notes that ecosystemic ideas cannot be used for intervention but rather for demonstrating how the variables in a system are related to one another. She contends that individually focused assessment and intervention has been easier and more clearly defined for practitioners because intervention on the environment is too vast. But she pushes for a psychosocial paradigm that incorporates the psychology of the self in interaction with the environment.

Meyer (1983) wrote that “social work clinicians will have to develop skills to intervene in people’s impinging environments” if they were to continue to practice with regard to the social work professional value-base (p. 24). She defines cases as transactions in which practitioners must “visualize” the reciprocity between individual

and environment. Further, she articulates how non-linear assessment means the application of non-linear interventions that focus on process. This perspective focuses the practitioner on the individual in reference to environmental context and on issues of reciprocity rather than causality.

Both postmodernism and psychodynamic theories inform Saari's (2002) contentions about how the external environment relates to individual human functioning. Saari utilizes multiple theoretical approaches in defining the interactions between social environments and individuals, including perspectives on child attachment, development, and the construction of meaning through language. She develops a term, transcontextualization, to describe an individual's successful movement among environments saying that "maintaining a coherent sense of self while moving between different environments is one indicator of healthy functioning" (p. 76).

Saari (2002) sees individuals as navigating various contexts throughout life, processes that can create both healthy and unhealthy individual functioning. Clients can therefore fail to adapt to different environments, and the focus of the intervention is at the individual or family level. The idea of failure is problematic, however, because the basis of the framework posits that all behavior has an adaptive function. A lack of an adaptive fit between a certain client and her/his therapist may be less a *failure* than a mismatch between functionality and context.

Also exploring p-i-e from a psychodynamic perspective, Young (1994) addresses the applicability of Kohut's self-psychology in reference to the "human environment" of an individual's life (p. 205). He suggests utilizing the concept of the selfobject to understand one's relation to the environment of others. The environment here is positioned as one of a person's selfobjects and can therefore be addressed to promote

healthy self-development. He argues for seeing the social worker as part of the system because “successful engagement with a psychotherapist constitutes a major modification (addition) to one’s environment” (p. 213). Neither Saari (1992, 2002) nor Young include the physical environment in their analyses. Social contexts are the primary environmental consideration and individuals the focus of intervention. The split between micro and macro levels continues here despite these authors’ increased attention to further develop how the environment of the individual is defined.

Unger (2000) pushes for clinical practice to incorporate postmodern perspectives into the ecosystemic framework. He challenges clinicians to address inherent problems with the idea of the social worker as expert who labels the system and acts in a hierarchical manner within it. He does not suggest that the nature of the descriptive processes is inaccurate but rather raises awareness about the implications of its use. In a later second order cybernetics argument, Unger (2002) furthers this critique of ecosystems from the position that the proponents lack insight into the power imbalance between the worker and the client in determining the nature of the system because the system is defined as if the social worker were outside it. He pushes for a “new ecology” that promotes an understanding that *best practice* is relative to the time and space in which it is evaluated. Unger further criticizes the role of social workers in ecosystemic practice terms by pointing out their engagement in societal structures that continue to subjugate and disenfranchise clients.

Unger’s (2000) ability to argue for increased awareness of the subjective nature of any formulation, including the p-i-e concept, is relevant in that it pushes social workers to better manage perceptions of the nature of relationships as perceptions rather than facts. While appropriately calling out social workers for continuing to

engage in situations with hierarchical positions toward their clients, what Unger fails to attend to is that the perception of the social work practice environment has also influenced social workers in managing these systemic roles. The idea that social workers are in hierarchical positions, for example, is only “true” if they ascribe to certain practice beliefs that describe this as the nature of the relationship. The relational context between a client and a clinician is therefore only hierarchical insofar as the two participants ascribe this meaning to the relationship; the practice environment within which the work occurs, both proximal and distal, informs this view of relationship as well.

Kondrat (2002) discusses the utility of applying structuration theory (Giddens, 1984) to social worker’s understanding of the individual-environment relationship. This “refers to the processes through which society and its structures shape the activity of individuals” (p. 437). Structuration theory, as opposed to the ecosystems perspective, focuses attention on recursive relationships instead of transactional ones and is therefore better suited for postmodern perspectives. Kondrat wrote that

In this framework, one would ask not only ‘what effect does the social environment have on individual behavior and life chances’ but also ‘what do routine and recurring interactions contribute to the production of the structures that make up the social environment. (p. 444)

Based on Giddens’ theory, Kondrat conceives of the environment as a continual co-construction of society by individual actors.

The Biological Experience and P-I-E

Social workers have adopted a multitude of practice perspectives to understand the internal biological environment. The areas of study range from the genetic to neurological to physiological features and include explorations in the biophysiological

experience of mental illness. Now with increased knowledge about brain functioning and biochemistry there is a renewed focus on the brain, human biological and instinctual processes, and also human adaptation from an evolutionary perspective. Simpson et al. (2007) see advancements in neuroscience as being able to aid social workers to apply areas of biological experience across different arenas. They comment that “from molecules to behavior to neighborhood dynamics, the many biopsychosocial transactions that contribute to the personal, interpersonal and contextual aspects of our functioning are becoming better understood” (p. 8).

The lack of attention to the biological environment in the p-i-e concept is paramount in Saleebey's (1992) pointed argument against the framework. His paper outlines numerous perspectives that account for biological experience (though some now outdated) as well as reasons why social work practice tends to discount or avoid the biological context. He summarized that

Although the profession of social work credits itself for using a biopsychosocial perspective in theory and practice, the body (the "bio") is virtually absent from the profession's knowing and doing. If social workers are serious about understanding and marshaling elements of person-in-environment transactions, then to disdain the body results in a lack of appreciative reach, the possibility of egregious errors of assessment, and missed opportunities to aid in the process of regeneration for clients. (p. 112)

In his argument Saleebey challenges social workers to find a binding theoretical perspective that accounts for physical experience as part of an integrated contextual understanding of human life.

The growth in knowledge about human functioning on a biophysiological level has also led to attempts to reformulate the p-i-e concept. Writing extensively about individuals in interaction with their environments from a risk and resilience perspective, Fraser (2004a) discusses the environment as a potentially negative force

that poses risks to individuals unless mediated by protective factors, which can be both individual and environmental. He defines the environment as being both other people and social entities such as education, employment, and racial discrimination (Fraser, 2004b).

Fraser (2004b) also discusses how individual experiences with the environment can have biophysiological effects on the person, such as causing elevated stress levels, and how individuals may have genetic predispositions to being vulnerable to these environmental risks. The individual is here conceived of as being in interaction with the environmental context and as having characteristics that mediate how the environment influences development. Controversially for some social workers, this leads Fraser to suggest interventions focused on individuals coping in risky environments, rather than advocating for change at the level of the perceived environmental risk.

McCutcheon (2006) considers individual biology in his discussion of how gene-environment interactions can be evaluated as dynamics in the etiology of mental disorders. He contends there are “biological and environmental antecedents” to mental illness (p. 160) that can be pinpointed. His conceptualization is of the genetic predispositions of individuals in interaction with the environment, almost devoid of the individual in conscious awareness. McCutcheon calls for future research in “how environment mediates risk for psychopathology by moving beyond the identification of risk factors to identify causal risk processes” (p. 175). Like Fraser, he posits that there is an inherent depersonalization of the p-i-e concept despite the fact that genetic makeup might be considered to be one of an individual’s most personal attributes.

Approaching Integration

I have so far explored how social work practice perspectives operate from a separatist standpoint. Certain authors critique and attempt to redevelop p-i-e such that it integrates the different influential environments in which they see themselves as primarily practicing. Yet social workers have also begun to adopt theories that bridge increasingly complex systemic connections between an individual and multiple environments per the biopsychosocial vantage point. The mainstream professional acceptance of certain psychological and developmental theories, such as attachment theory, has occurred in part because social workers are able to use new scientific tools to look "into" people's internal, biological experiences while building on current theoretical concepts of the external and observed processes. Additionally, practitioners promote social constructionism and postmodernism wherein interpersonal, relational exchanges are seen in light of culturally informed and individually constructed interactions.

Attachment Theory

From its inception, attachment theory has provided a well-integrated model for the system of complex interactions between an individual's biological, psychological, and relational experiences. Attachment theory was developed by Bowlby and developed further in his work with Ainsworth, who is credited with developing the commonly used typology for human attachment behavior. Bowlby (1970) noted that the theory is accepted broadly because "whilst its concepts are psychological they are also compatible with those of neurophysiology and developmental biology" (p. 202). In attachment theory, Bowlby advances the notion that infants are hard-wired to form attachment bonds to their primary caretakers due to naturally occurring survival instincts. The attachment bond that occurs during infancy and childhood connects the biological

requirement for infant care with the caretaker's responsive behaviors. Ongoing attachment behavior relates to this early imprinting of the biopsychological mechanics of navigating social relational proximity to another individual.

Attachment theory achieves a dynamic integration of the biological and psychological contexts through its focus on the biological and behavioral processes of infant development and the emotional experiences derived in interaction with the attachment figure as mediated by the immediate social environment. Shilkret and Shilkret (2008) highlight the adaptive aspect of attachment theory, positing that "all complex organisms have an attachment system, one that is highly adaptive" because it helps the young survive (p. 190). Bowlby (1970) focuses on such biologically driven instinctual behavior as the activation of fear when infants perceive danger.

More recent attachment theorists move from the construct that the infant's emotional and physical survival is dependent on maintaining relationships with caregivers to adding increasingly complex understandings about how the individual biopsychosocial system develops and functions. As Slade (2000) comments, attachment behavior is a "biologically determined propensity to sustain...attachments to those who provide vital regulation of physiological, behavioral, neural, and affective systems" (p. 1150). She further explores the complexity of the process by highlighting how understanding an individual's mind cannot be undertaken without understanding the social context within which the child grew.

Attachment theory continues to be developed through research into the psychological and neurological processes that underlie the attachment relationship; it remains grounded as a theory of development to understand relational functioning (Shilkret & Shilkret, 2008). Some authors focus more on the psychological aspects of

attachment. Shilkret and Shilkret discuss how attachment theory informs the concept of attunement, related to how well the caregiver is attuned to the infant's need, and in therapy related to the clinician's attunement to the client. They explore how attachment behavior reflects, and varies by culture, demonstrating a direct interplay between the biological, psychological, and social factors affecting relational attunement in therapy.

The authors emphasize how early studies in attachment highlight the distressing, even traumatic, emotional experiences of children being left alone. Distress and trauma emerge today as key words in attachment theory, indicating integration of the psychological with biological and social phenomena. Authors also discuss how attachment style informs unconscious interpersonal expectations and behavior and can be transmitted intergenerationally (Shilkret & Shilkret, 2008). This type of exploration demonstrates the interrelatedness between the biological and psychological nature of infant development with the psychological and social nature of the parental behavior. There are also important implications of this process for the therapeutic relationship.

In his research, Fonagy focuses primarily on the psychological and social aspects of attachment while accounting for the biological basis of the phenomenon. In *Attachment Theory and Psychoanalysis* Fonagy (2001) notes the shift from earlier attachment research, focused heavily on the behavior and environments of the infant, to the more psychodynamic focus on internal representations in the infant-parent dyad. He demonstrates the relevance of attachment in clinical work, discussing research in areas including the presence of psychopathology, parental behavior, and individual patterns for interpreting and relating to others that affect emotional regulation.

Fonagy and associates define the concept "mentalization" to describe the psychological process of infant cognitive development in interpreting the social

environment in order to moderate environmental influences (Fonagy, Gergely, Jurist, & Target, 2002). The individual is purported to develop the ability to differentiate the internal from external through the capacity to acknowledge that one has a mind of her/his own as do others. Mentalization is seen as a “core aspect of human social functioning that hinges on the language skills and cognitive processes necessary to organize an individual’s subjective experience of the world” (p. 6). It is a psychological and emotional process that develops in the self but is influenced by others, and a successful process is based on the “quality” of interactions between caregiver and infant (p. 34).

The integration of the biological aspects of infant development, such as the infant’s five senses, in conjunction with the relevance of the social, in parents, siblings, and peers, is also fundamental. Fonagy et al. (2002) utilize “dynamic skills theory” to pull together the biological, psychological, and social components of developing successful mentalization, writing that it is “molded by many dynamically interacting influences, such as the individual’s emotions, social interaction, family relationships and environment, important social groups, [and] the reactions of the wider world” (p. 60). The integration of the biological, psychological, and social factors of human experience is an individual dynamic system of biologically-derived feelings, individual representations, and relational experiences.

In their research, Schore and Schore (2008) lead the field in understanding the links between brain development and affect regulation. They write, “from its very beginnings, attachment theory has shared with clinical social work a common biopsychosocial perspective” (p. 10). Like other researchers, they use Bowlby’s core ideas but move away from behaviorism and toward neurobiological explanations for

demonstrating attachment processes. They discuss “psychobiological” findings related to how “emotional transactions with the primary object impact the development of psychic structure” (p. 9).

Schore and Schore (2008) focus on the nature of psychobiological attunement in the parent-infant relationship. They look at how this process influences infant brain regulatory systems. Shore and Shore discuss how developments in neurological research underscore the biopsychosocial integration of attachment theory in addressing “the brain-mind-body-environment relational matrix out of which each individual emerges” (p. 10). The authors focus on aspects of brain functioning such as (1) the central nervous system and autonomic nervous system; (2) the synaptic growth in the brain and its relatedness to emotion is regulation; (3) relations between cognition and autonomic functioning; and (4) skills in socializing. Attachment in this conceptualization is related to how individuals neurobiologically code certain emotional experiences and how their responses to these experiences relate to affect regulation and non-verbal communication patterns important in the therapeutic context.

Fundamental to this line of inquiry is how brain development occurs during infancy, its effects on emotion regulation, and the influence of attachment relations and environmental influences on this process. Cozolino (2002) described this attachment experience as being mediated by “the expression of our evolutionary past via the organization and functioning of the nervous system...[and the] shaping of neural architecture within the context of significant interpersonal relationships” (pp. 15-16). Applegate and Shapiro (2005) also describe important aspects of brain development as it relates to attachment and emotion regulation. In infancy, the brain is exposed to

different experiences, both internal and external, in order for neurons to be activated and then synaptically connected to each other.

Relational experiences are required for the infant brain to develop. Neuronal links develop between the cortex and the limbic system through relational experiences, and the “quality of a child’s caregiving experiences may ‘charge’ these neural circuits with either positive or negative affects” (Applegate & Shapiro, 2005, p. 11). Here attachment theory provides for conceptual integration by explaining how the psychological and social experience of exposure to stress affects the biophysiology of the infant through the autonomic nervous system with a resulting impact on such factors as memory formation and ongoing relational tendencies.

The ability to regulate affect is thus a continuous interplay between the biological autonomic nervous system and psychological cognitions and affect expressions, which are both influenced by social experience, past and present. Seigel (1999) focuses on how patterns of brain function can shed light on attachment typology derived from the research outcomes from Ainsworth’s seminal *Strange Situation* study. He contends, “Genetic potential is expressed within the setting of social experiences, which directly influence how neurons connect to one another. Human connections create neuronal connections” (p. 85). Further, because this process is adaptive, in that infants must manage their primary relationships in order to survive. Brain development differs if one is required to attach to a disregulated rather than emotionally regulated environment. In the former the individual regulation of affect develops with more difficulty.

In exploring how the biologically driven process of attachment relates to issues of individual psychological experiences and social relationship patterns, attachment theorists continue to provide social work practice with a dynamic model for human

functioning. The continuous interactive process of internal, psychological, and relational experiences is presented so as to account for here-and-now moments of interaction between two people as a way to understand problems in individual functioning. As a psychodynamically derived theory, attachment is used by social workers primarily to understand and treat individuals or families.

While there is awareness of the fact that attachment processes vary cross-culturally (Shilkret & Shilkret, 2008), attachment theorists do not readily speak to those social workers who focus on the “environment” of societal processes such as racism. The *environment* here is that of the most proximate relations. Attachment theory does aid in defining human development as an ongoing dynamic process. Relationships in early childhood play a large role. Social workers can also evaluate and intervene regarding relationships as they continue through adulthood.

Social Constructionism and Postmodernism

Social constructionism is a sociological theory currently used in some social work practice perspectives that describes manners of human participation in the construction of reality. Social constructionism focuses on the “social aspects of knowing” (Dean, 1993, p. 58) and how individuals engage in a continual process of meaning creation by virtue of being in social communities. Rather than accepting objective reality, social constructionists promote the idea that, because of the influence of human cognition, language, and social processes, there is no way of knowing or promoting a *reality* at face value; instead individuals can know only perceptions of reality (Franklin, 1995).

Social constructionists look at how societal mechanisms, such as culture, politics, and economic conditions, are controlled by powerful members of society and influence the way in which individuals conceive of reality. Further, social processes are

paramount because an “interactional view of human behavior...assumes intricate connections exist between persons and social environments, and that the interpersonal, social, and psychological are intertwined” (p. 396). Postmodernism, a perspective related to social constructionism, is especially focused on the deconstruction of texts or narratives to determine underlying structure, meaning, and power relations.

Authors such as Michel Foucault propose a critical assessment of societal structure to understand the impact of powerful discourses on those who lack power. Because of this structural link Foucault’s work is sometimes referenced as poststructuralist, or even structuralist, in nature (Chambon, 1999). His ultimate desire to eschew the empiricist underpinnings of modernism, however, demonstrates a strong correlation between his work and postmodernism (Devine, 1999; Irving, 1999). Foucault’s work challenges social workers to assess how knowledge is *invented* in society, rather than *found*. This requires the social worker to reject the idea that objective truths exist.

Social constructionists argue that any perspective on human functioning is not a true account but rather a construction of experience. In challenging the objectivity of empiricist thinking social constructionists see “social order as a human invention,” and human behavior is understood only within the social context (Atherton, 1993, p. 618). Postmodernists move from any grand theory of explanation, looking at the sociohistorical context of theory construction and dissemination. They evaluate how power structures in society subjugate certain knowledges by disqualifying them and proposing their inadequacy (Foucault, 1980). Foucault wrote that because of the power dynamics in society, “we are subjected to the production of truth” (p. 93). In promotion of social justice both perspectives provide a platform from which clinicians can evaluate

the legitimacy of practice theory. Social workers operating from a postmodernist stance assess individual client experience and see clients in a constant relationship with the societal forces in their lives.

Social workers promoting social constructionism attempt to move their relationship with clients away from “truths” that lead to power hierarchies in direct practice. Atherton (1993) points out that social constructionists value science, but see it as one, but not the only, way of knowing. From the social constructionist perspective, because individuals are participants in the construction of reality, direct practice aims to focus on what clients say and do in the *here and now*. This perspective influences practitioners to focus on client narratives, the meaning of problems to the client, a co-construction of the therapeutic process, and the “sociopolitical processes involved in labeling a problem a problem” (Franklin, 1995, p. 397).

The social constructionist perspective highlights that “the process of understanding is not automatically driven by the forces of nature, but is the result of an active, cooperative enterprise of persons in relationship” (Gergen, 2001, p. 267). Social constructionists go further to explore how cultural context and language dictate the nature of social categories and the meaning ascribed to them. Saari (1992) applies this postmodern approach in order to describe how relational processes, informed by language and cultural context, can be seen as the moderating bridge between individual experience and the environment. Also addressing the adaptive nature of human participation in social processes, Pozatek (1994) cites Foucault in his argument that individuals engage in their own marginalization process in effort to fit in with society. Individuals are conceptualized as unconsciously going along with the social institutions that limit their potential for healthy growth.

Social constructionist ideas lead clinicians to a different type of direct practice. In defining the etiology of psychopathology, society, rather than the individual, can be said to carry a problem. Because describing and explaining the world is considered a form of social action, psychological explanations for individual problems are moved into areas of interactive, social processes. As Dean (1993) wrote, social constructionism “highlights the extent to which beliefs and ideas are determined by one’s position in the world” (p. 58). Problems with individual functioning can be understood as difficulty with managing social roles and evaluated within a sociohistorical, rather than solely personal, context. Postmodernist thinking moves this concept further in addressing how psychopathology is created because it aids political and economic processes that keep certain structures, operating through individuals, in power (Foucault, 1980). These lines of inquiry prompt practitioners to evaluate their participation in the ongoing pathologization of others through education and practice.

Kondrat’s (2002) exploration of the utility of tenets of structuration theory (Giddens, 1984) prompts social workers to see the continuous, *recursive* nature of individual experience in relation to external social processes. The concept of recursiveness demonstrates that a person simultaneously influences features of society as the features are influencing the person. This is due to the constructed nature of social processes, such as social roles and institutional processes. One cannot extract a linear flow of influence between persons and their external environments but rather must see them in a recursive relationship; neither would exist without the presence of the other.

Social constructionist practice perspectives also address linguistic implications in practice such as the use of narratives and labels. Sands and Nuccio (1992) explained that in postmodern feminism, the narratives of individuals in therapeutic encounters

can be deconstructed in order to “uncover the suppressed voices of marginalized populations” and direct practice to work toward social change (p. 493). Per Pozatek (1994), practicing from a social constructionist perspective can lead to a productive stance of uncertainty because it opens room for co-creating the experience of therapy with clients, eschewing authority, and recognizing the power issues at play in legitimized voices. Similarly, Anderson and Goolishian (1992) promote practice from a stance of “not-knowing” in order to elicit new narratives. In this way the therapist remains a participant-observer and a participant-facilitator, rather than a hierarchical leader, in therapeutic encounters.

Social constructionism and postmodernism offer a dynamic linkage between the psychological and social environment. Social constructionist tenets ask of practitioners to evaluate the processes that operate both among individuals and between individuals and society. This view increases the potential to address societal processes that impact client lives. Both social constructionism and postmodern perspectives link individual human functioning to interpersonal and societal relationships. They therefore assist in integrating practice with social justice issues because social workers are encouraged to understand client functioning in reference to an external field. Individually focused practitioners also find utility in these approaches due to theoretical flexibility to assess a current experience of a client and simultaneously account for past social influences and historical trends.

Lessons in Integration

Though different from each other in many ways, attachment theory and social constructionist perspectives offer a unique set of characteristics that make them both appealing and applicable to social workers. Attachment theory integrates the internal

neurological, biological and psychological experiences with observed external relational processes. This theory, however, excludes the sociocultural perspective. Conversely, social constructionism and the linked postmodernism highlight individual psychological and relational functioning in light of sociocultural and political context but at the cost of omitting biological functions.

I argue that attachment theory and postmodernism find general acceptance in social work because of three main areas of theoretical construction. (1) Both attachment theory and postmodernism speak to the dynamic interrelatedness of contributing contextual factors that influence individual experience and functioning. The theories accommodate the mutuality of influence of areas of functioning without elevating one aspect over another in a hierarchical relationship. (2) Both have an ability to address "here and now" experiences while accommodating past experiences. They give social workers the ability to *assess* what has occurred and what is currently occurring and then *treat* areas of functioning related to that assessment. (3) Finally both highlight the importance of both individual and interpersonal systems. They speak to the fundamental role of relationships, both in a client's natural setting as well as the therapeutic relationship, and as such can be adopted broadly. I will focus on meeting these three areas of functionality in my use of chaos theory to develop contextual adaptation.

Chapter Four

Contextual Adaptation: A Dynamic Re-Rendering of P-I-E

Nonlinear dynamic systems theory is increasingly being positioned as a framework for understanding human development and behavior. Dynamic systems theory has been transported and elaborated from its original mathematical framework to be applicable to the human behavioral fields (Halimi, 2003)². This has been done partly in response to perceived limitations of linear, reductionist perspectives on human emotional and psychological development and partly to better address the complex nature of human interactive behavior in context (Bussolari & Goodell, 2009; Camras & Witherington, 2005; Witherington, 2007). Nonlinear dynamic systems theory is one way of describing how complex adaptive systems, which human beings are considered to be, interact in relation to one another over time (Miller & Page, 2007; Thelen, 2008).

Nonlinear dynamics has thus been applied to human systems specifically to address issues that require attention to temporality such as life transitions, human development, and behavioral or emotional change over time (Johnson, 2008). Nonlinear DST is currently being explored as a way to explain discrete phenomena of human health and functioning such as affect (Fredrickson & Losada, 2005), human development and emotional development (Camras & Witherington, 2005; Witherington, 2007), life transitions (Bussolari & Goodell, 2009), second language acquisition (de Bot, Lowie & Verspoor, 2007), and the development of antisocial traits (Granic & Patterson, 2006).

² It is not within the scope of this work to explore in-depth the mathematics of nonlinear dynamics or chaos theory, but for a helpful overview I recommend reviewing Warren, Franklin & Streeter (1998).

In this chapter I first explore how tenets of nonlinear DST are being applied in social sciences. I examine how these concepts operate in theory development and practice perspectives. In nonlinear DST, the basic constructs of systems theory, such as boundaries, feedback, and hierarchy remain, yet are reconceived so as to take into account the adaptive behavior of the system components. This reconception allows for a systemic integration among components. Nonlinear dynamics accounts for how change occurs such that the nature of the relationship that might occur among components in the future can never be predicted. This forces a “here-and-now” perspective while also accommodating a sense of the past.

In the second part of this chapter I develop the concept *contextual adaptation*. In computer programming, the notion of a *dynamic contextual adaptation* has been used to define a program that is able to adapt to contextually-based human input so as to fit the needs of the program user (Brogi, Camara, Canal, Cubo & Pimentel, 2007). For my purposes of reworking the p-i-e concept, *contextual adaptation* reflects the dynamic processes of individual development and functioning. I use chaos theory as the scaffolding to define human biopsychosocial experience. I draw additional constructs from attachment theory, postmodernism, and structuration theory. These additional perspectives assist in conceptually shifting from the *environment* of p-i-e to the *contexts* of internal experience, interpersonal relationships, and external influences.

Current Social and Behavioral Science Applications of Nonlinear Dynamics

Fredrickson and Losada (2005) use dynamic systems constructs to explore human affect. They propose that human emotions are generated by the interaction of many different components at one time, such as “patterns of thinking, behavior, subjective experience, verbal and nonverbal communication, and physiological activity,”

and suggest that dynamic systems theory can be used to explain how affect is generated (p. 680). Other qualities of nonlinear dynamics are also drawn into these authors' exploration such as the nonlinearity of experience and maintenance of affect. They highlight the concept that feedback in human systems affects individual emotions.

In the realm of developmental psychology, the nonlinear dynamic systems concepts of recursiveness in relationships, adaptiveness of components, and self-organization are effectively employed to describe aspects of human change over time as well as the nature of emotional development (Camras & Witherington, 2005; Witherington, 2007). The authors cited argue persuasively that the dynamic systems framework can account for the multiple factors influencing human emotional and psychological development. The employed DST concepts form a more integrative and complex picture of human development than stage theories of development allow.

Witherington (2007) argues on behalf of DST as a metatheory for human development in part because of the "here and now" focus, one of the critical features of nonlinear dynamics. This feature elevates the relevance of time and context in assessment of the system's features. He states that "the real core of development rests in the context of the here-and-now, because both organisms and the contexts within which they function undergo constant change in relation to one another" (p. 132). This contextualist view of systems offers an ability to change the hierarchical positions of components depending on the context and purpose of observation. Additionally important for social workers, Witherington's framework for describing human development shows how dynamic systems can provide the format to develop a biopsychosocial perspective of human functioning. This is exemplified by his assertion

that human behavior emerges “from a confluence of anatomical, physiological and mechanical contexts” (p. 136).

In describing the applicability of chaos theory as a model for life transitions counseling, Bussolari and Goodell (2009) point to the growing consensus that individual intrapsychic functioning, healthy or unhealthy, does not develop in isolation from the external environment. The individual is defined as an adaptive system due to the nature of human adaptation to, and altering of, environmental contexts in order to promote growth. This definition relies on the concept of recursive feedback between the individual and environment that makes it impossible to determine cause and effect. Based on the belief that “emotional disorder does not reside within the person; rather, psychological and emotional issues often relate to the disordered environments and relationships in which the client lives and engages” (p. 98), the authors utilize dynamic systems ideas--and the construct of the individual as a complex adaptive system--to better address counseling individuals during life transitions.

Bussolari & Goodell (2009) also point to the compatibility of chaos theory and postmodern perspectives, in that both welcome a “view of numerous potential outcomes” (p. 102). They succeed in their ability to integrate dynamic systems into an existing framework of life transitions counseling. They point therapists toward a depathologized view of human mental health functioning. In so doing they demonstrate how humans will adapt and respond to changes in their environments. One limitation of their model, however, is that it assumes a normative beginning and end to periods of life transition.

In applying nonlinear dynamics to second language acquisition, de Bot, Lowie and Verspoor (2007) argue for its applicability to describe learning processes. Much

like the above authors, they see dynamics systems theory as being able to integrate complex variables such as “the social environment and the psychological makeup of the individual” (p. 7). They use constructs from nonlinear dynamics, like the concept of unpredictable outcomes, to describe how human language learning does not take place in a linear fashion. They note that

because resources, both internal and external, are part of an interlinked dynamic structure, a growth in a child’s informational resources will lead to a change in the interaction with the environment through a demand for more demanding tasks and environments. (p. 12)

Though limited in some ways to describing the discrete phenomena of language acquisition, de Bot et al. offer guidance in using dynamic systems constructs to describe human change processes over time.

Through nonlinear dynamic systems theory, Granic and Patterson (2006) demonstrate how relational and environmental factors interact with internal emotional and psychological development. They choose to focus on the link between this process and individual development of antisocial personality traits. In order to develop how external relational experiences become internalized over time they draw heavily from the concept of *attractor states*, which are preferred relational states among subsystems. In this work these states are expressed as the preferred dyadic relationships between parents and children. The authors focus on these attractor states in order to demonstrate how interactions between a parent and a child should be taken into account as a hierarchically higher-order part of the “complex system” of relationship patterns likely to influence other relationships for the child (p. 106). They do not address how their constructs have been influenced by socially constructed ideas of parenting norms.

Granic and Patterson (2006) are able to use dynamic systems to integrate that which occurs between two people in relationship with the “cognitive and emotional elements” of child development (p. 107). In this manner nonlinear constructs can collapse perceived hierarchies between system components. An interpersonal relationship, which for ecosystemically-based thinking would be perceived as “smaller” than the community, can take a hierarchically greater position than community in this mode of analysis. The relationship is not only defined as being between two components--the child and the parent--but also among the components of their emotional experience, their affect, and their past relational exchanges in conjunction with the present ones.

Promoting a perspective (from which I will draw) that describes “levels” rather than hierarchies when observing complex systems, Wilensky and Resnick (1999) propose that in a complex system, lower levels are not defined by the higher levels but rather make up components of the higher level. In a traditionally defined hierarchical system, for example a school, student behavior is dictated by the rules of a teacher whose behavior is dictated by the rules of a principal. This same system when defined as operating in *levels* accommodates how emergent behaviors among the students can change the hierarchical order and can produce chaotic and unpredictable outcomes in behavior at any level of the system.

Chaos Theory and Contextual Adaptation

Here I explore the critical features of chaotic systems and define them in application to contextual adaptation. It is important first to conjure a working image of a nonlinear dynamic system. In describing the applicability of systemic nonlinearity to social work practice, Warren et al. (1998) offer the following vignette. In a family

argument a child raises her voice by one decibel. In a *linear* dynamic system a father yells back at her and also raises his voice by one decibel. One additional decibel raised next by the child would produce a response of one additional decibel raised by the father. Mathematically this would be graphed this as a straight line with a slope of 1. In a *nonlinear* dynamic system, however,

a one decibel change in the adolescent's voice may lead to no change in the father's voice or a 10-decibel change in his voice, depending on how loud her voice was at the beginning...Family relationships involve feedback, and cause and effect are free to recursively act on one another in a way that reverberates through the system in an unpredictable manner that may cause very rapid change. (Warren et al., 1998, p. 359)

I will build on the example of the recurring family argument when I define the specific components of chaos theory used to redevelop “person-in-environment” as contextual adaptation.

In another helpful depiction, Thelen (2008) uses the metaphor of a mountain stream. She discusses the nonlinear nature of the stream in its observable patterns as follows:

the patterns arise from the water and natural parts of the stream and the environment...the patterns reflect not just the immediate conditions of the stream, however; they also reflect the history of the whole system...In addition, the stream also carves the rocks and the soil and creates its own environment, which then constrains and directs the water. It is not possible to say what directly causes what, because the whole system is too mutually embedded and interdependent. (p. 259)

These two examples demonstrate certain key features of chaotic systems relevant to human development and functioning. The feature of nonlinearity itself seems obvious. When applied to complex and adaptive human systems it means that a linear *cause and effect* model does not suffice to capture the nature of development and functioning. Halmi (2003) describes the feature of non-linearity as being that response

is “disjointed” from cause. Despite being unpredictable, however, development and functioning generally seem to follow patterns both within and between individuals. In his discussion of the applicability of chaos theory to psychodynamic theory, Iwakabe (1999) points out that “although the term *chaos* conventionally denotes randomness, disorder, and instability, chaos in scientific terms represents an order that is hidden beneath a seemingly random appearance” (p. 275).

This balance of expecting both unpredictable and patterned behavior is crucial to understanding human development and functioning through the lens of contextual adaptation. It is linked to the chaotic concept of *structural determinism*. Structural determinism means that a living system is an expression of "its structural connections, which in turn determine all of its operations" (Warren et al., 1998, p. 361). Resnick (1994) summarizes the feature of structural determinism in that “in chaotic systems, unpredictable behavior emerges out of lower-level deterministic rules” (p. 14). As chaotic systems, human systems “respond to the environment in ways dictated by their own level of development and internal organization” (Warren et al., 1998, p. 361).

At the same time, the nature of a chaotic system also indicates that behaviors are highly sensitive to internal and external perturbations. Halmi (2003) notes that these systems "respond sensitively to, and magnify, minute differences in initial conditions, thus they are unpredictable...[they] are stable but their behaviors are not repetitive, and they carry only a limited memory of their past” (p. 85). The interplay between expected and unexpected systemic functioning is thus a prominent feature of chaotic systems.

Contextual Adaptation: Patterns in Development and Functioning

Sensitivity to initial conditions. The first applied characteristic of a chaotic system is the concept of *sensitivity to initial conditions*. Sensitivity to initial conditions describes a feature of an observed system--it refers to a specific type of propensity to change³. It means that in chaotic systems a small change in the system can produce huge changes in later conditions, or behaviors. This is often colloquially referred to as the "butterfly effect" - initially related to the unpredictability of weather patterns (Lorenz, 1963) in which a butterfly flapping its wings in one part of the world may be linked to changes in global weather patterns. In social sciences, this chaotic feature is applied in order to "identify initial or critical historical conditions" which are related to the observed pattern of human behavior (Heiby, 1995, p. 8).

Warren et al. (1998) believe that the concept of sensitivity to initial conditions "presents a profound and perhaps insuperable challenge to the traditional scientific belief that, given a perfect knowledge of present conditions, accurate prediction of the future is possible" (p. 363). These same authors note that the idea of sensitivity to initial conditions can be thought of as how sometimes the seemingly smallest of experiences can have great lasting impact on behavior and thinking. Because of the adaptive, and sensitive, nature of human responsiveness to initial conditions there are countless factors that have the potential to greatly influence the overall nature of the system. It is impossible to predict which one.

The *initial conditions* defined for contextual adaptation are *any aspect of the internal, relational, or external contexts of human development and functioning*

³ I will later address how at certain points, called *bifurcations*, patterns of behavior develop with seemingly disproportionate responses to an initial change in the system.

relevant to the observed system at a particular point in time. The “observed system” is dependent on the client and issue at hand. The client system includes the social worker as an observer, co-creator, or participant in the system. This definition of initial conditions may seem too broad, but that’s the idea; it is ultimately unknown which of the infinite number of contextual factors are more likely than the others to bear influence over future systemic development and functioning. For assessment purposes the social worker is called upon to be aware of the multitude of potential initial conditions related to the client’s current presentation – those based on internal functioning, relational exchanges, and external experience.

Attachment theory. With the acknowledgement of the impossibility of knowing which contextual conditions may influence later human development and functioning, there is also the acknowledgement that certain conditions appear patterned and fundamental. It is here that I draw from the underpinnings of attachment theory. Attachment in the framework of contextual adaptation can be seen as a study in initial conditions. Indeed, a human being is a systemic creature by nature because of the neuronal and biological hardwiring that creates the immediate and primary system between infant and caregiver.

That infants cannot survive in isolation is critical to understanding why the relational context is so fundamental to human adaptability. Based on their limited power infants must adapt to the manner by which their sustenance arrives, be that either biological or emotional/relational regulatory needs. As the neurobiologists put it, infants are born experience-expectant. This adaptive process in turn exerts force on the part of both the infant and the caregiver. Human hard-wired predisposition for attachment is part of why humans are incredibly sensitive to initial conditions.

In the example of the family argument, the initial conditions would be assessed to be the individual biophysiological experience of each family member. This experience would consist of the past relational exchanges among them and the ensuing psychological and cognitive processes each is bringing to the current argument. The initial conditions would also include the family's developmental history and the sociocultural influences that influence the perceptions of and implicit rules regarding how this father and son are supposed to argue.

The initial conditions might also be assessed to be the psychosocial context of the family in which the father grew up or a past trauma history that has affected the son's neurological, biophysical, and cognitive responses to elevated mood states. The initial conditions in this family argument could include the most recent negative barb thrown by one at the other while driving to a therapist's office or the recent expression of genes creating new hormonal experiences for the son. The initial conditions could also be the first impression of a therapist's skill level based on her/his relational attunement to the family members or the therapist's own theory-base and modality in assessing the family argument and offering a treatment course.

Though I have suggested some possibilities the sake of description, the idea is not to define all potential initial conditions relevant to this vignette; in fact that would be impossible. The point is to convey that, *due to human sensitivity to initial conditions and contextual factors, the impact of a change in even one condition will likely occur in an unpredictable manner and to a degree that may seem out of proportion.* To operate with an understanding of humans as contextually adaptive to their environments, the social worker must be able to see that from among the myriad of initial conditions, human development and functioning will be sensitive to even the tiniest shifts.

Self-similarity. The next chaotic system characteristic necessary to define for contextual adaptation is *self-similarity*. This concept refers to the fact that, despite possessing underlying unpredictability, certain patterns of behavior become preferable in chaotic systems. Further, patterns that can be seen at the lowest levels of the system are also observed at the higher levels. In the family argument example there is the likelihood that repeated arguments between the father and son follow certain content and process patterns. Within each argument there is a likely observation of certain repeated behavior in the dyadic exchanges. Next, each individual during each argument is likely to experience certain patterned emotional states and then display related observable behavioral responses to these emotional states. At a level beyond this family, father and son arguments likely follow similar patterns in other families. In sum, the system is “self-similar from the largest to the smallest scales. As a consequence...chaos has several layers of ordering properties which are similar at different scales” (Thiéart & Forgues, 1995, p. 21).

Self-similarity as defined for contextual adaptation is that *there is an expectation for observance of patterned developmental and behavioral characteristics in human systems. These characteristics develop in a manner that is in each moment technically unpredictable but can be observed as a pattern over time at many levels of the observed system.* The concept of self-similarity harkens back to ideas present in many social work theoretical perspectives. It is quite obviously similar to the idea of *isomorphism* used in applied systems theory (Hartman & Laird, 1983). It also echoes the psychodynamic notion of projective identification, a concept that has internal, dyadic, and societal applications.

Self-similarity adds a component related to assessing initial conditions. While there is an expectation for some patterns, there is also awareness that these patterns have the potential to change at any observable moment if the conditions change. At the same time social workers can assess for the likelihood of a client's sensitivity to particular initial contextual conditions based on generally known patterns human development--such as an infant's likely sensitivity to external temperature changes. The social worker should use this knowledge with added awareness that *despite observable patterns there is no clear cause and effect relationship between initial conditions and later developmental and functioning.*

Attractor and repeller states. In a deeper exploration of how patterns of behavior in chaotic systems are defined for contextual adaptation, one must look at the concept of *attractor states* (or *strange attractors*), which are preferred relational states between subsystems, and *repeller states*, which are non-preferred states. Attractor and repeller states can be thought of as constituting systems within themselves; they are not single points but instead “spaces within and between which the system moves and functions” (Aldrich, 2008, p. 148). These states are related to the concept of self-similarity in that

inside the attractor space, the system behavior is highly complex and unstable. However when looking at this complexity we can observe that it is also organized and that it reproduces at a smaller scale what is observed at a more global level. (Thiéart & Forgues, 1995, p. 21)

In the above described patterned process of the father and son argument, the attractor state would be the manner in which the two family members move from the beginning of the argument to the end of the argument as an interrelated transaction between them. Without one of the members, the argument could not occur. Further, the arguments

between them occur over a period of time, allowing the preferred relational transactions to exist.

The concepts of *attractor states* and *repeller states* defined for contextual adaptation is that *in human systems, patterns develop comprised of preferred interactional states, termed attractor states, and non-preferred interactional states, termed repeller states. These states are observable when interrelated components of systems, or subsystems, participate in transactions. These states are applicable to any aspect of contextual functioning.* These states are linked to internal, biological functions as well as emotional and cognitive ones. They can be experienced in one individual system as well as between human systems.

In a basic example, overheating would be a repeller state in an individual system's transaction between external temperature and internal biological experience. The attractor state for the autonomic nervous system is the inducement of sweating when the body becomes warm. At the same time an attractor state exists in the likely cognitive decision to drink water and/or go into the shade. An attractor state can be thought also as the expected timeframes by which genes are expressed during a human lifespan or the typical development of certain neuronal pathways over years through repeated experience. At the level of social interaction, an example of an attractor state is the manner by which individuals generally become acculturated to certain types of expected social behaviors in a community. Individuals can typically be seen to act these out while avoiding the repeller states of non-preferred behaviors. These are not observed with one hundred percent certainty but are rather generally observed interactional patterns.

Like Granic and Patterson (2006), I promote the application of attractor and repeller states to how interpersonal relationships develop over time (though I disagree in their ultimate determination that a personality disorder can be a potential outcome). Through the concept of attachment styles, attachment theory can offer further guidance in understanding attractor and repeller states in interpersonal experience. A person's attachment style refers to the manner in which an infant forms initial and ongoing relational experiences with others that fundamentally shape later interpersonal relationships. If the son in the above family has developed an overall anxious attachment style based on his relational experiences, he likely participates in similar relationships outside of his family of origin. These relationships likely follow patterned transactional behaviors similar to his preferred style and would therefore be understood as attractor states.

The social worker also expects the son to find a level of discomfort in a relationship with someone who has a different attachment style, which is a non-preferred relationship, or a repeller state. For example, the son with an insecure attachment style may find some discomfort if the therapist attempts to form a therapeutic relationship through features of a secure attachment style. He may even experience a level of distrust in the therapist's intentions based on the secure features of attempted interactions. Attachment styles are fairly fundamental but they are not without potential for change. However, a certain amount of relational negotiation would likely occur for the therapeutic alliance to be successful--for the secure clinical relationship to become an attractor state.

At this juncture I will summarize how patterns of development and behavior are understood both in reference to p-i-e and the definition of contextual adaptation.

Human beings are understood to develop and function with a certain amount of patterned stability over time but without the presupposition of the existence of linear cause and effect or repetitive behavior. Humans as systems are self-organizing, and

the capacity for self-organization enables complex systems to develop or change their internal structure spontaneously and in order to cope with their environments. The environment does not create the form of the system, but it generally influences it by affecting which of the system's potential forms is actually realized. (Skar, 2004, p. 248)

This feature of individual and environment interaction allows social workers applying contextual adaptation in practice to assess the manner in which humans generally adapt to internal, relational, and external contextual conditions along general patterns of development and functioning. But, within each moment of observing a system there is the expectation for unpredictability and change. As Thelen (2008) notes, "a theory must be able to handle both the predictable aspects of development and those that surprise us" (p. 260). In this way, contextual adaptation permits a balanced rendering of individual-environment interactions that accommodates the various environments, or contexts, of concern to social workers.

Contextual Adaptation: Change in Systems

I have so far explored the features of chaotic systems that, when defined for contextual adaptation, describe the human system as balancing patterned development and functioning with a potential for unpredictable change. The idea of potential change is fundamental to social work practice. The ability of contextual adaptation to define mechanisms of change in a system is what is likely to increase its professional applicability. I will now move into defining the change-related features of chaotic systems for contextual adaptation.

Perturbations. First, in order to undergo change from fairly patterned behavior such as the family argument or the son's attachment style in relationships--to shift systemic attractor and repeller states—the system requires a *perturbation*. In her application of nonlinear dynamics to define infant motor development, Thelen (2008) notes that for stable patterns to change, such as those observed in human systems,

some internal or external factor must disrupt the habitual way of thinking or moving. As a person's stable patterns are the product of many interrelated organic and experiential factors, any number of those factors may also be an entry to disrupt those patterns. (p. 280)

The definition of *perturbations* for contextual adaptation is *any aspect of internal, relational, or external instability that puts pressure on the system in a manner that can be linked to change in the system's behavior. Perturbations elicit predictable as well as unpredictable systemic changes*. Skar (2004) comments that when the concept is applied to human development, perturbations can be seen as being derived from contextual factors such as

our genetic inheritance and our real life experiences. If we are like [a] ball rolling down [a] hill, then we could imagine our development existing on a fairly stable developmental pathway, but there may be jolts from the environment which knock the ball off course...If the perturbations are too great...we may be diverted into an alternative pathway which may or may not allow us to function normally. (p. 252)

According to contextual adaptation, the implication of perturbations is that *change in a system is both possible and likely*.

This feature of chaotic systems is critical in the applicability of contextual adaptation to social work practice. For the father and son dyad, repeated arguments will likely continue unless a perturbation occurs. Because of human adaptability and sensitivity to conditions, the perturbation may come from any contextual factor in the system that now includes a social worker. It might be a cognitive shift on the part of the

father experienced during a therapy session. It may also be a new social outlet that begins to keep the son away from home, provides him emotional support, and lessens the intensity with which he experiences the father's behaviors.

In linking attractor states and attachment styles I earlier noted the observation of patterns across relationships will likely persist unless a perturbation occurs. In this example, deciding to utilize the help of a therapist is a perturbation that could be linked to new relational negotiation between the insecure style of the client and the secure style of the therapist. This may result in the creation of a new attractor state of more secure relational attachment. Perturbations in the system are constituted of *both social work interventions aimed at assisting clients as well contextual features that prompt system change without social work intervention.*

For example, for the above described father's cognitive shift to occur, the therapist must "recognize that certain [cognitive] realizations may not be the result of rational thinking so much as they are the occurrence of unpredictable external and intrapsychic events" (Resnicow & Page, 2008, p. 1384). The social worker may not know what causes a change in thinking or behavior that prompts the system to change from the current developmental path or attractor states. And of course, perturbations might also prompt change in the system that is not desired. For example, a client who wishes to abstain from alcohol might encounter a perturbation that prompts a relapse.

Due to awareness that chaotic systems balance patterned behavior and changes in behavior, perturbations may prompt expected or completely unexpected systemic outcomes. Changes in development can be based on unpredictable perturbations or relatively expected perturbations such as the timing of gene expressions during a lifespan. In this example, despite the somewhat predictable nature of individual

hormonal changes, these internal biological changes and the co-occurring psychosocial changes can be thought of as perturbations in the moment they are experienced. At these times the system's future behavioral patterns are altered. Further, individuals experience these somewhat expected changes very differently from one another. Therefore, *even if a perturbation appears to be similar among systems, the future development of a human system may, or may not, look similar in comparison to others.*

Systemic feedback. It is necessary to observe systemic feedback among components in order to evaluate the impact of perturbations. Feedback can be positive, negative, and recursive in nature. Positive and negative feedback are basic systemic concepts not unique to nonlinear dynamics or chaotic systems. In chaotic systems, positive feedback is understood as how "information from the environment may provide 'noise' that will iterate according to the system's own structure and meaning. Such iteration can produce growth spurts, causing disorganization (chaos) and rapid change" (Warren et al., 1998, p. 361). Positive feedback impacts ongoing development and functioning of the human system in relation to the likelihood of its continuing with the observable patterns that have developed. On the other hand "resource limitations serve as negative feedback" (p. 361) influencing change in the system based on the unavailability of certain expected contextual factors.

When conceptualizing the link between feedback among components in a chaotic system, however, it is impossible to determine which component has more relative influence over the others. Thus the idea of recursiveness comes into play. That is,

insofar as the systems are nonlinear, structural coupling [between components] can never be complete. A change in the living system, even one that is adaptive to

its environment, will lead to a change in the environment that will force a further change in the living system. (Warren et al., 1998, p. 361)

A recursive feedback loop is established because "as a person adapts to the environment he or she also changes the environment, which in turn is influencing them" (p. 361).

These authors are speaking about the interplay between two components: a living individual system and an external environment. For the purposes of defining contextual adaptation, recursive feedback applies to relationships among components in the external environment as well as the internal and relational contexts.

Defined for contextual adaptation, *recursive relationships are multi-component relationships within and among human systems in which interconnected components exert influence on one another in a fundamental and inextricable manner. The amount of influence cannot be said to be greater for one component than the others in prompting change in the system and change cannot be observed to occur by one component in isolation.* Due to the complexity of human development and functioning, recursive relationships speak to the unknowable level of relative power of one contextual factor on others. This concept is central to the ability of contextual adaptation to change the manner in which social workers understand person-environment relationships. It requires them to look at the myriad of features in simultaneous recursive relationships as mutually influential and interwoven components.

Structuration theory. I find the concepts from the sociologically-derived structuration theory (Giddens, 1984) applicable to explore how recursive relationships work at the societal level. Structuration demonstrates the idea of recursiveness in evaluating how individuals participate in the ongoing creation of social systems. Social structures include participation in social relationships by means of social norms, for

example. To define the basis of structuration, Giddens establishes that the ongoing participation of individuals in the creation of social structures is in essence a recursive feedback loop. The individual and the social structure are interconnected in their ability to influence one another. Both the individual and the social structure are seen as co-creators in the ongoing nature of these structures. Neither can be defined without the presence of the other.

Because contextual adaptation accounts for recursive relationships, the influence of the individual and the influence of the social structure cannot be uncoupled when determining which factor, more than the other, influences processes of patterns and change in the system. In the portrayal of the argument between father and son, it is impossible to say that the individuals hold greater power in determining the social norms that influence their expected behavior any more than the social norms hold greater power over them. One *must* say, however, that the individuals and the social structure must both exist for either to occur in their current form. A change in one factor would necessarily be linked to change in the other without being able to figure out which changed *first*.

Bifurcations. The penultimate feature of chaotic systems defined for contextual adaptation is the earlier mentioned concept of *bifurcations*, or the observation of sudden, rapid, and disproportionate change based on a seemingly small shift in the system (Hieby, 1995). The definition of bifurcations for chaotic human systems refers to the point at which the system moves between stable and chaotic behavior (Thiétart & Forgues, 1995). Bifurcations mean that unlike linear systems, “a change in a causal agent does not necessarily elicit a *proportional* change in some variable it affects” (Halmi, 2003, p.85, italics added). In lay terms, Heiby points out

that a bifurcation can also be thought of as the straw that broke the camel's back. It is the moment that a perturbation elicits change when the ensuing patterns of change are rapid and seemingly disproportionate.

Bifurcation is fundamental to nonlinear systems and links to the concept of sensitivity to initial conditions as well as perturbations. Unlike sensitivity to initial conditions, which is a property of the chaotic system at all times, bifurcation describes the manner of change. Bifurcation points occur as the system moves between stability and chaos, between predictability and unpredictability. As previously stated, a large-scale shift must occur in order for the attractor and repeller states to be moved.

As related to contextual adaptation, *bifurcation* is defined thusly: *because human systems will respond in unpredictable ways, seemingly small changes in one area of contextual functioning may be coupled with great changes in other areas of functioning. Due to the recursive nature of feedback in human systems, the relative impact of change in one area will be interrelated to changes in other areas in a manner that produces an almost infinite number of possibilities for human development and functioning.*

Referencing the family argument example, I have already described how the father and son and therapist are each an individual contextually adaptive system. As a system of three individuals they are also contextually adaptive to external influences. Therefore sudden, rapid, and unpredictable change in the family argument could occur from any number of possible component changes internal to each of these members. The *bifurcation point* would be the moment that a small shift in one contextual area (a perturbation) links to a great reduction in the frequency and intensity of the arguments. For example, a change in the family argument pattern might be linked to a seemingly

minor change in relational experience, which then links to a cognitive shift for the son, father, or therapist, which then relates to changes in emotion regulation, and the arguments cease. Perhaps the grandfather in the family passes away and the father experiences an unexpected emotional upheaval such that he cannot imagine continuing to argue with his son in the same way, and the arguments cease.

Because each individual system has its own unique sensitivity to various contextual conditions, the shift may be entirely unknowable and different from one system to the next. Just because a change in one contextual factor influences change for an individual at one point in time, there is no way to know that the same change at another point in time would also influence change. A death for this father may prompt a desire for reduction in arguments with his son. But for another father a death might elicit an emotional response that contributes to cutting off a relationship entirely. Or for this same father, the grandmother's death may have a different effect on his thinking and emotional responses. This concept harkens back to the social work idea of resilience--in that certain individuals may experience the same situation with completely different outcomes in altered functioning.

Focus on the “here and now” and the postmodern link. The final feature of chaotic systems applied to contextual adaptation is the requirement to focus on the *here and now*. This focus is due to the fact that future change is inherently unpredictable and that it is extremely unlikely, to the point of being near impossible, that a chaotic system can return to the same state. Warren et al. (1998) summarize this characteristic saying that "once a system has developed along a given path, it cannot simply go back again; the changes in the interrelationship among the various individual components of the system are far too complicated and interwoven to simply reverse" (p.

365). Any shift in the system over time can be linked to change in one, or all, of the system components. Put in another way, "...due to the perfect synchronism in time and space between the different variables [required for a system to return to its initial state] it is unlikely that the same conditions will be found again in the reasonable future" (Thiétart & Forgues, 1995, p. 21).

Defined for contextual adaptation, *due to human adaptability, complexity, and sensitivity to even minor changes in contextual conditions, the nature of future development and functioning is unknown. Though one can observe patterns in a system over time, a "here and now" focus is required.* Exploring the features of change in chaotic systems means that, from the lens of contextual adaptation, social workers must be aware that any seemingly infinitesimal contextual component may link to later systemic changes. There is no certainty; each new system requires a unique, time-limited assessment.

The unpredictable and adaptive nature of human development and functioning requires a somewhat intimidating, but also potentially exhilarating, constant stance of not knowing. As Thelen (2005) notes, "although such complexity presents daunting challenges for intervention, it also offers hope by emphasizing that there are *multiple pathways* toward change" (p. 255). I find postmodernist features to complement this understanding of human experience. Postmodern ideas can be seen as an expression of the *here and now* principle of contextual adaptation.

I previously discussed how a postmodern approach alerts the social worker to remain open to all possibilities for future change within and among human systems. At the same time, social workers are challenged to assess for influence of historical and sociocultural factors developed over time. The unpredictability of how change may

occur drives a focus on each moment between each unique human system that can be informed by, but not defined by, past and present contextual features. Additionally, looking at human experience from the vantage of contextual adaptation requires that social workers be seen as part of the system. Because humans are here defined as contextually adaptive chaotic systems, the influence of the social worker's relationship to the system (even through assessing and defining the system within the parameters of contextual adaptation) needs to be evaluated.

Integration as a Balancing Act

Contextual adaptation meets the conceptual aim of integrating the person and the environment through the resolution of the separatist mechanisms by which p-i-e operates. Contextual adaptation offers social workers a conceptual frame to balance seemingly disparate features of human experience like the likelihood of exhibiting patterned and also unpredictable behavior. As I referenced in the outset of this chapter, this balance is in part due to the fact that while chaotic systems are notable for unpredictability, the potential pathways for systemic change are still constrained by their structure. Structural determinism defined for contextual adaptation means that *humans cannot develop or function beyond what is possible. At the same time, social workers are aware that they may not be able to predict the line of possibility.*

For example, a person cannot change biophysically (as of yet!) into belonging to a different family of origin. At the same time, on a psychosocial level of experience, like through adoption, this happens all the time. Because of the non-hierarchical application of chaos to contextual adaptation, the internal, relational, and external experience of family membership are seen as equally important levels of influence. These features move higher or lower depending on the observed system. In one family, biological

experience may be the definitional quality of membership and in another it may be secondary or tertiary. Because human systems possess the chaotic feature of structural determinism, however, biological factors are not likely to be rendered a complete non-issue. Rather for some they are moderated to a greater or lesser extent by psychological, cognitive, or relational processes.

The awareness of balance is a key factor in helping social workers account for human development and functioning relative to contextual influences. Observable human patterns, such as basic developmental milestones, need not be jettisoned but must be more appropriately rendered. Instead of having to qualify a traditional stage theory of development, for example, by adding footnotes that permit variance, contextual adaptation has these variances built in to its operative mechanics. With this concept, social workers are no longer looking for the aberrations of human development or mental health functioning. They now have an approach that positions aberrations as expectations. This is a fundamental shift in the conceptualization of human development and functioning on which I will expand in the next chapter.

Chapter Five

Contextual Adaptation in Social Work Practice

In this chapter I outline how contextual adaptation can be applied in social work practice. In order to be responsive to social work aims of assisting clients experiencing challenges, I look at the application of the concept specifically to difficulties in development and functioning. I examine a mental health diagnosis based on the tenets of contextual adaptation using Reactive Attachment Disorder (RAD) as an example. I then discuss how intervention can be applied. I also look at further implications for social work professional practice, knowledge development, and education.

Development and Functioning Defined

Thelen (2008) offers numerous applications of chaos theory to human development. She describes development as a "product of many interacting parts that work together to produce a coherent pattern under particular task, social, and environmental constraints" in which "all of the components are coequal in producing the behavior" (p. 261). This means that, when defining development and functioning, one "must reconsider any single-cause explanation, be it organic or environmental, and instead focus on interactions and entertain the possibility that the interactions are nonlinear" (p. 261).

In his exploration of how psychotherapy affects change in brain functioning, Levin (2003) draws on chaos theory to discuss psychological development. He writes that "abnormality occurs when the mind-brain gets locked into states that are either chaotic or highly regular states, rather than shifting naturally between them in a dynamically normal yet complex manner" (p. 202). He further explains that while

psychological development is merely an example of the chaotic normalcy of the world...psychopathology, in contrast, is the loss of freedom associated with fixity, when complex systems become either too simple or disorganized and therefore no longer resistant to minor irritants or, when learning has relatively stopped. (p. 209)

In this framework human psychological development is chaotic by nature. It fluctuates between patterned and disorganized behaviors.

I previously examined how, like Levin (2003), some authors utilize the features of chaos theory to explain developmental abnormalities or psychopathology in mental health functioning. The chaotic nature of development, however, also informs a paradoxical expectation for the likelihood of unlikely outcomes. I therefore reject the notion that pathology is an aberration to a perceived normative human developmental path. Each feature of chaos theory has been defined for contextual adaptation to balance predictable with unpredictable outcomes for systemic change. Difficulties in functioning thereby become an expected, though not assured, outcome of human experience.

Development and functioning can be used interchangeably when discussing human systems as contextually adaptive. It may be that there is a difference between learning a new skill as part of *development* and practicing a skill as part of ongoing *functioning*. There is also some utility in evaluating general patterns of development and functioning seen across human systems. But for contextual adaptation no inherent dichotomy exists between the two concepts. The concepts of *development* and *functioning*, like *person* and *environment*, have been falsely separated due to the need to describe two aspects of human experience that are distinct in some, but not all, ways. In light of chaos theory, all development is functioning and all functioning can be seen as development, because human systems never go back to a former state.

For contextual adaptation, *human development and functioning are defined in tandem as an interactive process among the interrelated contextual factors of a human system by which overall patterns may be observed within and among self-similar systems over time but, due to human complexity, among which no absolute patterns can be expected. Human systems develop and function adaptively to the manner by which the interrelated contextual components of each system require in order for the overall survival of the system. When difficulties in human development and functioning are present, the interrelated contextual components interact with one another in a manner that runs counter to the overall survival of the system. Difficulties occur on a spectrum from posing potential minor threats to major threats to the system's survival.*

This definition of development and functioning meets the earlier outlined features of successful integrated perspectives in social work. There is an expressed dynamic interrelatedness between contextual components, a stance that is informed by past behavior but focuses on the here and now, and a clear path for the centrality of human relationships. The idea of survival is critical because, as previously noted through application of attachment theory, human beings primarily attach to others in order to survive. Because of the contextualist nature of this definition, difficulties in functioning are not defined as the same from one human system to the next.

In this way an expectation for aberrations in development and functioning is established: due to the incredible complexity of each individual system in interaction with constantly changing newly formed human systems, individuals cannot possibly produce only regular, patterned behaviors that are adaptive for each system. Human systems require different individual adaptive skills and behaviors and, therefore,

humans function between chaotic and stable patterns, some of which overwhelm the capacity of the system to survive. The individual human system must maintain itself while at the same time interact with multiple, often overlapping, systems that also require certain interactional patterns for survival. Difficulties are resolved when the adaptive components in each system interact recursively such that the system can develop sustainable patterns and survive.

Because humans are frequently changing systems as they move among various contexts throughout the lifespan, and because these changes require the constitution of new systemic relationships, social workers expect the occurrence of difficulties in functioning--though they cannot predict them. Difficulties, whether experienced internally, in a relationship among individuals, or externally with the physical or social environment, will likely be present as systems interact. At the same time difficulties may not be present and/or may be at a greater or lesser level of severity depending the unique features of each system.

Reactive Attachment Disorder: A Case Study

Assessment. In order to receive reimbursement for mental health treatment under the parameters of managed care, social workers are required to diagnose individuals as defined in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (DSM IV-TR) (APA, 2000). This manual is about to be published in its fifth iteration and, as with many of the prior editions, there is plenty of debate in the mental health field about the manner by which psychopathology is defined. I caution against its pervasive employment due to limitations in meeting certain practice needs. Because it serves as the primary mechanism for determining the

presence of a mental health difficulty, however, I will use the manual as a comparison point for how contextual adaptation can be applied in social work practice.

I have chosen to examine Reactive Attachment Disorder (RAD) because it is one of the diagnoses in the DSM IV-TR that does take external context into account. It does so in a manner that creates a relationship between the individual with RAD and her/his external influences. Because of this systemic feature, the authors responsible for this diagnosis come close to offering a framework of mental health functioning similar to aspects of contextual adaptation. If the differences between the DSM IV-TR definition of RAD and a contextually adaptive approach can be explored, the discrepancies can be highlighted to a greater extent than if I compared approaches for a DSM IV-TR diagnosis (e.g. Bipolar Personality Disorder) that is more obvious in conceptual distinctions.

The following is a summarized section of the definition of DSM IV-TR diagnosis of RAD:

The essential feature of Reactive Attachment Disorder is markedly disturbed and developmentally inappropriate social relatedness in most contexts that begins before age 5 years and is associated with grossly pathological care...In the Inhibited Type, the child persistently fails to initiate and respond to most social interactions in a developmentally appropriate way...In the Disinhibited Type, there is a pattern of diffuse attachments. The child exhibits indiscriminate sociability or a lack of selectivity in the choice of attachment figures...By definition, the condition is associated with grossly pathological care that may take the form of persistent disregard of the child's basic emotional needs for comfort, stimulation, and affection...; persistent disregard of the child's basic physical needs...; or repeated changes of primary caregiver that prevent formation of stable attachments...The pathological care is presumed to be responsible for the disturbed social relatedness. (APA, 2000, pp. 127-128)

This diagnostic definition requires the presence of a number of observable features related to development and functioning. The *individual* difficulties, described as “disturbed” and “inappropriate” social tendencies, must begin before the age of five

years. This is because, based on the theoretical underpinnings of attachment theory, relational patterns are generally thought to be established early in childhood. The child must have also experienced “grossly pathological” care related to the physical, emotional, and relational contexts of development and functioning. This creates a linear relationship in that the care is “presumed to be responsible” for the existence of RAD in the child. Finally RAD, like most DSM IV-TR diagnoses, is defined in such a way that it *exists* in the child if a certain number of diagnostic features are present. It is thought of as a *real* occurrence.

The framework provided by contextual adaptation provides a different depiction of RAD. Due to *self-similarity*, the characteristics of RAD can be examined throughout the levels of systems. These systems are in constant interaction and together contribute to the observed difficulties. On an individual level, difficulties in functioning occur in the system of interaction among internal processes, relational experience, and external contexts. The diagnosis can also be explored on the interpersonal level in a system of two or more individuals. The diagnosis is further experienced in societal level systems, for example the manner by which individuals with the diagnosis are influenced by, and influence, social systems. The features of RAD are therefore comprised of these complexly interwoven systems and their interacting contexts.

Due to *sensitivity to initial conditions*, the experience of the child in the primary caregiving environment is considered to be fundamental to the later experience of difficulties. Like the DSM IV-TR diagnosis of RAD, the child is described as having difficulties in maintaining secure relational functioning across multiple systems. But, due to the *recursive nature of feedback* and *nonlinearity* of the system, the social worker does not presume that a particular kind of early childhood experience *caused* the

existence of RAD. It is possible that a different child in a very similar external context might not develop these difficulties.

In acknowledgement that this child is struggling in the interpersonal context across systems, the social worker points out that the child, like most children, probably maintains appropriate interpersonal skills required for survival within the system of her/his primary caregiving environment. The social worker believes that the child probably developed patterned internal neurological processes, *attractor states*, which connect certain behavioral and emotional responses to interpersonal interactions. The social worker suggests that the child likely adapted to the contextual features of her or his primary caregiving relationships.

This *contextual adaptation*, which aids survival in the primary caregiving context, is now said to be related to the difficulties experienced in other systems: the *attractor states* formed through interaction with the child's primary relational system are *repeller states* in newly encountered ones. It is therefore the *mutuality of influence* between the contexts of the child, her/his early relational experiences, and the ensuing relational requirements informed by societal norms that contribute to the current difficulties in functioning. The child attempts to engage interpersonally in a manner that makes it very difficult for others to successfully engage reciprocally with that child. For example, a child in foster care goes through a series of foster homes because in each the foster parents struggle to figure out how to care effectively for the child and determine they cannot; the systems do not survive.

The difficulty lies not with the child, nor with the caregivers, but in the interaction between the attractor state of the child's interpersonal style (developed through internal, interpersonal, and social influences) and systems with different

attractor states of interpersonal style (also having developed through their own unique conditions). Based on the framework offered by contextual adaptation, there is said to be a *mismatch between the attractor states of the child's interpersonal processes and those of the care giving environment*. Therefore, instead of calling the child's behavior "disturbed" or "inappropriate" the social worker describes the patterns of relational functioning as being *counter to the likely survival of the system*.

Through the lens of contextual adaptation the social worker also evaluates a RAD diagnosis (1) based on whose experiences "appropriate" behavior has been determined, and (2) by whom it is defined. With a postmodern eye, assessing the system from this vantage point alerts the social worker to the meaning behind word choices and labels. The child is said to carry a label of RAD based on a manner of classification constructed in one part of the mental health system. This label may have utility or it may not; either way the social worker attends to the *here and now* patterns of relational experience that are causing difficulty for the client system. As from certain family systems perspectives, the child may be thought of as a symptom bearer, in that the child would not experience the difficulties if not for the existence of the interpersonal relationships.

The feature of *recursiveness* and the postmodern implications of the concept further direct the social worker to evaluate how the child's sense of her/himself as a disordered individual has been informed by interpersonal feedback from others. Other individuals have likely interacted with this child with a belief that her/his behavior is disordered. This societal feedback potentially becomes internalized by the child and influences her/his behavior in certain patterns of interaction. This labeling process may also inform the beliefs of the current caregivers that a problem exists in the child.

In defining difficulties in functioning from this perspective, the characteristics of RAD are not said to actually *exist* beyond offering a representation that the system is experiencing a challenge. The social worker would be prompted to look at the interactional patterns in this client system that, due to self-similarity, are probably patterned similarly to other systems where a RAD diagnosis is said to occur. The nature of recursive feedback, and the idea that societal processes play a part in how the diagnosis is understood in this client system, should be assessed for their contribution to the ongoing relational patterns among the individuals.

Intervention. I have already outlined how the features of chaos theory inform change in contextually adaptive human systems: in order for patterned behavior to change, the system requires a *perturbation*. This of course can come by way of something independent of social work intervention. Due to my aim of developing practice-related applications, I will not visit further examples of potential perturbations outside the therapeutic system that can prompt a change process. I assume the client engages the help of a social worker to change the difficulties in functioning that threaten the system's survival. The therapeutic engagement creates a new system that is itself contextually adaptive in development and functioning. So in joining the system, the social worker must first inform the client system of her or his practice stance and perspectives.

The social worker needs to identify that the system needs instability, or chaos, in order to change patterns. Destabilization allows the attractor states to shift. Thelen (2008) uses a helpful example of the notion of shifting attractor states in describing how infants learn to walk. It is generally observed that infants crawl before they walk. Eventually, for most individuals, walking becomes the attractor state for personal

locomotion. However, this does not mean that individuals never again crawl. Thelen notes that even after learning how to walk, some infants revert to crawling when they want to get somewhere quickly or get tired.

Based on the definition of contextual adaptation, crawling is thought of as an attractor state of development and functioning comprised of the interrelated contextual factors of neurological, biophysical, cognitive, relational, and social experience. All of these factors need to work in tandem in order for the infant to begin to walk and for walking to become more attractive to the infant than crawling. But one can also think of how older children sometimes choose to crawl if a new baby is brought home, a choice based on changes in a multitude of interrelated contextual factors. Or an adult may choose to crawl, perhaps to participate in an adult activity (such as required for basic training in the army) or to play with a child.

The point as related to social work intervention is that once walking becomes the attractor state, some kind of systemic perturbation is required for crawling to occur. For the diagnosis of RAD, the attractor state is thought of primarily in the interpersonal context. The social worker engages with the client system aware that the unpredictable nature of change requires a balance of expectation, but not certainty, to see specific systemic patterns. The social worker does not suggest that all clients with similar difficulties are the same or will respond in the same manner to interventions. Instead the social worker offers intervention based on the likely probability that including the caregiving environment will aid in the modification of attachment-based interpersonal difficulties. Yet, because chaotic systems are unpredictable, there remains an approach of *not knowing* and thus discovering with each unique client system what intervention may prompt change in the current patterns.

The social worker has already assessed for the *here and now* conditions relevant to the system's difficulties—primarily a mismatch between the child's and the caregiver's interpersonal attractor states. The social worker next assumes that unless a shift in one or more conditions occurs, the system is likely to remain in its current patterns of behavior. Because the *attractor state* of interpersonal exchanges between the child and caregivers is counter to the system's survival, the social worker focuses on effecting *perturbation* in this relationship. The child, or the caregivers, or both, must experience a shift in at least one contextual area of functioning in order for the system to hit a *bifurcation point* beyond which the system can change through chaotic experience. Depending on practice perspectives and organizational setting, the social worker can offer numerous intervention strategies to assist the client system in shifting to an attractor state that will instead contribute to the system's survival.

The social worker might offer psychoeducation to the caregivers and/or the child about the relational experience, potential contributing factors, and the ongoing challenges they pose. This type of cognitive approach would be based on the premise that cognitive processes interact with affective experience among the system members. In another cognitive approach, the social worker might suggest that the expectations of the caregivers be altered to understand the child's interpersonal approach. The social worker here believes that if the parents shift expectations they may find emotional comfort in the child's attempts for engagement rather than emotional discomfort experienced because the attempts are non-preferred by them. Changed emotional experience may allow for changed interactive experience between the caregivers and their child.

From a behavioral perspective, the social worker may suggest that the caregivers respond with positive reinforcement to certain preferred relational outreaches. This may elicit more of the relational outreaches that inform successful interpersonal exchanges. Relational security might build and contribute to a formation of better-matched attractor states in attachment style. The social worker might also suggest a narrative therapy approach and propose that the child be aided through externalization and/or reframes of the behaviors. This could alleviate the child's supposed emotional and cognitive burden of individually carrying the problem. Emotional relief may then provide opportunity for experimentation with different types of relationships, which may begin to feel comfortable and responded to positively by the caregivers, and thus become relational attractor states.

Levin (2003) discusses application of chaos theory to psychoanalytic techniques based on the chaotic nature of internal psychological development and functioning. The social worker here would have a primary focus on each individual's attractor states whereby difficulties lie in the patterns of internal psychological experience that shape, and are shaped by, biological and relational contexts. From a psychodynamic perspective, the social worker might offer treatment based on a model such as Levin's, in so far as

psychoanalysis invites learning by means of its effect on the hierarchical modes of the mind so that new levels of complexity are added to the ways in which these modes are actually utilized...rigid or fixed mental functioning is reduced to a minimum, and instead new freedom of a biopsychosocial sort is created. (Levin, 2003, p. 208-209)

For contextual adaptation, this psychological experience is thought of as being either too chaotic or too rigid to lend to individual and/or interpersonal system survival. The social work intervention would be aimed at reducing psychological difficulties through

perturbation of these preferred states and replacement with new attractor states that allow operative freedom.

Conclusion

Conceptual Implications and Limitations

The adoption of contextual adaptation by the social work profession poses an opportunity to modernize a fundamental perspective in a manner that unifies practitioners across many areas of the field. The concept merges the critical features of the person-in-environment concept with the biopsychosocial perspective and as such brings a dynamic, focused look at human development and functioning in context. Contextual adaptation could bring a new realization of core social work principles to a myriad of areas of theoretical and practical application. I will first discuss these potential implications and then address limitations before offering concluding remarks.

Social Work Education and Practice Implications

The functionality of chaos theory in application to contextual adaptation aids the concept in meeting the three components outlined earlier that contribute to the success of applying integrated theories to social work practice. First, contextual adaptation *assumes the dynamic interrelatedness of contributing contextual factors that influence individual development and functioning*. Contextual adaptation demonstrates the mutuality of influence of areas of functioning without elevating one over another in a hierarchical relationship. Social workers can now assess development and functioning with the opportunity to promote the influence of different contextual factors relevant to each client in each moment.

This view of emergent human experience meets the second component relevant for successful conceptual application in social work practice. Contextual adaptation *allows social workers to address "here and now" experiences while also accommodating past experiences*. With this concept social workers can easily move

between assessing what has occurred in the past and what is currently occurring. They can offer intervention based on the idea that in the moment of observation they are witnessing and experiencing the potential initial conditions related to future change in the system. Per Thelen (2008), chaos theory applied in such a way means that

any intervention is based on the premise that activities in the here-and-now will effect long-term change...a useful developmental theory must account not just for the final outcome of development, but also for the mechanisms that engender change. (p. 258)

The proposed concept meets the third component related to utility in social work practice because it defines these mechanisms of change. Contextual adaptation *highlights the importance of individual and interpersonal systems in contributing to systemic change and defines the process by which change occurs.* This conceptual focus elevates the fundamental role of interpersonal relationships, both those in a client's primary system as well as those in the therapeutic relationship, as influential in their potential contribution to change. But it does not discount the relationships among the other contextual factors. As such the concept can be broadly adopted by social workers.

Other Areas for Potential Application

I do not believe social workers need to reinvent how they assess for the presence of difficulties, nor how they treat them. If they enact the social work concept of p-i-e through the lens of contextual adaptation I believe the profession will have unifying language among various methodologies that elevates the core desire to account for individual context. The application to RAD is but one example of how this might work. Currently, because of the managed care payment system, children with a diagnosis, even one that directly points to influence of external relational factors, are often treated on an

individual basis without the inclusion of family or external context. This is because managed care companies offer coverage to individuals. Yet most successful treatment of childhood mental health difficulties requires complex intervention that cannot be individually applied (Brestan & Eyberg, 1998; Carr, 2000).

As demonstrated above, defining difficulties in functioning by the dynamic framework of contextual adaptation requires the inclusion of relevant systemic contextual factors. Because intervention and assessment inform one another, the interrelated nature of the child's experience and that of the caregiving environment indicates the necessity to include others in treatment. It follows that treatment for difficulties in development and functioning should be reimbursed based on the needs of the client system. Social workers could argue that marriage and family therapy, for example, should become routinely reimbursable or that mental health coverage could be given to families as a group of individuals.

Potential areas for application of the concept are not only in assessment and intervention with clients, though this is a primary focus, but importantly for social work education, knowledge development, and professional self-reflection. Contextual adaptation conceptually meets the current requirements for social work education while also demonstrating theory development that is in-step with other professions within the social science field. The concept is primed for integration into social work education courses such as Human Behavior and the Social Environment. Wherever p-i-e is currently found, this concept can be promoted as another step in finding a way to use this fundamental principle across practice settings. The concept could also be useful in psychopathology courses because it lends a different angle to determining the presence of difficulties in mental health functioning. Contextual adaptation describes the nature

of human development and as such can be incorporated into developmentally-focused coursework.

Through dynamic systems, social workers now have new language to support claims that assessment (the manner by which they determine the presence of a difficulty) is a form of intervention in so far as it shapes the nature of the client system. The acknowledgement that the social worker becomes part of the system means that issues such as therapist self-awareness, transference and counter transference, and practitioner bias need continued attention in education and supervision. The social worker and the client are co-creators of a dynamic system that requires change be evaluated between them in tandem.

If this concept is adopted, social workers will not only be tasked to evaluate the nature of their participation in client systems, as they are now to some extent, but will importantly have a model to understand the contextually adaptive processes at play at every level of social work practice. The idea of client resistance, for example, can thus be differently defined because of the features of mutuality in recursive relationships. Even if something prompts client change outside the therapeutic system, the manner in which it is cognitively and emotionally experienced is likely informed by the clinical relationship. In dynamic systems terms, the client cannot go back to a prior state unaffected by even one encounter with a social worker.

Through self-similarity, the concept links processes in direct practice between clients and social workers with processes between social work practice and the settings where it occurs. The immediate system of the social worker and client relationship is shaped through interaction with this contextual experience. For example, social workers may be limited by constraints (i.e. physical, emotional) within their practice

settings or encouraged toward avenues of assessment and intervention (i.e. using Evidence Based Practice models). The idea of sensitivity to initial conditions can help practice settings to create conditions likely to promote success in the therapeutic encounter.

Further, due to recursiveness in feedback, the practitioner and client systems are also thought of as being influential in shaping and forming the features of the practice setting. To see the therapeutic relationship as a contextually adaptive system operating among many levels is to refrain from proposing causal links between the structure of the organization and whether it assists or impedes direct practice. Rather, the social worker acknowledges that parallels of interdependent relationships exist among the nature of the practice setting, the nature of the therapist, the nature of the client, and therefore the nature of the practice.

And in parallel at the next level, the service setting is thought to adapt to its own contextual factors--internal, relational, and external. Chaos theory is elsewhere applied to the organizational setting (Thiéart & Forgues, 1995). Tying chaos theory to contextual adaptation, the organization is thought of as a complex human system that must respond to features of its own development and functioning as well as those that occur outside of it. For example, in this country organizations typically have to make money to pay employees, keep facilities running, etc. They also must be responsive to requirements laid out by federal and state governments. Organizations have internal missions and relationships with other providers.

As contextually adaptive systems, settings therefore develop attractor states of service provision that accommodate these myriad contextual factors. Structural determinism delineates the existence of certain limits by which practice settings develop

and function. The concept also indicates that social workers do not know the line of impossibility for organizational behavior. This means that social workers should remain aware of, and continue to argue for, the idea that change in individual functioning can be connected to change in areas such as the structural forms of service settings. The idea of structural determinism can help social workers better understand the agencies that employ them or that they create. It further aids social workers to advocate for service provision that meets the complexity of interwoven organizational demands. Importantly, it can encourage social workers to remain at the forefront in challenging the status quo and evaluating possible avenues for new types of services.

Through contextual adaptation, social workers can link the application of assessment and intervention in direct practice to overarching social work processes of developing and promoting theory and intervention perspectives. The professional group is said to undergo the chaotic process of contextually adaptive development as a unique system. It must respond to the context of service provision within the wider American, and global, landscape and its own internal features. Social workers will be asked to reflect on professional processes such as how the group promotes a certain theory to support basic practice perspectives, develops new ideas, and jettisons others. Such processes can be assessed from the vantage point of the mutuality in influence between the social work profession (and its internal core values, individual members, past influences, etc.) and the system of contextual factors with which the profession engages (e.g. social work schools as part of larger educational institutions).

There is also room to look at social work research from the vantage of contextual adaptation. For example, Resnicow and Page (2008) utilize mechanisms of chaos

theory to assess subjects' behavioral change as related to their physical health concerns.

They write that

in the case of health behavior change, initial conditions could include knowledge level; current attitudes and mood states; frequency, duration, and intensity of the target behavior; social support; social norms; genetics; and a myriad of other intrapsychic and environmental states and traits. The potential permutations in initial conditions are virtually infinite, which suggests that the potential pathways to change are too. (p. 1383)

These authors develop variables based on chaotic features and look at correlations among external, relational, and internal processes in observed behavioral outcomes.

Though determination of causality is not the goal, this manner of research does evaluate patterns in relationships among variables. But researchers remain open to many “potential pathways” to explain outcomes. This aspect of research based on chaotic systems' features could help create common ground between the now mostly divided qualitative and quantitative research camps.

Conceptual Limitations

I've used chaos theory, and features from attachment, structuration theory, and postmodernism, as the basis for contextual adaptation because of the conceptual and theoretical attributes these frameworks provide. But limitations exist within these frameworks, as with most perspectives that attempt to describe the nature of human experience. Even some who support the application of nonlinear dynamics to social work caution against its application to *all* areas of social work practice. Aspects of systems theory can seem mechanical and impersonal (Halmi, 2003). The concept of contextual adaptation is probably limited in areas where it seems incongruent with other development and practice perspectives that may seem more personal or relational. I have attempted to mitigate this limitation by incorporating features of attachment

theory and postmodernism. I have also suggested how contextual adaptation might apply to other perspectives used by social workers, such as cognitive therapies and psychodynamic approaches.

In her discussion of using nonlinear dynamics in the social sciences, in particular complexity theory, Aldrich (2008) cautions against the adoption and promotion of nonlinear dynamics without thorough review. I hope that the concept of contextual adaptation is able to operate across perspectives; but I am aware that, because of the nature of the development of this work based on the features of chaos theory, it has “limited predictability.” It is not meant to be a method for tracking future development or creating a normative approach--but rather I hope it answers Aldrich’s call for theories that allow “scholars to explore and understand phenomena as they are” (p. 149).

An additional limitation is that the scope of the main concepts such as *individual*, *environment*, and *context* are so large that I am unlikely to have adequately attended to these terms in a way that meets the requirements of all social work perspectives. Though I have tried to reference many, it is impossible to encapsulate all social work perspectives on human behavior or their associated practice modalities. In this dissertation I have not discussed applications to stages of change theory, motivational interviewing, drug and alcohol treatment, intervention with the prison population, etc. The concept does have applicability to these modalities and areas of practice, but I understand this work may not ring true to social workers with different operative frameworks that have not been addressed.

Specifically cautioning against the application of chaos theory to psychodynamic assessment, Iwakabe (1999) notes a potential unintentional outcome that is ironic in terms of my aims. He comments that

by linking psychopathology to attractors, psychological problems become natural consequences that are unavoidable. Furthermore, the etiology of psychological problems are consequently posited to be due to natural law rather than to the social, political, and socioeconomic circumstances that may not be closely associated to the laws of nature...causes may be easily attributed to the individual rather than to environmental factors. (p. 280)

I acknowledge that those operating from feminist perspectives will likely have criticisms similar to this in that contextual adaptation can seem to promote individuals as participants in potentially damaging relationships. I believe these critiques relate to inherent difficulties in conceptualizing recursive relationships in a way that isn't perceived as blaming a victim. Systems perspectives can appear to link individuals as contributing to their abusers' behavior, for example, because of the idea of mutuality of influence. In the above example, psychological distress is supposedly linked to something *wrong* in the way an individual's attractor states have developed.

I believe that I have addressed this concern by looking at the multiple contextual levels that interact with an individual or system of individuals. An abusive relationship is, in the strictest of senses, maintained by virtue of the existence of both individuals. However in this framework these individuals are understood as being not only related to one another, but also systemically to the contextual level of society as well as their internal contextual conditions. This promotes awareness of the larger landscape that defines, creates, and sustains interpersonal connections without assigning blame to individuals for internal psychological distress or participation in relationships that are damaging. It also importantly leaves room for perpetrators to be better understood and validated for their own unique struggles without ignoring the fact that they may make choices that harm others.

Contextual Adaptation and the Process of Conceptual Development

These limitations notwithstanding, I believe the potential benefits of applying contextual adaptation to social work practice are far-reaching. With this re-rendering of p-i-e I have reworked a foundational social work concept into a dynamic process. The concept describes how individuals exist in relationship with their internal, relational, and external contexts. I have remedied many of the limitations of p-i-e by theoretically resolving conceptual separations. Social workers can now assess individuals as being in a continuous, dynamic process of adapting patterned and chaotic behavior to various contexts of cognitive, biological, and psychological experience in conjunction with contexts of social relationships and societal influences.

The individual and the social worker are together participants in the creation of the systemic contextual components and also in the interpretation of the meaning of these contexts. This creative process involves interplay among internal and external influences. These contextual factors are neither defined hierarchically nor necessarily as distinct from one another. The concept thereby enables social workers across settings to incorporate the idea of a "person-in-environment" practice stance with increased assessment and intervention capabilities.

To meet this aim I do promote a truth in that human beings are tasked to figure out how to move across a complex landscape of internal biological, genetic, and physiological experience; interact with others through neurological and cognitive developmental capabilities; form interpersonal relationships across the lifespan; and incorporate complicated external social schema and cultural input. As complex, adaptive systems, there is an apparent constant flux between patterned behavior and

change. I believe contextual adaptation, drawing upon chaos theory, offers social workers an explanation of this core experience.

While I believe this concept can fundamentally change how social workers see human development and functioning, I do not wish to devalue or reject the successful application of other social work perspectives, including the ecosystems perspective and developmental theory. In applying chaos theory to reconfigure developmental theory, Thelen (2008) proposes that

we must not scuttle the past masters--Freud, Piaget, Erikson, Bowlby--who were likely wrong in some of the details and perhaps in some of their assumptions. Rather, we must use as models their bold visions to probe deeply into the mystery and complexities of human development and to articulate general principles that give meaning to so many details. (p. 256)

I agree with Thelen's recognition of the contributions of these theorists to the development of this concept. Because of this, I have been careful to avoid saying that others are wrong. I believe contextual adaptation leaves room for a range of perspectives for human experience. But it also requires social workers to evaluate how their perspectives act as contextual features of, and therefore influence the definition of, human systems.

Final Reflection

The process of conceptual development for *contextual adaptation* made me even more convinced of the concept's attributes. This dissertation began as an idea: people come into the world inherently wanting to do the right thing, wanting to be kind to each other, and wanting to be in successful and mutually beneficial relationships with others. Mental health professionals, including social workers, spend a lot of time distinguishing among and defining patterns of pathology. This focus seems to me to disenfranchise the view that human struggles are attempts to connect to the world. Difficulties in

functioning are attempts that seem to hurt, rather than help, individuals. But they still seem to be *attempts to connect*.

In obtaining initial feedback regarding developing this concept I was asked whether I believed it was falling into a "self-referential paradox" wherein my construction was becoming an enactment of what I was attempting to avoid--an overarching classification of human existence that is not responsive to the uniqueness of individuals. I suppose the answer is yes, it likely is, and at the same time it is not. Contextual adaptation may just be broad enough to describe the nature of human development and functioning in any system because paradox is at its core. The unexpected becomes expected, aberrations become normative. It is therefore impossible to contend that I have addressed all potential limitations or outcomes. But I have also not attempted to create a final word on the professional "person-in-environment" discussion.

I have tried to offer a construct for this moment in time in social work professional practice that moves social work a little further into new areas of theoretical exploration. Foucault's contribution to my thinking, in so far as acknowledging that the truth is inherently unknowable, rests on the idea that language creates and shapes the reality one sees. The act of creating a dissertation and developing a concept is perhaps an ironic outcome. But this is why the nature of contextual adaptation leaves room for multiple interpretations and implications. I hope to have created a model for how a truly dynamic perspective can adapt and remain open to multiple perspectives and yet retain a core structure. This conceptual feature parallels the aim to demonstrate utility in seeing the social work professional group as a contextually adaptive system.

Appropriately, I can't begin to imagine the number of conditions and perturbations that have contributed to this concept's shape and form. My research in "person-in-environment" and the call for application of nonlinear dynamics was a bifurcation point, as was my dissertation proposal defense. At each of these junctures I needed to move beyond old frameworks and into new ways of understanding this concept and the dissertation. So through chaotic features of development, this project has been shaped by me and the identities and biases I bring to the table. I do believe that the human system is an amazing, complicated, and at times terrifying system to be a part of. Given this, I hope I have found a way to explain human difficulties as attempts, from minor to significant, to figure out how to be in the world with others.

REFERENCES

- Aldrich, R. M. (2008). From complexity theory to transactionalism: Moving occupational science forward in theorizing the complexities of behavior. *Journal of Occupational Science*, 15(3), 147-156.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders (4th Edition, text rev.)*. Washington, DC: Author.
- Anderson, H., & Goolishian, H. (1992). The client is the expert: A not-knowing approach to therapy. In S. McNamee & K. J. Gergen (Eds.), *Therapy as social construction* (pp. 25-39). London: Sage.
- Anderson, R. E. & Carter, I. (1999). *Human behavior in the social environment: A social systems approach (5th Edition)*. New York: Aldine De Gruyter.
- Applegate, J. S. (1990). Theory, culture and behavior: Object relations in context. *Child and Adolescent Social Work*, 7(2), 85-100.
- Applegate, J. S., & Shapiro, J. R. (2005). The brain: An introductory tutorial; The neurobiology of memory; Affect: Toward a neurological integration. In *Neurobiology for clinical social work: Theory and practice* (pp. 1-39). New York: Norton.
- Atherton, C. R. (1993). Empiricists versus social constructionists: Time for a cease-fire. *Families in Society*, 74(10), 617-624.
- Baptista, T., Aldana, E., Angeles, F., & Beaulieu, S. (2008). Evolution theory: An overview of its applications in psychiatry. *Psychopathology*, 41, 17-27. doi: 10.1159/000109951
- Bartlett, H. M. (2003). Working definition of social work practice. *Research on Social*

- Work Practice*, 13(3), pp. 267-270. (Reprinted from Bartlett, H. (1958). Working definition of social work practice. *Social Work*, 3(2), pp. 5-8.)
- Bertalanffy, L. V. (1969). *General system theory*. New York: George Braziller.
- Bowlby, J. (1977). The making and breaking of affectional bonds. *British Journal of Psychiatry*, 130, 201-210.
- Brestan, E. V., & Eyberg, S. M. (1998). Effective psychosocial treatments of conduct-disordered children and adolescents: 29 years, 82 studies, and 5,272 kids. *Journal of Clinical Child and Adolescent Psychology*, 27(2), 180-189.
doi:10.1207/s15374424jccp2702_5
- Brogi, A., Camara, J., Canal, C., Cubo, J., & Pimentel, E. (2007). Dynamic contextual adaptation. *Electronic Notes in Theoretical Computer Science*, 175, 81-95.
- Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge: Harvard University Press.
- Brune, M. (2002). Toward and integration of interpersonal and biological processes: Evolutionary psychiatry as an empirically testable framework for psychiatric research. *Psychiatry*, 65(1), 48-57.
- Buchbinder, E., Eisikovits, Z., & Karnieli-Miller, O. (2004). Social workers' perceptions of the balance between the psychological and the social. *The Social Service Review*, 78(4), 531-552.
- Bussolari, C. J., & Goodell, J. A. (2009). Chaos theory as a model for life transitions counseling: Nonlinear dynamics and life's changes. *Journal of Counseling and Development*, 87, 98-107.
- Camras, L. A., & Witherington, D. C. (2005). Dynamical systems approaches to emotional development. *Developmental Review*, 25, 328-350.

doi: 10.1016/j.dr.2005.10.002

- Carr, A. (2000). Evidence-based practice in family therapy and systemic consultation. I. Child-focused problems. *Journal of Family Therapy*, 22, 29-60.
- Chambon, A. S. (1999) Foucault's approach: Making the familiar visible. In A. S. Chambon, A. Irving, & L. Epstein (Eds.), *Reading Foucault for social work* (pp. 51-81). New York: Columbia University Press.
- Cornell, K. L. (2006). Person-in-situation: History, theory, and new directions for social work practice. *Praxis*, 6, 50-57.
- Council on Social Work Education. (2004). *Educational policy and accreditation standards*. [Online]. Available: <http://www.cswe.org/accreditation/EPAS>.
- Cozolino, L. J. (2002). Rebuilding the brain: Neuroscience and psychotherapy. In *The neuroscience of psychotherapy: Building and rebuilding the human brain* (pp. 15-45). New York: Norton.
- Devine, J. (1999). Postmodernity, ethnography, and Foucault. In A. S. Chambon, A. Irving, & L. Epstein (Eds.), *Reading Foucault for social work* (pp. 247-257). New York: Columbia University Press.
- de Bot, K., Lowie, W., & Verspoor, M. (2007). A dynamic systems theory approach to second language acquisition. *Bilingualism: Language and Cognition*, 10(1), 7-21.
- De Hoyos, G. (1989). Person-in-environment: A tri-level practice model. *Social Casework*, 70, 131-138.
- Dean, R. G. (1993). Teaching a constructivist approach to clinical practice. *Journal of Teaching in Social Work*, 8(1/2), 55-75.
- Dore, M. M. (1990). Functional theory: Its history and influence on contemporary social work practice. *Social Service Review*, 64(3), 358-374.

- Dziegielewski, S. F., & Wodarski, J. S. (2002). Understanding human growth and development: Integrating theory and empiricism. In J. S. Wodarski & S. F. Dziegielewski (Eds.). *Human behavior and the social environment: integrating theory and evidenced-based practice* (pp. 1-19). New York: Springer Publishing Company, Inc.
- Erikson, E. (1959). *Identity and the life cycle: Selected papers*. New York: International Universities Press.
- Fischer, M., Nackenoff, C. & Chmielewski, W. (Eds.). (2009). *Jane Addams and the practice of democracy*. Urbana and Chicago, IL: University of Illinois Press.
- Fonagy, P. (2001). *Attachment theory and psychoanalysis*. New York: Other Press.
- Fonagy, P., Gergely, G., Jurist, E. L., & Target, M. (2002). Introduction; Attachment and reflective function: Their role in self-organization. In *Affect regulation, mentalization, and the development of the self* (pp. 1-64). New York: Other Press.
- Foucault, M. (1980). Chapter 5: Two lectures. In C. Gordon, (Ed.), *Power/Knowledge: Selected interviews & other writings 1972-1977* (pp. 78-108). New York: Pantheon Books.
- Franklin, C. (1995). Expanding the vision of the social constructionist debates: Creating relevance for practitioners. *Families in Society*, 76(7), 395-407.
- Franklin, D. L. (1986). Mary Richmond and Jane Addams: From moral certainty to rational inquiry in social work practice. *Social Service Review*, 60(4), 504-525.
- Fraser, M. W. (2004a). The ecology of childhood: A multisystems perspective. In M. W. Fraser (Ed.), *Risk and resilience in childhood (2nd ed., pp.1-12)*. Washington, DC: National Association of Social Workers.
- Fraser, M. W. (2004b). Risk and resilience in childhood. In M. W. Fraser (Ed.), *Risk and*

- resilience in childhood* (2nd ed., pp.13-66). Washington, DC: National Association of Social Workers.
- Fraser, M. W., & Richman, J. M. (1999). Risk, production, and resilience: Toward a conceptual framework for social work practice. *Social Work Research, 23*(3), 131-144.
- Fredrickson, B., & Losada, M. (2005). Positive affect and the complex dynamics of human flourishing. *American Psychologist, 60*(7), 678-686.
doi: 10.1037/0003-066X.60.7.678
- Freud, S. (1962). *The ego and the id*. (J. Strachey, Ed.). (J. Riviere, Trans.). New York: W. W. Norton & Company, Inc. (Original work published 1923).
- Gergen, K. J. (2001). Psychological science in a postmodern context. *American Psychologist, 56*(10), 803-813.
- Germain, C. B. (1973). An ecological perspective in casework practice. *Social Casework, 54*, 535-550.
- Germain, C. B. (1978). General-systems theory and ego psychology: An ecological perspective. *Social Service Review, 52*(4), 535-550.
- Germain, C. B. (1981). The ecological approach to people-environment transactions. *Social Casework, 62*(6), 332-331.
- Giddens, A. (1984). *The constitution of society: Outline of the theory of structuration*. Berkeley, CA: University of California Press.
- Gitterman, A., & Germain, C. B. (1976). Social work practice: A life model. *Social Service Review, 50*, 601-610.
- Gitterman, A., & Germain, C. B. (2008). Ecological framework. In T. Mizrahi, & L. E.

- Davis (Eds.), *Encyclopedia of Social Work*. 20th edition. National Association of Social Workers and Oxford University Press, Inc. (e-reference edition). Oxford University Press. University of Pennsylvania. Retrieved from <http://http://proxy.library.upenn.edu:2582/view/10.1093/acref/9780195306613.001.0001/acref-9780195306613-e-118?rskey=1Ljb7A&result=88&q=>
- Goldstein, E. G. (1996). What is clinical social work? Looking back to move ahead. *Clinical Social Work Journal*, 24(1), 89-104.
- Gordon, W. E. (1969). Basic constructs for an integrative and generative conception of social work. In G. Hearn (Ed.), *General systems approach: Contributions toward a holistic conception of social work*. New York: Council on Social Work Education.
- Gould, K. H. (1987). Life Model versus Conflict Model: A feminist perspective. *Social Work*, 32(4), 346-351. doi: 10.1093/sw/32.4/346
- Granic, I., & Patterson, G. (2006). Toward a comprehensive model of antisocial development: A dynamic systems approach. *Psychological Review*, 113(1), 101-131. doi: 10.1037/0033-295X.113.1.101
- Greif, G. L., & Lynch, A. A. (1983). The eco-systems perspective. In C. Meyer, (Ed.). *Clinical social work in the ecosystems perspective* (pp. 5-34). New York: Columbia University Press.
- Halmi, A. (2003). Chaos and non-linear dynamics: New methodological approaches in the social sciences and social work practice. *International Social Work*, 46(1), 83-101. doi: 10.1177/0020872803046001792
- Hamilton, G. (1941). The underlying philosophy of social casework. *The Family*,

22(5),139-147.

Hare, I. (2004). Defining social work for the 21st century: The international federation of social workers' revised definition of social work. *International Social Work*, 47(3), 407-424. doi: 10.1177/0020872804043973

Hartman, A. & Laird, J. (1983). *Family-centered social work practice*. New York: The Free Press.

Hearn, G. (1969). Progress toward a holistic conception of social work. In G. Hearn (Ed.), *General systems approach: Contributions toward a holistic conception of social work*. New York: Council on Social Work Education.

Heiby, E. M. (1995). Chaos theory, nonlinear dynamical models, and psychological assessment. *Psychological Assessment*, 7(1), 5-9.

Hollis, F. (1949). The techniques of casework. *Journal of Social Casework*, 30(6), 237.

Hollis, F. (1970). The psychosocial approach to the practice of casework. In R. W. Roberts & R. H. Nee (Eds.), *Theories of social casework* (pp. 33-75). Chicago: University of Chicago Press.

Hutchison, E. D. (2012). *Essentials of human behavior: Integrating person, environment, and the life course*. Thousand Oaks, CA: Sage Publications, Inc.

Irving, A. (1999). Waiting for Foucault. In A. S. Chambon, A. Irving, L. Epstein (Eds.), *Reading Foucault for social work* (pp. 27-50). New York: Columbia University Press.

Iwakabe, S. (1999). Psychotherapy and chaos theory: The metaphoric relationship between psychodynamic therapy and chaos theory. *Psychotherapy*, 36(3), 274-280.

Kaiser, S., & Sachser, N. (2009). Effect of prenatal social stress on offspring

- development: Pathology or adaptation? *Current Directions in Psychological Science*, 18(2), 118-121.
- Karls, J. M., & O'Keefe, M. E. (Eds.). (2008). *Person-in-environment system*. (2nd Ed.). Washington, DC: NASW.
- Kondrat, M. E. (2008). Person-in-Environment. In T. Mizrahi, & L. E. Davis (Eds.), *Encyclopedia of Social Work*. 20th edition. National Association of Social Workers and Oxford University Press, Inc. (e-reference edition). Oxford University Press. University of Pennsylvania. Retrieved from <http://proxy.library.upenn.edu:3809/entry?entry=t203.e285&srn=1&ssid=818699032#FIRSTHIT>
- Kondrat, M. E. (2002). Toward an actor-centered social work: Re-visioning person-in environment through a critical theory lens. *Social Work*, 47(4), 435-448.
- Larkin, H. (2005). Social work as an integral profession. *Journal of integral theory and practice*, 1(2), 1-30.
- Levin, F. (2003). *Psyche and brain: The biology of talking cures* (pp. 183-209). Connecticut: International Universities Press.
- Lorenz, E. (1963). Deterministic and periodic flow. *Journal of the Atmospheric Sciences*, 20, 1301-141.
- McCutcheon, V. V. (2006). Toward an integration of social and biological research. *Social Service Review*, 80(1), 159-178.
- Meyer, C. (1983). The search for coherence. In C. Meyer, (Ed.). *Clinical social work in the ecosystems perspective* (pp. 5-34). New York: Columbia University Press.
- Miller, J. H., & Page, S. E. (2007). *Complex adaptive systems: An introduction to computational models of social life*. Princeton: Princeton University Press.

- Mishne, J. M. (1982). The missing system in social work's application of systems theory. *Social Casework*, 63(9), 547-553.
- Morris, P. M. (2008). Reinterpreting Abraham Flexner's speech, "Is social work a profession?": Its meaning and influence on the field's early professional development. *Social Service Review*, 82(1), 29-60.
- National Association of Social Workers. (2008). *Code of Ethics*. Retrieved January 13, 2013, from <http://www.socialworkers.org/pubs/code/code.asp>
- Norton, C. L. (2009). Ecopsychology and social work: Creating an interdisciplinary framework for redefining person-in-environment. *Ecopsychology*, 1(3), 138-145.
doi: 10.1089/eco.2009.0046
- Philips, D. G. (2009). Clinical social work and psychoanalysis: Introduction to the special issue. *Clinical Social Work Journal*, 37(1), 1-6.
doi: 10.1007/s10615-008-0177-x
- Polsky, H. (1969). System as patient: Client needs and system function. In G. Hearn (Ed.), *General systems approach: Contributions toward a holistic conception of social work*. New York: Council on Social Work Education.
- Pozatek, E. (1994). The problem of certainty: Clinical social work in the postmodern era. *Social Work*, 39(4), 396-403.
- Resnick, M. (1994). Foundations. In *Turtles, termites, and traffic jams: explorations in massively parallel microworlds* (pp. 1-19). Cambridge, MA: MIT Press.
- Resnicow, K., & Page, S. E. (2008). Embracing chaos and complexity: A quantum change for public health. *American Journal of Public Health*, 98(9), 1382-1389.
- Richmond, M. E. (1917). *Social diagnosis*. New York: Russell Sage Foundation.
- Richmond, M. E. (1922). *What is social casework? An introductory description*. New

- York: Russell Sage Foundation.
- Rogers, A. T. (2010). *Human behavior in the social environment*. (2nd ed., pp. 1-47).
New York: Routledge.
- Saari, C. (1992). The person-in-environment reconsidered: New theoretical bridges.
Child and Adolescent Social Work Journal, 9(3), 205-219.
- Saari, C. (2002). *The environment: Its role in psychosocial functioning and
psychotherapy*. New York: Columbia University Press.
- Saleebey, D. (1992). Biology's challenge to social work: Embodying the Person-in-
Environment perspective. *Social work*, 37(20), 112-118.
- Saleebey, D. (2004). 'The power of place': Another look at the environment. *Families in
Society*, 85(1), 7-16.
- Sands, R G., & Nuccio, K. (1992). Postmodern feminist theory and social work. *Social
Work*, 37(6), 480-494.
- Schore, J. R., & Schore, A. N. (2008). Modern attachment theory: The central role of
affect regulation in development and treatment. *Clinical Social Work Journal*,
36, 9-20. doi: 10.1007/s10615-007-0111-7
- Sheffield, A. (1931). The situation as the unity of case study. *Social Forces*, 9, 465-474.
- Shilkret, R., & Shilkret, C. (2008). Attachment theory. In J. Berzoff, L. M. Flanagan, & P.
Hertz, (Eds.), *Inside out and outside in: Psychodynamic clinical theory and
psychopathology in contemporary multicultural contexts* (2nd ed., pp. 189-203).
Lanham, MD: Jason Aronson.
- Shulman, L. (1969). Social systems theory in field instruction: A case example. In G.
Hearn (Ed.), *General systems approach: Contributions toward a holistic
conception of social work*. New York: Council on Social Work Education.

- Siegel, D. J. (1999). Attachment. In *The developing mind: Toward a neurobiology of interpersonal experience* (pp. 67-120). New York: Guilford.
- Simpson, G. A., Williams, J. C., & Segall, A. B. (2007). Social work education and clinical learning. *Clinical Social Work Journal*, 35(1), 3-14.
doi: 10.1007/s10615-006-0046-4
- Skar, P. (2004). Chaos and self-organization: emergent patterns at critical life transitions. *Journal of Analytical Psychology*, 49, 243-262.
- Slade, A. (2000). The development and organization of attachment: Implications for psychoanalysis. *Journal of the American Psychoanalytic Association*, 48, 1147-1174.
- Sullivan, H. S. (1953). *The interpersonal theory of psychiatry*. New York: Norton.
- Thelen, E. (2008). Dynamic systems theory and the complexity of change. *Psychoanalytic Dialogues: The International Journal or Relational Perspectives*, 15(2), 255-283.
- Thiéart, R. A., & Forgues, B. (1995). Chaos theory and organization. *Organization Science*, 6(1), 19-31.
- Unger, M. (2002). A deeper, more social ecological social work practice. *The Social Service Review*, 76(3), 480-497.
- Wakefield, J. C. (1996a). Does social work need the eco-systems perspective? Part 1. Is the perspective clinically useful? *Social Service Review*, 70(1), 1-32.
- Wakefield, J. C. (1996b). Does social work need the eco-systems perspective? Part 2. Does the perspective save social work from incoherence? *Social Service Review*, 70(2), 183-213.
- Warren, Franklin, & Streeter. (1998). *New directions in systems theory: Chaos and*

- complexity. *Social Work*, 43(4), 357-372.
- Whittaker, J. K., Schinke, S. P., & Gilchrist, L. D. (1986). The ecological paradigm in child, youth, and family services: Implications for policy and practice. *The Social Service Review*, 60(4), 483-503.
- Witherington, D. C. (2007). The dynamic systems approach as metatheory for developmental psychology. *Human Development*, 50, 127-153. doi: 10.1159/000100943
- Wilensky, U. & Resnick, M. (1999). A dynamic systems approach to making sense of the world. *Journal of Science Education and Technology*, 8(1), 3-19.
- Wolf-Branigin, M. (2009). Applying complexity and emergence in social work education. *Social Work Education*, 28(2), 115-127.
- Wood, B. L. (1994). One articulation of the structural family therapy model: a biobehavioral family model of chronic illness in children. *Journal of Family Therapy*, 16, 53-72.
- Young, T. M. (1994). Environmental modification in clinical social work: A self-psychological perspective. *The Social Service Review*, 68(2), 202-218.