MULTIDIMENSIONAL HUMAN BEHAVIOR IN THE COMPLEX SOCIAL ENVIRONMENT

DECOLONIZING THEORIES FOR SOCIAL WORK PRACTICE

This book uniquely decolonizes the structure of human behavior in the social environment textbooks by starting with a discussion around marginalized populations and human development set within geopolitical context. The authors then cover relevant variations in development through a lens of historical and structural influences as well as unique biological, emotional, psychological, and/or environmental circumstances.

Unlike other HBSE textbooks that typically move from infant or micro-levels and then progress toward larger systems, this book starts with larger systems that shape marginalization and human development as a context for understanding subsequent chapters in the text. Each chapter integrates the latest knowledge from neuroscience related to marginalized populations and its influence on human development. Chapters are linked to social work practice by framing how knowledge about marginalized populations, human development, and neuroscience can assist social workers in formulating engagement, assessment, intervention, and evaluation processes that maintain the dignity and worth of marginalized populations.

Designed to help deepen student's understanding of theory for social work practice as well as the practice of other helping professionals, this text instructs students on both theories and how to actually apply them in their work with client systems.

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Edited by Jemel P. Aguilar, Ph.D., LCSW, M.P.H. and Elisabeth Counselman-Carpenter, Ph.D., LCSW

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Preface

This book came to be for the simplest of reasons: we could not find a book that helped us investigate the vast number of situations that arise when examining human behavior. Challenges in traditional HBSE courses are many: students focus on behaviors to the exclusion of contextual and environmental influences, while some of the larger social dimensions like economics, politics, and policies are viewed as overwhelming and distal factors outside of a profession's scope of practice. The theories students need to understand can be challenging and applying theories to practice encompasses another level of thinking and skills that many times are omitted from textbooks. Indeed, ‘traditional’ theories are developed using populations and situations that differ from social worker’s contemporary clientele and social problems. We seek to introduce students to look at the big picture. What are the societal forces that contextualize human behavior? How do theorists help us understand this bigger picture, and can we bring this knowledge into social work practice?

Yet looming beyond the challenge of teaching theory and applying it to practice is the theoretical canon, which is the underpinning of most HSBE courses and books for those courses. “Traditional” theory is written from the perspective of, and typically focuses on, white, cisgender, straight, middle- and upper-middle class, able-bodied males. Populations with multiple, marginalized identities are regulated to the sidelines of a chapter or the diversity of these populations are contained in one 30 page chapter.

We have developed this book, then, to address what we have perceived and which many of our colleagues have as well as a barrier to helping students understanding human behavior in the social environment. First, rather than jumping right into human behavior from infancy and continuing throughout the lifespan, our book begins in Part I with a brief discussion of the fundamental context for human behavior and development. Therein we decolonize the structure of human behavior in the social environment textbooks through the book’s content and structure, as well the geopolitical milieu. The context of human development, thus, shapes all other aspects of the life course and provides context for the discussion of the lifespan in Part II.

While ‘traditional’ theories are not given short shrift, a wider theoretical perspective that focuses on the widespread diversity of people with multiple marginalized identities is examined. For example, chapters that examine Piaget and Vygotsky’s formulation of cognitive development over the life course will also include research describing the cognitive development of children with multiple identities who are also influenced by speaking both English and another language, familial responsibilities, and navigating interactions in communities and schools. Moreover, each chapter integrates the latest knowledge from neuroscience related to populations with multiple identities and their influence on human development. Finally, chapters are linked to social work practice by framing how knowledge about populations with multiple marginalized identities, human development, and neuroscience can assist social workers in engagement, assessment,
intervention, and evaluation processes that maintain the dignity and worth of populations, starts where clients are in their help-seeking process, and support social workers to address social problems.

Features

- **Context as applied to human development** helps students understand the connections between context and stages of human development
- **Theory** is presented throughout the text, providing better insight into understanding the situations and populations of people with multiple social identities
- **Focus on multiple social identities throughout** the entire book helps redress some underexamined areas of development
- **Explicit focus on the practical application of theories** takes the student away from “what is going to be on the text” thinking into “how i can apply this knowledge in my work”

Pedagogical Elements

- Chapters begin with **Learning Objectives** that help students understand the focus of the chapter
- **Case studies/vignettes** in each chapter (many of which are directly from the lives of the chapter author or their student) engage the student and provide a real-world perspective, aiding in understanding theory in practice
- **Reflection Questions** appear in most chapters, challenging students to think critically about key concepts and theories
- **Theory ↔Practice boxes** throughout the text examine and demonstrate the ways that classical and contemporary theory inform practice
Acknowledgments

We wish to acknowledge and thank our students throughout the years, who have challenged and inspired us to put together a book that would support their learning and that of their successors. We also thank our reviewers, whose insights and suggestions we had always considered even when we weren’t able to consistently follow them Finally, we thank the staff at Cognella, from Kassie Graves, Vice President of Editorial, Amy Smith, Senior Project Editor, Alia Bales, Production Manager, and Jess Estrella, Senior Graphic Designer.

—Jemel Aguilar

I would like to acknowledge and thank the contributing authors for their work, vulnerability, and commitment to transforming and decolonizing how future generations of students conceptualize human development. I would also like to thank all of my colleagues at Adelphi University for their support, the interim administrative leadership team of the School of Social Work, Provost Chris Storm, and President Christine Riordan. On a personal note, I would like to thank my professional mentors for their continued guidance and wisdom, especially J. S., B. A. D., and R. B. Thank you to Peter Labella for his contributions, and deep thanks to Kassie Graves and the entire Cognella team for their leadership and commitment to this text.

I would also like to acknowledge my ancestors, who paved the way for me to position myself in this context to do this work: I hope that this project continues to honor your dreams and sacrifices, especially my late parents Terry Dankel Counselman and Richard Counselman. Mahalo to my hānai family, especially Joyce W., Anne G., and Elizabeth M., who supported me through this entire project; my biological Dad, Tom; and to my family—my partner, Diane, and my children of heart and body: Colin, Brady, Matthew, and Talia for their love and unwavering support during the long hours devoted to this project.

—Beth Counselman Carpenter
March 2023
PART I

The Contexts of Human Development

The diversity of approaches to teaching and learning human behavior in the social environment sometimes obscures the practice-based realities that social workers face. A lifespan perspective is a linear approach to understanding how people grow and change prenatally until their death. The lifespan perspective occurs alongside and within a social context and environment that adds nuance to human development, making a linear developmental perspective dynamic and complex.

Part I introduces the complexity and contextual backdrop shaping aspects of human development. In Chapter 1, Jemel Aguilar introduces how context and environment influence human development, given the multiple social identities of people and populations. Systems and complexity theories are foundational to understanding human development’s dynamic and complex nature in the social environment. Three classic systems theories are discussed, and basic concepts are highlighted to set the stage for examining complexity theory. In Chapter 2, Soma Sen examines globalization’s effects on social work contexts and the importance of understanding economic influences on human development, the social environment, and social opportunities. Sen focuses on the work of Marx and Gramsci while introducing key economic concepts for social workers.

Part I sets the stage for the subsequent chapters that strive to move social workers beyond Eurocentric views of human development that cluster many populations with marginalized social identities in with White, middle-class, heterosexist, and cisgendered theories. These two chapters also infuse how institutional and social hierarchies, multiple social identities, social domination, and subordination create structures, systems, and interpersonal interactions that negatively and positively influence development. Chapters 1 and 2 also provide basic guidance on moving from theoretical knowledge to social work practice, which is an added feature to help social workers practice human behavior in the social environment.
Introduction

Immediate and distal surroundings shape human development throughout the lifespan by providing or limiting opportunities, resources, and iatrogenic influences. This bold assertion has further qualifications in that (a) aspects of the immediate and distal surroundings might be visible or invisible to the person experiencing them or to an assessing observer, (b) the positive and negative influence of surroundings are interactive, cumulative, and sometimes contradictory to absolutist assumptions, and (c) human development is adaptive and ever-changing across the lifespan. In this chapter, the relationship between human development and contexts is explained along with the asserted qualifications to illustrate potential variations in development. This chapter, therefore, sets the stage for social workers to think about the social environment, social context, and interactions among people. Also, the chapter examines how systems theories, systems thinking, and systems perspectives inform social work engagement, assessment, intervention, and evaluation.
This chapter is just the beginning of a lifelong journey in thinking and conceptualizing the environment, context, and personal interactions such that social workers can effectively engage, assess, intervene, and evaluate client systems, policy initiatives, and organizational settings. The material in this chapter and its application to social work thinking positions readers on the long road toward continually achieving the following Council on Social Work Education competencies:

- Demonstrate ethical and professional behavior.
- Engage diversity and difference in practice.
- Advance human rights and social, economic, and environmental justice.
- Engage in practice-informed research and research-informed practice.
- Assess individuals, families, groups, organizations, and communities.
- Intervene with individuals, families, groups, organizations, and communities.
- Evaluate practice with individuals, families, groups, organizations, and communities.

By the end of this chapter (and even this text), readers will not be competent in these areas but will have a foundation to build competence upon throughout their careers. The following aims mark the end goal and measure one’s understanding of the content described in this chapter.

**CASE STUDY**

Alex watches the news each morning. CNN reporters describe the wars happening around the world, the spread of COVID-19 variants, arguments for and against mask and vaccination mandates, new songs released by famous artists, and policies allowing citizens of one country and preventing citizens of another country from migrating to the United States of America. After the news, Alex prepares for today’s history test and hopes that the night of spaced repetition and concept mapping is sufficient for passing the history test. These strategies seemed very different from rote memorization that Alex used in the past, and many YouTubers spoke highly of these methods because the British medical student Alex follows used these techniques to excel in medical school. In contrast, a Stanford doctoral student who studies education explained in considerable detail concept mapping as a study method. “Here goes,” Alex thinks as the front door of the apartment complex slams shut.

Alex walks down the sidewalk toward the bus stop, stepping around some litter. Alex hears muffled talking swirling around but focuses on the links between concepts found in the history text. “The international criminal court is linked to crimes against humanity, of which genocide is an example. Crimes against humanity also include systematic torture and systematic rape.” Alex stops at the corner before looking both ways and then crossing the street to the bus stop.
At the bus stop, Alex talks with Jenny about the history test, studying, and potential questions that Mrs. Mimble might ask, adding, “She’s such a tough grader.” As Alex and Jenny walk off the bus, Jenny says “bye” and runs over to a group of friends, quickly joining the conversation. Alex continues walking into the high school, only to be stopped by the line waiting for security to allow students to pass through the doorway. Entering school has changed a lot over the years as more and more school shootings happen across the United States of America. The spread of school shootings contrasts with students on TikTok from around the world discussing their school challenges. Unlike the active shooter drills, debates over the validity of school shootings by some segments of conservative media, and the growing debates about teachers carrying guns in schools. Further contrasting problems include the contemporary debates about sexual orientation and gender identity discussions in school settings, whether parents should decide if their child must wear a mask, and the violence laid against school board members by frustrated parents.

Alex walks through the door and heads toward the history classroom to settle before the test. Alex sits next to Katia, whose eyes are puffy and red. Katia looks at Alex and says, “we’ve been trying to reach my family in Ukraine and Russia all night. I am not ready for this test and really don’t care right now.” Katia starts to cry. Mrs. Mimble walks into the classroom and greets the students: “Hi everyone, can you turn off your phones, take off your watches and put them in your pockets, and those with glasses, please put them in front of you on your desk so I can check them before we start the test.” Mrs. Mimble starts to walk around the classroom as she continues to give instructions: “You will have the whole class time to complete the test ...” she leans over the looks through a student’s glasses to check if they are smart glasses, and once you are done, close the booklet and sit quietly until everyone is done. Do not take out your phone or watch until I give everyone permission.” Mrs. Mimble checks another student’s glasses and says, “Taking out your phone or watch will result in automatic failure of the test.”

Alex listens to Mrs. Mimble. Alex’s heart starts to race faster and faster as Mrs. Mimble moves around the classroom. The spaced repetition and concept mapping exercises pass through Alex’s mind faster and faster—too fast to be a last-minute review. Alex’s hands start to shake. Alex’s right leg starts to move up and down. Next, Alex gets up and leaves the classroom to get some air as Alex’s chest has tightened. Is this an asthma attack? Mrs. Mimble says, “Alex, where are you going?”


At one point and time in history, and maybe even in our personal lives, Western societies viewed the actions of others as either coming from their innate selves—nature—or from their upbringing—nurture. Assertions about the “natural basis” for behaviors are linked to mystical, temperamental, or essentialist explanations for a person’s behavior. For example, behaviors now described as part of the spectrum of schizophrenia were once related to demon possession, random mood swings, or who an [insert cultural group] are in reality (Kurtz, 2016). In contrast, nurture-based assertions are used to explain illicit substance use, criminal behavior, and even escaping poverty. For example, nurture-based claims take the form of arguments about substance use or criminal behavior as resulting from poor parenting or the destruction of the “nuclear family” as an explanation for social problems, some of which have always existed.
in many societies and throughout history. In the social science literature and professional disciplines like social work, the nature versus nurture debate raged on until finally losing its foothold in the minds of practitioners thereby making way for a more nuanced understanding of nature and nurture in which nature and nurture interact and are also shaped by elements surrounding a person, group, family, or society. This new understanding of human behavior was based on an interactionist framework, which argued that multiple forces are at play to explain a person’s behavior or the outcomes in a context. This interactionist framework includes the environment—which encompasses families, communities, and societies—as well as biological, physiological, and neuroscientific knowledge. This interactionist framework spread across many disciplines’ orientations to human behavior and became a dominant framework for understanding people and their behaviors (Ramage & Shipp, 2009).

Many scholars agree that human beings are complex and interact with biological, social, cognitive, emotional, historical, and situational factors—among other things—to inform the behaviors seen by others and the meanings for behaviors observed by others. As practitioners dedicated to helping people contend with their circumstances, social workers practicing with individuals, families, groups, or societies must (a) parse factors leading to observed behaviors, (b) develop hypotheses about the source and meaning of behaviors, and (c) then implement interventions to change adaptive mechanisms to the multiple, interacting factors producing observed behaviors (Strom-Gottfried et al., 2016).

It is this charge that requires social work practitioners to:

- Approach individuals, families, groups, and societies with an understanding that what is presented to the social worker during the interaction might be a signal of their distress or emotional disorganization.

- See beyond the behaviors and presentation to what is underneath.

- Evaluate the potential multilevel and interacting influences leading to the behaviors seen.

- Implement effective and respectful new ways to interact with the personal and social world.

- Determine whether suggestions and recommendations are leading to our projected outcomes while having minimal “side effects” that might compound the stressors in a person’s or group of people’s lives.

The number of tasks, level of knowledge needed, mental and emotional discipline, technical skills, artistry, creativity, and patience needed to be an effective social worker might seem daunting at first glance. As a first practice tip, viewing these skills as tools to be developed over decades instead of years and through practiced education instead of trial and error because our mistakes can influence client systems’ access to life-sustaining food, clothing, and shelter, as well as mental or physical health.
Systems Theories and Perspectives

There are many different systems theories and perspectives, as well as many different systems theorists (Ramage & Shipp, 2009). While these thinkers and their ideas differ, the elements or concepts are similar. They, therefore, allow others to group a set of theories under the umbrella of systems theory while also respecting the individual contributions of systems thinking to different areas of the social and biological sciences (Ramage & Shipp, 2009; Wilson, 1963).

The intent of systems theorists was to make sense of the world in much the same way that people in the past who attributed behavior to nature, nurture, or mysticism, but systems theorists embraced the complexity of the world, the transactions that occurred, and the interactions that led to a range of outcomes captured by the concept of multifinality. Multifinality suggests that given a similar starting point, multiple pathways can lead to different outcomes. There will be more on multifinality later in this chapter, but for now, understanding that more than one outcome exists given a similar starting place can help understand the intricacies that systems theorists were grappling with and what might have influenced the growing diversity of systems theories.

During their scientific careers, systems theorists were grappling with questions about the multiple outcomes they observed in their social world. To provide a contemporary and somewhat culturally myopic example, a systems theorist might ask how two Latino-African American boys reared by a single out-of-work father, growing up economically poor in a housing project in the Bronx that is encased by drug use, drug selling, and gang violence, and both of whom walk to the same school end up in different places in life. One becomes a prominent oncologist while the other becomes convicted for a wire fraud conspiracy. Given the similarity of their circumstances, some might argue that one boy had grit—the drive to persevere—while the other fell prey to the neighborhood. Yet, those explanations lack consideration of subsequent questions, such as why one had grit and the other did not. Systems theorists systematically observed people to answer these questions rather than enter the proverbial rabbit hole of off-the-cuff explanations for these two boys. As a result of disciplined observation, testing, and interpretation, systems theorists explored relationships between concepts that led to many of the systems theories written about and discussed today, as well as insight into human behavior and new scientific and practice pathways to follow.

While we have been talking about systems theories, we have not defined them and their representative parts so the systems theories can be differentiated from other types of theories. Four components that determine systems theories from other theories in the social, political, economic, and biological sciences include an emphasis on the (a) whole and parts, (b) relationships, (c) boundaries, and (d) the theory to practice relationships (Ramage & Shipp, 2009). Systems theories focus on the whole and its parts, as in the person and their environments. Returning to the Latino-African American boys’ example above, to begin to understand these boys, a social worker must consider each boy and each environment, including his school, home, housing project, street community, school, classroom, and many other countless physical and social environments that each boy passes through in their lives. Despite living in the
same setting and even apartment, the boys might view the environments differently, thereby experiencing and understanding their settings and contexts in ways that differ among the boys and across their life stages.

In addition to the environments for each boy, we must consider that each boy is an amalgamation of biological, cognitive, emotional, and physiological systems also influencing and are influenced by multiple contexts and environments. In essence, various systems exist in transactions and relation to each other, better described by relationships, the second component that is vital to understanding systems. We must identify the whole and its parts and then examine the relationships between the whole and its features.

Returning to the Latino-African American boys’ example, the parts of their lives include the housing project that is located in and related to the portion of the city block, which is also found in a neighborhood that is also a part of the section of a city, which is also part of a city. Many features can continue to be identified and their linkage to other elements until we arrive at the global community. Each of these parts separately and in combination have relationships that influence the actions, beliefs, emotions, and physiological responses of each part and their combinations. Consequently, the parts and their combinations can influence movement toward the outcomes that we indicated earlier. It is in examining the parts and their relationships that systems theorists begin to embrace the complexity of human development because the number of parts interact in differing ways and produce a variety of outcomes (Ramage & Shipp, 2009).

After identifying the elements and the relationships, it becomes necessary to identify the boundaries that separate the parts and inspire the need for a relationship. Boundaries identify the components included in and outside the system. A simple explanation of boundaries can be drawn from looking at social cliques in that members within a social clique recognize in-group members and out-group members. In high school settings, for example, jocks can identify each other by their relationship to sports teams, the apparel worn, or their position on the team. Non-jocks can also identify themselves as outside of the jock clique given their nonmembership, lack of official team apparel, or team position. In this example, team membership, team apparel, and place on the team are boundaries separating jocks and non-jocks. But, as is the case in contemporary society, some people will wear team apparel to signify their affiliation with a team, but this act does not position the person on the team. In essence, wearing a New York Wolves football jersey during a practice and a game does not make me a player or a part of the team despite my attempt to align with the group (see https://www.newyorkwolves.com/). Returning to boundaries, boundaries can also exist within seemingly wholes, in that jocks can be further separated by athletic talent, position in the team hierarchy, role in the success or failure of the team, or many other attributes. Attributes, therefore, allow for further segregation of the whole, parts, and their relationships by pointing to the boundaries within and between systems. Despite the athletic prowess of all the women football players, Tara Thomas and Clarissa Tullis are the 2022 Offensive Players of the Year, Jamie Robinson and Nhandi Brown are the 2022 Defensive Players of the Year, and Jesse Felker and Allison Cahill are the 2022 Most Valuable Players of Year, which separates these professionals from all the others in their respective leagues.
With these basic components, many systems theorists formed and expanded upon the work of other theorists, and the social work discipline tied systems theory to the work of Mary Richmond. Delving into all the systems theorists and their relationship to social work is beyond the scope of this chapter. Therefore, three prominent theorists are discussed to explore how systems theories and thinking shape the subsequent chapters and the use of theories in social work practice.

**Urie Bronfenbrenner**

Urie Bronfenbrenner (1979) is a well-known systems thinker whose conceptualization of the ecology of human development influenced social workers’ approach to social work practice, policy, and research. Bronfenbrenner outlined a systems theory that he asserts is a new perspective contrasting the nature versus nurture debate. Bronfenbrenner argues that human development results from interactions between the developing person and their environment. Bronfenbrenner’s conception of the environment outlines nested structures, each inside the other, that start with the social context closest to the developing person, followed by surrounding environments that are more distant than the immediate social context. For the Latino-African American boys discussed earlier, the people in their housing project whom they interact with frequently are in the immediate social context. The residents of that housing complex are surrounded by a local neighborhood that is also surrounded by a more extensive section of a city, which is surrounded by the city. In the words of Bronfenbrenner, the boys are nested within the housing project, that is nested within the local neighborhood, that is nested within the more extensive section of the city, that is nested within a municipality. Each of these nested structures influences the boys’ development, and the boys affect their context and environment in reciprocal ways.

Identifying the nested structures then warrants consideration of the relations among the nested structures, or the relationship between the boys and their housing project, the housing project and the local community, the local community and the city, as well as countless other combinations, including the boys and their city. Examining how these relationships influence development can proceed by a social worker asking the following questions: Does the housing project have areas for physical and social development, or are children in the housing project regulated to only the inside of their home because of parental concerns about children’s social safety and exposure to drug use or violence? This examination or search for understanding warrants additional theories, frameworks, models, and research knowledge to be imported into the analysis, thereby adding greater depth and nuance to the potential relationships between a person and their environment. For example, the market fluctuations (Chapter 2), intergenerational transmission of trauma (Chapter 3), or challenges to adulthood in this context (Chapter 8) shape system relationships and boundaries. Understanding these structures and their relations also requires a consideration of how they positively and negatively influence development instead of searching for positive or negative influences. For example, the contexts that both boys navigate in their lives might differentially interact with the genetically
transmitted historical trauma, yielding different expressions of the trauma. To deepen an examination of the relationships between systems, it is necessary to add additional concepts Bronfenbrenner (1979) outlines for his theory, including role, active engagement, ecological transitions, molar activity, content, elements, and development-in-context, that expand on the ways in which the individual, social context, and social environment interact in relation to each other and produce reciprocal effects.

Roles are any one society’s or culture’s interaction patterns that govern social interactions, establish expectations for behaviors, and create social positions for members of that society. In a classroom environment, the roles of the teacher and the student are established through family interactions as children are taught to attend to the rules put forth by adults and then extended or challenged in early learning environments such as Head Start or prekindergarten. Over time, student–teacher interactions accumulate and govern how students and teachers might interact during class or other learning-based interactions. This explanation does not necessarily suggest a positive relationship between school systems and students or education or learning and students (see Chapter 5) but instead acknowledges that interactions occur and the meanings of the relationships between these systems vary from child to child.

Returning to the two Latino-African American boys to help further illustrate this concept, the boys will enter their schools in the role of students that accompanies a set of behaviors imposed onto the boys by the school and might be familiar or foreign to the two boys. Each boy will attend school systems with an understanding of the relationship between them as a system, adults as a system, and the school as a system that will influence the boys’ interpretation of the expected behaviors for each system (see Chapter 7 for historical examples). The term “might” acknowledges the diversity of ways that teachers and students choose to act in school settings, implement and maintain rules, and the contexts surrounding and shaping school structures. As teachers and students interact over time, these interactions facilitate developmental processes for the teacher and student in that they might develop new ways of interacting, different understandings of each party’s roles in the environment, new meanings for behaviors or situations, and behavioral changes stemming from elements outside the teacher–student interaction (Chapters 7–9 expand on the adult side of this interaction). How the teachers and the boys enact the expectations in the school setting produces additional behaviors, emotions, cognitions, and roles that symbolize molar activity—an indicator of change that builds upon itself over time and has meaning and intent). For the two boys, interactions with teachers in Head Start or pre-K programs or with parents and adults become molar activities for future social interactions regardless of the setting. Like learning from caregiver–child attachment interactions, the boys learn about social processes like asking for help, appropriate ways to speak with adults, how adults interact with children, including different types of children, and how interpersonal power is used in social interactions (see Chapter 4 for information on attachment). Information from the larger social environment, social context, or comments from others surrounding the boys can also inform molar activity in that, for example, the widespread exposure to news about the murder of George Floyd, Ahmaud Arbery, and many other African American or Black-presenting men along with the marches by White supremacists in Virginia
might influence the two boys’ understanding of the world around them, including their school environment, teachers, and the potential opportunities or barriers that lay ahead of them (see Chapter 2 for larger system influences on human development). Molar activities such as these can then shape future social development and lead to changes in behavior to adapt to perceptions of dangerousness or unexpected outcomes of system interactions.

**Niklas Luhmann**

Niklas Luhmann studied Talcott Parsons’s systems theory concerning social environments and, in particular, societies. Luhmann (2013) found that Parsons’s view focused on actions, and it was unable to explain why, in American society, some populations flourished while others did not. Linking this notion about the differences in outcomes given similar circumstances, Luhmann, in essence, questions whether Parsons could explain multifinality, or why the two boys in the example above had different results. Additionally, Luhmann argued that despite some systems theorists’ focus on the stability of systems—in that the work of a system is to return to homeostasis, a balanced state—Luhmann suggested that stability ignores the reality of changes and adaptation in systems. In essence, systems are more flexible than some systems theorists proposed. Finally, Luhmann argued that many applications of systems theory focused on structural elements and components such as societies and their influence on individuals and less on individuals’ influence on societies. Comparing Bronfenbrenner’s (1979) outline of systems theory to Luhmann’s, it is obvious that Bronfenbrenner starts with the individual and moves outward, which Luhmann would critique as limited. Luhmann’s formulation of systems theory, consequently, sought to develop a more flexible systems theory that explains disparities in societies while also providing guidance for systems theories’ application to practice.

Luhmann’s (2013) systems theory suggests that the application of systems theory can be viewed from the perspective of the individual toward elements surrounding the individual as in school, family, neighborhood, community, state, and society). Conversely, Luhmann suggested that systems theory can be applied to situations from the perspective of larger elements, such as organizations or communities. Luhmann’s assertion about the multiple viewpoints or perspectives of systems provided many disciplines with a means to begin to understand how these sets of theories can be employed in various occupations like social work that focuses on many different types of client systems such as individual children, intergenerational families, community groups, or social services agencies. Thus, Luhmann offers practitioners more flexible guidance for linking systems theory to application or practice environments. Luhmann also suggests that the meaning of interactions between elements of a system is a vital aspect of understanding the interactions. Bringing back the example of the two boys from earlier, each boy living in a housing project might have different meanings that inform the way the boys understand their relationship with the others in the housing project, the housing project itself, and other facets of their social context. Thus, for one boy, the meaning he attaches to the housing project might encourage him to align less with others in the housing project and more with others outside the housing project (see Chapter 6 for insights into
identity and meaning). Alternatively, the boy might view the housing project in a way that aligns him with others in the housing project and less with teachers and administrators in the school environment, thereby resulting in his focus on the housing project and its residents versus the school and its faculty. In each case, the meanings drawn from interaction shape how each boy sees his context and subsequent behavior. In Luhmann’s conceptualization of systems theory and its brief application to the example of the two boys, practitioners might target the meaning of the interaction between the housing project and each boy and how these meanings are communicated.

Luhmann (2013) asserts that communication provides theorists insights into the meaning of the interactions between elements of a system and how identities are shaped as a result of the interactions between parts of a system. For example, a social worker in a Boys & Girls Club after-school project might listen to how each boy describes and discusses their perspective of the housing project and their interactions with their neighbors. One boy might describe staying inside his apartment because “people are always getting in trouble, and I don’t want to get in trouble,” while the other states, “A lot of the older boys have cool stuff that I want, like the latest sneakers, lots of money, games, and cool phones.” In the first statement, the boy indicates that the element of his apartment suggests a sense of safety from the outside world and that his housing project includes many people involved in something he is trying to avoid. His identity consists of an element of not getting into trouble or being around people that do. In contrast, the other boy’s statement indicates that he admires the material items he sees others have. He is around older boys, and his identity includes a need to be part of a group with resources. He wants things that might be unaffordable to him at this point.

While examples of the two boys stem from the boys’ perspective, Luhmann’s (2013) interpretation of the systems theory can be applied from the perspective of the Boys & Girls Club. The Boys & Girls Club might develop an after-school program to help children and adolescents develop soft skills like problem-solving, study habits, and distress tolerance to influence the relationship between children and the crime in their neighborhoods. For the Boys & Girls Club, the presence of an illicit economy near families with little access to affordable after-school services might mean that families of color and low-income families will be trapped in the cycle of incarceration and poverty (see Chapter 2 for insight into geopolitical influences on development).

The perspective on the interaction between the illicit economy and families in these environments can be communicated to stakeholders, practitioners, and many others through the program’s mission and vision statements. Thus, elements larger than individuals also develop meanings from the interactions of components and then communicate those meanings to others like individuals do in social interactions. Therefore, Luhmann’s (2013) formulation of a systems theory adds meaning, influences identity development and communication, while also making explicit assumptions about transitioning theory to practice. Also, Luhmann challenges applied systems thinking from the individual’s perspective toward the environment, while others have applied these sets of theories and concepts from the environment to the individual.
Gregory Bateson

Gregory Bateson was an anthropologist who applied ethnographic research methods while living with and studying various cultures, including the Iatmul tribes in Papua New Guinea and families in Bali. His perspective influences the theories and concepts that he produced in his work as a White, highly educated, and Westernized heterosexual man and the lived experiences of observing and participating in the daily lives of people he studied. Based on this reflexive observation of his position concerning the knowledge he produced and the people he observed, Bateson (2002) developed and discussed the fallacy of misplaced concreteness that argues for different ways of viewing the world and interpreting others. Bateson seemed to understand that the observer’s approach to a situation and the theories that guide their observation inform assumptions about the proposed “work” that needs to be addressed. Invoking or acknowledging the influence of the observer on the observed, Bateson articulates ethos, which is identified as “conventional emotions” linked with “normative behavior.” A society’s ethos can be interrupted by rituals or revolutions in society, whereby conventional emotions or normative behaviors are transgressed or disrupted. Linking ethos and Bateson’s ideas about the role of the observer suggests that observers might interrupt rituals or initiate revolutions to disrupt everyday conventions in society, as described in the literature on the colonization of societies (see also Chapter 3). Alternatively, an observer can view the actions of society and interpret the social world from the observer’s ethos, whereby the observed society is viewed and interpreted negatively or positively compared to the observer’s societal beliefs.

Ethos, ritual, observation, and the observed can be applied to interactions using the example of the two boys discussed in this chapter. As the boys enter their home schools, they interact with adults who might have cultural backgrounds or childhood educational experiences that are different than their own; these adults might also view the expected behaviors or ethos of the school environment in ways that are informed by their adult expectations and job roles. Thus, adult observers might interpret students’ behavior or emotional control from the expectations that are more relevant to other adults or to people of a particular cultural, socioeconomic, political, or social location (see Chapters 5, 6, and 8). Adults around these two boys might also interpret the boys’ behaviors or emotional reactions positively or negatively based on how they align with the adult staff members’ ethos. So, one boy that sits still in the class directing his attention to the teacher at the head of the class, raising his hand to participate in the lesson, and following all the rituals the teacher has set up for the classroom would, from the perspective of Bateson’s (2002) conceptualization, be viewed as a “good student and child.” In contrast, the boy who moves in his seat and tracks the events in the classroom and the outside world might be viewed by this teacher as uninvolved with the lesson. If the boy periodically, answers questions without raising his hand after continually being told to “raise his hand” because this is the expected behavior in the classroom, the teacher views this boy as “a bad student and child.” These interpretations fall prey to what Bateson characterized as the fallacy of misplaced concreteness—describing a system according to the qualities of one situation. In the boys’ housing complex, for example, these same behaviors might have different meanings, and the tracking of the events in one’s
context might be adaptive and create safety, whereas focused attention on one situation demonstrated by the “good” student might be maladaptive in the housing complex setting because it opens up the opportunity for victimization. In essence, observing the boys’ behaviors in different contexts changes the meaning and usefulness of the behavior. Bateson applies this fallacy to some observers’ use of a singular event or way to describe whole cultural groups, as is found in many stereotypes and prejudices, thereby tying this fallacy to the concept of ethos and his arguments about the observer–observed relationship. In the example of the two boys, teachers who view one boy as good and the other as bad based on their behavior in school are falling prey to this fallacy and stereotyping these boys.

Bateson’s systems theorizing extended into many areas, including thinking systems and the ways that the mind and nature are related. Cybernetics, as he called it, explores the ways that the systems in the world engage in competition and dependency with other systems and consequently influence (a) how people think and (b) the thinking systems developing from relationships between the world and the mind. Bateson’s focus on cybernetics spawned many research studies, debates, associations, and journals outside of his work on systems theory. Bateson’s focus on cybernetics also explored how adaptive changes occur, which he postulated were the outgrowth of feedback loops: the information given back to a system about its stability, behavior, emotions, or other facets or variables in or interacting with the system. In response to this “feedback,” systems were able to adapt and adjust their course, known as “self-correcting.” Harkening back to the boys in the classroom, teachers’ responses to their behavior in the classroom, and neighborhood residents’ responses to their behavior in the housing complex are both sources of feedback that might differ or contradict.

Self-correcting as an adaptive response to feedback, however, is not always the outcome of feedback. Feedback was one of many sources of interaction between systems. It could spawn other ways of adapting, such as changing the relationship between systems, ignoring feedback, or overcompensating for the feedback provided in ways that destabilize the system. Applied to the boys’ classroom example in this chapter, the boy that sits in his seat and raises his hand to answer questions posed by the teacher might receive feedback about his behavior through grades, mentoring relationships offered by his adult teachers, and opportunities to explore new environments because of his academic achievement. This same boy might also receive feedback from others in his neighborhood or family that complements or detracts from the feedback in his school. In contrast, the other boy that attends to the events in the classroom will also receive feedback about his behavior, such as laughter from others in the classroom including the teacher, a mentoring relationship with a teaching staff when asked to leave the classroom, inattention from educational support personnel such as guidance counselors and school social workers because of the feedback these groups are receiving from the systems they interact within their personal and professional lives, as well as the feedback the boy receives currently or had received in the past about his behavior from their neighborhood and families. While individuals providing feedback might assume that the feedback or even punishments are more likely to lead to behavior changes, some boys might filter the feedback to maintain a sense of themselves (see Chapter 5 for further elaboration). Known as autopoiesis, filtering
information such as feedback is a mechanism for self-regulation and self-organization. Thus, feedback to systems can be manifold as well as conflicting or congruent, or confusing, which challenges the simple classification of feedback as positive or negative. Hence, a teacher might believe they are giving the boy some positive feedback, he might interpret the feedback as negative and filter it out. Feedback might also not be necessarily attended to because of its relationship to the self-system. The outcropping of feedback for this boy might be divisions—known as **schismogenesis**—in that the feedback communicated to the boy begins to fracture his relationship with school personnel, the school environment, or learning in general while bonding him to others in different environments than these settings. Given the multidimensional and multilevel influences on human development, critically separating features in systems can help to organize one’s conceptualization of an organization, person, family, or community.

**Social Context and Social Environment: Differences in Concept and Influence**

The systems theorists presented are but three of many theorists that contributed to systems theory and its concepts as well as applied this manner of thinking to the problems facing diverse disciplines. It is neither the intention to review all systems theorists nor is it feasible to within the number of pages set out for this chapter, but instead, systems theorists and theories presented introduce the ideas of the theorists so that readers develop a beginning familiarity with the concepts and models of thinking embedded in this area of theorizing.

Bronfenbrenner, Luhmann, and Bateson attempted to analyze and explain what they saw in the world around them, including both the consistencies in thought and action as well as the contradictions between what was said and what was observed. For example, Bateson participated in a war effort that included attempts to draw civilians away from military efforts and toward the American side of the conflict. These observations about the use of language to upend the relationships of elements within systems like a country informed his conceptualization of schismogenesis, which describes creating divisions within a system leading to destabilization of that system. Luhmann, on the other hand, observed how people within a social system might listen to ecological communication and engage in autopoiesis, filtering out some information while attending to other bits of information. Autopoiesis in contemporary family arguments such as “hearing what you want to hear” are claims laid by a family member against another person. While Bronfenbrenner, like Bateson, was also informed by war efforts and the contradictory thoughts presented to observers and those living through these events, he focused on other aspects of systems interactions like boundaries. The theorists’ backgrounds inform many aspects of the theory aside from Bateson’s assertion about the role of the observer in interpreting what they observed but also suggests that each of these theorists was focusing on the instability in interactions within systems and systems themselves as well as the inherent uncertainty in systems. While the instability and uncertainty of systems will be discussed in the next section, these notions of instability and uncertainty fall under the umbrella of complexity...
theory that can challenge the notion that systems are simple relationships that exist in homeostatic relations (Johnson, 2009). Thus, the next few sections start by distinguishing between social context and social environment to begin to outline the potential sources of instability, uncertainty, and observer influence.

**Social Context**

Systems can be viewed as nested layers, wherein some layers abut each other while others are mediated by layers and thus are more distal from each other. For example, a school is a system that abuts two other systems: the neighborhood system and the school district system. The school district system mediates the relationship between school systems and the state department of the education system. In this example, from the view of the school system, some systems, like the district and local neighborhood, are proximal to the school system, while others are more distal, such as the state department of education and even the federal department of education. Thus, the school system has an immediate social context that is a specific setting where social interactions take place, communication and meanings are exchanged, interpretations of social interactions occur, boundaries exist, feedback loops are created or maintained, and roles are assigned to elements of system components, such as people or groups. Social contexts are the site of many interactions, meaning-making, culture-building, and what practitioners enter into when engaging with client systems and conducting assessments. Thus, elements of a system and the system itself can develop an ethos that is specific to the system and be different from or contradict the settings surrounding the system, such as a neighborhood. This idea about intra-system interactions and intersystem interactions gives rise to the complex nature of systems and the potential for instability and uncertainty. To gather a fuller understanding of complexity and complexity theory, it is necessary to explore the social environment and its role within systems.

**Social Environment**

In contrast to the social context that emphasizes immediate interactions, the social environment is a larger set of systems that encapsulate social contexts.

Elements of the social environment include, for example, social groups; communities; workplaces; policies; social movements; cultural systems individually and collectively based on gender identities, ethnic heritage, language, physical abilities, and disabilities; political systems; and social capital. Systems within the social environment influence social contexts in ways that are congruent with not only ideologies in the social context but also in ways that are incongruent with social contexts. Returning to the two boys example in this chapter, the larger social environment might present messages based on the notion that “all men are created equal,” yet these messages might conflict with the boys’ observations about the available resources in the school and their local community in contrast to the resources presented on television shows or documentaries about schooling and schools. Elements of school systems might also observe the differences in the messages in the social environment about the value of education yet observe in their social contexts behaviors or policies that undermined the ability to educate students in
ways that reflect the policy mandates implemented in larger systems in the social environment (Lagana-Riordan & Aguilar, 2009). For example, teachers in the school system might hear messages about the value of education but recognize the limited funding and resources available to their school in comparison to a neighboring school in a wealthier part of the city. Some teachers might engage in autopoiesis—filtering of information—to avoid schmiogenesis, the creation of a schism in a system. Still, other teachers might interpret these actions as the fault of the students and parents in the area—another form of autopoiesis—and consequently consider the funding differences as feedback on the neighborhood families’ behaviors and social values.

These contradictions are captured in Bateson’s notion of the double bind in which a system or an element of a system either in the social context or social environment receives two conflicting messages. The conflicts can include emotional and behavioral differences that are presented in a way that prevents a system from clarifying which message is accurate, indicates power differences between systems or elements in the system, and communicates that punishment can occur if the system or element of the system fails to achieve the unclear goal.

An interpersonal example of double bind communication occurs when a person emotionally communicates anger toward another person while also portraying a “frozen smile,” an attempt to hide one’s answer and present friendliness. A structural example is a policy initiative designed to alleviate a social problem but lacks funding to support the implementation of the policy initiative and sustain the changes over time.
Integrating the Social Context and Social Environment: The Birth of Complexity

Some might quip that viewing society as a nested and interacting set of systems is complicated. Systems theorists are more likely to suggest that systems, including societies and people, are complex. The difference between complicated and complex is more than just semantics, because complexity points to the outcome of interacting systems, while complicated is better understood as an opinion about the intricacies and paucity of simplicity in systems. Scholars developed complexity theory, which was imported into the social sciences to examine interacting systems that can lead to the multifinality in outcomes. Complexity theory also includes the role of instability and uncertainty that contrasts with the assumption that systems are typically homeostatic.

Complexity science brings much insight into system behaviors and the outcomes associated with interacting systems. Applying complexity theory to systems thereby embraces the surprises emerging from interactions among elements in the systems as well as how systems are influenced by past experiences, adapt, and the deficits derived from assuming systems are closed. Assuming that systems are closed often inhibits any examination of how the social context and social environment influence the system. For example, if a social worker views or assumes that the family system of the two boys is closed, then this view and assumption prevents the social worker from believing they have any influence on the family system, implies the environment did not shape the family as it developed, and suggests the past experiences are not sources of information and instigators of family adaptation. Essentially, the social worker is starting from a deficit position instead of a place that considers every system’s ability to adapt and change.

Before delving into the important views about change and adaptation, it is important to outline the key principles of complexity theory that also guide the application of complexity theory to social work practice.

**KEY PRINCIPLES OF COMPLEXITY THEORY**

- Systems contain a collection of agents and objects.
- Objects and agents have and are affected by memory and feedback.
- Objects and agents adapt based on many things, including history and meaning.
- Systems are open and influenced by contexts and environments.
- Systems evolve such that interactions influence adaptation.
- Systems will demonstrate emergent phenomena that can be surprising and extreme.
- A controller is not necessary for emergent phenomena to occur within systems.
- Systems can demonstrate a mix of order and disorder.
In complexity theory, facets of systems can be organized into agents and objects. **Agents** can include individuals such as each boy in the example throughout this chapter. Agents can exist in networks as well as be proximally or distally linked to one another. Thus, there are many agents in the boys’ life such as the teachers, their neighbors in the housing projects, the storekeepers, and young people that have the resources that one of the boys admires. **Objects** are an additional aspect of systems and include the “things” such as the housing project, the reputation of the area, the social capital of residents or gangs, the school, and the school system. Agents and objects interact as evident throughout the descriptions of the boys’ daily environment and give rise to experiences that provide feedback to both agents and objects while also creating memories. The boys, for example, traverse their housing projects on their way to school.

The boys are each an agent, and the housing project and school are objects in the system. Interactions between the agents and objects produce experiences, such as a sense of admiration or danger, that inform the meanings that each boy attributes to their person and environment interaction while also accumulating a history of experiences that will inform future behaviors, emotions, cognitions, and interpretations. Some of these ideas are explored in the subsequent chapters on identity development and those that interrogate contextual influences on development, but at this point it is important to understand that memories and reputations gathered through interactions inform not only current behaviors, emotions, and thoughts but also future ones. Thus, agents, objects, and memories are important components of a complex system.

A system’s history, whether it is the developmental history of each boy or the social history of the neighborhood or school, facilitates adaptation and strategies for change. Adaptation and strategies for change, therefore, are developed and informed by the experiences and interactions that each boy had with other agents or objects in their environment and the meanings that these boys developed from these experiences and interactions. As a more illustrative example, the boy that views others in his neighborhood as a source of trouble adapts to this situation by changing his behaviors, which might involve spending more time outside, while the boy that admires the material goods of older people in this neighborhood might change his behaviors to mimic those that he observes. In each situation, the boys are engaging in a process of interacting with agents and objects over time and then adapting to both the systems around them and adopting strategies that are based on history and interactions. This explanation can be extended to interactions with systems in the school, such as the teachers, in that teachers will discuss their interactions and experiences with the boys, the children from their housing projects, and even the parents that form the history, memories, and feedback to this system as they communicate their experiences and expectations to other agents in that system.

Given the interactions explained above, it is clear that the school and each of the boys are open systems that are receiving information and influences from their context and environment while simultaneously communicating information and influencing their environment. This notion of simultaneous influence and communication between systems is a part of complexity theory’s position that systems are open and evolve as interactions, agents, objects, and experiences change. The evolution of systems includes the physiological and biological changes that the boys will undergo through their lifespan, as well as changes in their understanding.
of the world around them. The evolution will include everchanging attempts to adapt to the
world as it changes; For the boys, this world might be just their neighborhood, housing com-
plex, and school. Similar evolutionary processes exist for the objects in the environment as
well. For example, with the onset of the COVID-19 pandemic and the requirement to move
to online learning, members of the school staff evolved their skill set to include online learn-
ing and, in some cases, preliminary technology troubleshooting to help their students with
minor technological problems. The pandemic, a system that results from the interaction of
two other systems—viruses and social proximity—interacted with the daily lives of another
system—people—and caused a surprising change in how people interacted, worked, and
learned. Complexity theorists would suggest that some emergent phenomena are surprising
and extreme; therefore, pandemics, family conflicts, and revolutions are always a possibility
when multiple systems interact.

In contrast to the assumptions of other systems theorists, complexity theorists suggest the
phenomena arise without the influence of a guiding force. Essentially, pandemics will occur
even without someone developing a pathogen to wipe out humanity as the plot of many sci-fi
movies suggests. Emergent phenomena occur without a central guiding force. Given the room
for surprises in complexity theory, not all systems are completely in disarray or completely
ordered. In contrast to the either-or assumption of complete disarray or order, complex sys-
tems can demonstrate both disarray and order. Hence, the objects in the boys’ neighborhood
can be in disarray, indicated by the presence of condemned or poorly maintained housing, the
absence of food stores with healthy foods, significant crime rates, and an illicit economy, while
also including a close-knit community with multiple generations of families that have lived in
the neighborhood. While some outside of the system might view the neighborhood as bad, the
notion of badness does not capture the complexity of the neighborhood system and the strengths
within that neighborhood that help people flourish. Hence, judging the neighborhood based
on aspects of it could lead to the fallacy of misplaced concreteness that was discussed earlier.

The components of complexity theory and the brief application of this theory to the exam-
ple of the boys now require a deeper exploration of applying this theory to practice situations.
Additionally, an explanation of how other non-systems theories can be coupled with complex-
ity theory to deepen an understanding of client systems and explain phenomena outside the
scope of complexity theory. The next section moves into the integration of theories and then
the application to social work practice with client systems that might be individuals, families,
neighborhoods, groups, or communities.

**Integration and Application**

The importance of understanding theories lies in their use in practice situations. In general,
applying theories to practice involves adapting the concepts to the practice situation, inter-
preting the data from the application, and then developing explanatory hypotheses to be used
to guide decision making. In the following section, complexity theory and theories described
in subsequent chapters are applied to the case study of Alex presented at the beginning of this
chapter and to answer the question, what might have potentially influenced Alex’s decision to leave the classroom?

**Assumptions**

Reading the case of Alex might lead some to assume that Alex left because of a panic attack because of the anxiety of the ongoing test. While this assumption might, on its face, seem accurate, the assumed outcome does not explain why Alex did not self-regulate since this is not the first test Alex completed and there was no indication that Alex was concerned about the test or grade. Moreover, there is considerable information about the situation that we are not given, such as Alex’s demographic factors—age, gender, sexual orientation, living situation, socioeconomic status, and health or mental health status. Some readers might have assumed Alex’s gender because of contextual clues, but as described in subsequent chapters like Chapters 7–9, the fluidity of gender identity and expression warrants careful consideration and evidence. Moving from assuming to inferring involves making use of theories to fill in the blanks to guide what might be potential answers, given the information available from the client system and explanatory theories.

**The Complexity of Alex**

Alex is an agent that passes through several systems like the community system, the neighborhood system, and the school system. These systems contain important objects, such as the home, community, and the school. Alex’s interactions with these objects encompass meanings and histories that might direct Alex’s behavior and flow over into the systems that occupy these objects. For example, Alex interacts with a school system that contains many subsystems, like the history classroom, teachers, school staff, and other schools across the United States of America. School systems interact with educational systems, federal or state or local government systems, and community systems. Interactions between, for instance, community systems and school systems resulted in *Brown v. Board of Education*, violence against school board members because of mask mandates and initiatives during the early days of the COVID-19 pandemic, and No Child Left Behind legislation. Hence, the relationship between school systems and some community systems is positive, for others it’s tenuous, and for another group it is negative. These relationships might be even more complex because Alex’s community might have a negative relationship with the school system, while Alex has a positive relationship with the school.

Alex’s relationship to the local community is also influenced by the relationship between that local community and the larger social environment, including the geographic allyship and conflicts. While Russia’s unjust invasion of Ukraine could be over 4,000 miles away from Alex’s community, for some members the invasion and subsequent war is a phone call, email, telegram post, or Zoom call away. These interactions encompass a metric distance, but also the emotional proximity presented by Katia crying in the classroom, making both the metric and emotional distances a potential double bind for Alex. Aspects of the multiple meanings in the messages sent by individuals are discussed in the chapter on adolescence and identity,
yet these exposures to worlds outside one’s immediate social contexts provide a window to other shaded identities.

Alex has several other relationships that influence Alex’s interpretation of the school system, the housing system, and other systems that can be identified through an assessment. Understanding and interpreting the relationships and systems involves using other theories like those found in chapters of this text, to add insights into the analysis but also to consider additional factors that might influence the interpretation of the system or relationship. For example, many communities with marginalized identities or social locations might have intergenerational legacies of violence and abuse that lead to intergenerational transmission of trauma and subsequent differences in physiological, psychological, and social behaviors. These physiological, psychological, and social behaviors might then be interpreted by others based on a fallacy of misplaced concreteness. Moreover, as evident in all the chapters, people simultaneously hold multiple identities or social locations that are embodies as both privileged and marginalized in different contexts, like Alex’s ability to peruse YouTube videos for study habit videos, which indicates access to a computer and internet, while also being a student, which indicates a lesser powered position compared to that of teachers and school staff. Thus, Alex holds multiple identities that guide Alex’s position in the world but also influence Alex’s interpretation of the systems and relationships in Alex’s life.

Thus, while it might seem that Alex’s decision to leave the classroom is because of a panic attack, other interpretations might include (a) information overload given all the situations Alex is exposed to along the walk to the classroom; (b) a side effect from albuterol, a rescue inhaler; or (c) the meaning of the test, given Alex’s future aspirations. Examining the multiple systems that Alex moves through highlights the multiple factors that can lead to information overload, while the symptoms observed can be from a rescue inhaler for a condition that might not be reported in the case study, and given we are unsure of Alex’s demographic characteristics, that concerns could be about passing the class, college acceptance, or team supports—among other things. Essentially, this cursory view of the complexity of Alex suggests that we cannot assume a simple observation is the correct “cause” of a behavior, because there might be many potential outcomes.

Conclusion

Complexity and systems theory overlap in many concepts, including:

- Systems are multileveled.
- Systems consist of other systems.
- The parts of systems are as important as the whole.
- Systems are self-regulating and self-organizing.
Applying this framework to social work practice suggests that clients are systems that can be easily described as client systems with social groups memberships and multiple identities. Social workers, therefore, use complexity theory to gather information about client systems at several phases, like engagement, assessment, intervention, and evaluation. Other theories discussed in this text, including those about identity development, historical trauma, market economies, multiple marginalized identities, and social isolation, must also be understood and then coupled with complexity theory to deepen explanations of complex systems. For example, a school social worker assessing students might gather information about their current classroom behaviors, family environment, neighborhood context, and academic achievement to explore why a presenting problem exists. While some might examine the data about their students in a linear fashion, others might organize the data using Bronfenbrenner’s systems theory to separate the data into micro, mezzo, and macro factors.

Social workers viewing this data from complexity theory would focus on understanding (a) the client as a system that consists of subsystems and (b) the mechanisms the system uses to self-regulate and organize. Focusing on the interactions between agents and objects, the relationships between agents and objects, as well as exploration of the meanings derived from interactions can start to illuminate potential actions that can develop from these interactions. But complexity alone is not enough, because other theories of development provide additional insights into facets of development that can also deepen the assessment and highlight areas of intervention. For the two boys discussed in this chapter, observing their behavior in the classroom through the lens of complexity theory requires identifying the agents and actions in the setting but also the agents and objects that mentally enter the classroom through the minds of the boys. These mental representations can include housing community members with the latest sneakers and electronics that are admired by one or both of the boys, the heroes and heroines that the boys view on television, the lives of the actors and characters on their favorite television show, and the ideals that the school presents to the boys. Social workers can also examine how the economics of the local community shape the housing and employment opportunities for residents in public housing complexes, structures generational development, and impinges the developmental risk and protective factors that shape the boys’ daily lives. The market economies of the local communities directly influence school district budgets but also the additional businesses in the area that support aspects of the school through services like package delivery and office supplies. Shifts in these business services can positively or negatively influence financial and then social resources available to school staff and students, which then shapes the educational opportunities that students are afforded.

Similarly, changes in the social, economic, and psychological needs of students and their families because of histories of violence, untreated traumatic reactions, and exposure to contemporary violence (either through news reports about events around the world, social media outlets, or witnessing these events in the communities) can influence the two boys, the school staff, community residents, and the multiple systems that these systems navigate through in their daily lives. Violence or reports of violence can be heaped upon the histories of violence exposure, results in social or physical isolation later in life, or product maladaptive ways of
Coping that impair social judgment but also set trajectories with legal, medical, and psychological consequences that endure well past the immediate days and weeks of the initial event. For example, if the boys hear about a shooting of a teenager in their neighborhood, this event might also occur during the time in which news outlets are reporting school shootings and violence against men of color. Each event exists at one point in time, yet the effects of these events can extend to years or decades after throughout the biological, social, and psychological development of the boys.

Because both complexity and systems theories emphasize interactions and relationships through assertions such as (a) systems communicate, (b) systems are provided feedback, and (c) meanings are embedded in systems interactions, social workers must also explore the data and observations for these interactions and relationships. Thus, after examining the structure of the client systems, social work practitioners can explore types and qualities of communication between systems, including verbal, nonverbal, and implied forms of communication. It is important to note that there are many ways that communication is expressed that go beyond verbal statements. Sometimes, as Bateson (2002) noted, communication can be unclear and contradictory, as in a double bind message. To illustrate, some simultaneous and various forms of communication can be found in political systems that might enact legislation that, on its face, suggests an attempt to improve education for all children and adolescents in the United States of America. The legislation is a form of written communication that structures how funding mechanisms can be distributed to state school systems; the legislation is also a form of symbolic communication in that it might claim to equally distribute funding according to schools while implicitly focus on the multiple identities of dominant social groups—that is, White, middle- to upper-class families with at-home learning materials, such as computers and private study spaces that are quiet. Other forms of communication might also be embedded in this legislation and, as indicated in the Key Principles of Complexity Theory textbox, all are important, given that the parts of systems—which include communication—are as important as the whole.

Because communication between systems exists, it is important to note that communication is not always recognized, received, or accepted. Consequently, how communication is recognized, received, and accepted can influence the meanings created from all the forms of communication. This notion of the complexity of communication between systems is illustrated in studies of domestic violence, child maltreatment, family interactions, politics, and organizations. Thus, during communicative interactions, systems might filter out information that challenges the system despite the communication providing feedback about the system, the interaction between systems, or the outcomes of system interactions. If the boys discussed in this chapter, for example, complete a reading comprehension test and one boy received high marks while the other boy did not, then the boys can integrate the grade feedback in different ways that influence their self-system. The boy with high marks might interpret losing 3 points as an indication of failure, while the boy that received low marks might interpret this feedback as an indication that he is “not good at school” and in turn filter out this feedback and focus on “the teacher does not like me.” Both of these responses to the feedback involve processes of
controlling one’s self-system, like filtering information, self-regulation, and self-organization. Therefore, during the assessment or intervention phase of practice, a social worker working with each boy can explore the boy’s interpretation of the grade feedback, the meanings the boy attribute to the scores, how the feedback might have destabilized the self-system, and the system-level adaptations resulting from the feedback. This aspect of exploration with the boys elucidates the inner workings of boys’ self-system and integrates many key components of the complexity of receiving the grade, including objects and agents adapt based on many things, including history and meaning; objects and agents have and are affected by memory and feedback; and systems will demonstrate emergent phenomena that can be surprising and extreme. As is evident in the paragraphs above, applying this area of knowledge to social work practice involves understanding of concepts such as communication and how that plays out during interactions between systems to give meaning to feedback.

To deepen an examination of the interactions between systems, the meanings developed, and the emergent phenomena, social work practitioners can integrate other theories into their analysis to guide their understanding of the elements influencing a system and identify potential outcomes or processes. In exploring the response to the grading feedback, social work practitioners can integrate that concept of self-protection, from theories of the Self, that delves into real or perceived threats to one’s self-concept (Tangney & Leary, 2012). In essence, the boys might interpret their grades as a threat to their view of themselves as capable individuals, thus filtering out potential areas of growth in favor of protecting the sense of self. Other concepts from theories of the Self, like possible selves, can also be integrated into the analysis and form the potential basis for interventions into the meanings and filtering of feedback and communication. Hence, the flexibility of an integrated complexity and systems theory enables social work practitioners to add many other theories to an understanding of interactions between systems to better explain the relationships between systems and inform interventions and evaluations.

So how can a social work practitioner explain the different outcomes of the boys in the example throughout the chapter? To start, social workers can use ecomapping and genograms to identify the structure and client system’s views of the interactions between agents and objects in the social context and environment. Ecomaps and genograms are graphical depictions of complex systems that demonstrate the structure and interactions from the perspective of the reporting system.

Social work practitioners can also create ecomaps or genograms for different time points in the evolution of a system. For example, a social work practitioner exploring the evolution and outcomes of a policy initiative can create an ecomap for the objects and agents that lead to the creation of the policy initiative, another illustrating when the policy initiative was implemented, and then at points of change and at the current iteration of the policy. Similarly, social work practitioners working with children or families can also construct ecomaps or genograms at different developmental time points to identify the history of the client system as well as the changes in interaction over time. Formulating ecomaps and genograms of client systems allows social workers to apply complexity theory, particularly identifying agents and objects,
interactions that fuel memories, emergent phenomena, and areas of order and disorder in and across system interactions.

Applying the interpretative aspects of complexity theory for systems involves examining the interactions and feedback that systems engage in while also attending to what is said and not said but expected. This aspect of applying complexity theory to client systems engages social work practitioners’ creativity, comparing verbal and nonverbal communication and creating practice-related hypotheses about the acknowledged and unacknowledged problems facing client systems.

**KEY TERMS**

- Distal: an anatomical term that indicates something is located away from the center or specific point of attachment.
- Iatrogenic: an adjective that describes illness or harm caused by the process of medical treatment.
- Multifinality: suggests that given a similar starting point, multiple pathways can lead to different outcomes.
- Boundaries: identify the components included in and outside the system.
- Roles: any one society’s or culture’s interaction patterns that govern social interactions, establish expectations for behaviors, and create social positions for members of that society (e.g., teacher and student).
- Molar activity: an indicator of change (i.e., behavior) that builds upon itself over time and has meaning and intent.
- Homeostasis: a balanced state.
- Ethos: conventional emotions associated with normative behavior.
- Fallacy of misplaced concreteness: occurs when an abstract belief is mistaken for being concrete.
- Feedback loops: the information given back to a system about its stability, behavior, emotions, or other facets or variables in or interacting with the system.
- Autopoiesis: a mechanism that allows for self-regulation and self-organization. In this context, the individual filters information to maintain a sense of themselves.
- Schismogenesis: literally means “creation of division.” In this context, it refers to the individual’s fractured relationship to various systems.
• Complexity theory: examines interacting systems that can lead to the multifinality in outcomes, including the role of instability and uncertainty that contrasts with the assumption that systems are typically homeostatic.

• Agents: individuals who can exist in networks as well as be proximally or distally linked to one another (e.g., teachers, friends, neighbors, etc.).

• Objects: are an additional aspect of systems and include the “things” in an individual’s environment (e.g., neighborhood, school, etc.).

REFERENCES