Developing a Disciplinary Understanding of Social Work, Psychology, and Ecology: Moving Towards a Transdisciplinary Framework for Resilience

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Transdisciplinary work attempts to move away from disciplinary boundaries towards an inquiry-driven approach to understanding problems. Researchers from many different fields have studied resilience and it is quickly becoming a distinct area of study. The fields of social work, psychology, and ecology have all examined to varying degrees the topic of resilience. This paper seeks to identify and discuss some of the specific disciplinarity within these fields to promote a stronger foundation in developing a transdisciplinary approach and understanding. The discussion looks at the basics of these disciplines, research methods, the disciplinary paradigms, and the academic landscape.

Keywords: Resilience, Disciplinarity, Transdisciplinarity, Social Work, Psychology, Ecology

Research addressing the continuum of stress (e.g., from acute to chronic), developing and building resilience oriented systems, and integrating resilience principles into a broader workforce are all topics within the field of resilience work that would greatly benefit from developing an integrated understanding and a transdisciplinary approach (Acosta et al., 2017). Throughout much of scientific history, exploration of a topic has relegated to disciplinary silos. Researchers have followed paradigmatic and methodological investigations within their respective fields. While consensus regarding what exactly makes transdisciplinarity research. One component that is widely accepted is the transcendence of disciplinary boundaries through an inquiry-driven form of understanding the topic versus this siloed disciplinary approach (Martin, 2017).

Integrating knowledge is a theme of transdisciplinary inquiry and a byproduct of the inquiry-driven approach described by Martin (2017). The intentionality of bringing knowledge and expertise from various specialties adds a greater depth to inquiry-driven work. These integrations are necessarily complex, rely on context, and have interconnected components. This integrative and complex approach is necessary within the study of resilience. Developing a disciplinary understanding of the interrelated fields connected to resilience gives a foundation for developing a transdisci-

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plinary model.

Disciplinary Intersections Within the Study of Resilience

Resilience is a burgeoning area of research that spans many different academic disciplines. When Sumbul et al. (2019) applied a transdisciplinary lens in arguing for a conceptual framework of resilience, they describe research from related fields such as social work, transcultural psychology, anthropology, public health, sociology, medicine, and nursing. Their framework considers resilience through the integrant components of embodiment, historical oppression, structural vulnerability, entitlement, and capacity. Embodiment, which is the experience of stressors, inequities, wellness, belonging, and love intersect with the self. Historical oppression, or how experiences relate to contemporary, past trauma, and structural violence. It also includes structural vulnerability, the individual or a group being at risk for adverse health outcomes due to systematic factors. Entitlement is a sense of coherence related to how we construct our value and right to exist. Capacity incorporates the characteristics and traits that allow an individual to manage trauma and hardship without detrimental outcomes.

The purpose of this essay is to help give an overview of some of the disciplines related to resilience. This survey will assist the understanding of the fields of social work, psychology, and ecology in their disciplinary state to help lay the groundwork for improved transdisciplinary discussion of resilience. Before describing the disciplinary aspects of each of these, we examine what each field is and its intersection with resilience.

Introduction to the Discipline of Social Work and Intersection with Resilience

Kirst-Ashman and Hull (2012) describe the purpose of social work being to "help people in need by using any ethical means possible" (p. 4). Social work researchers and practitioners integrate of many areas of study and disciplines. In the skills and practices related to interviewing clients and counseling social workers overlaps with fields such as psychology, counseling, and psychiatry. While there are complimentary aspects of other fields, there are several aspects of social work that make it unique to other courses of study. These include (a) attention on any problem or cluster of issues, (b) targeting the environment for change, (c) need for social workers to advocate for clients, (d) emphasis on and adherence to a code of professional values, and (e) self-determination for clients.

Social workers works need to conceptualize the work they do for individuals, families, and communities based on the context of risk, protection, and resilience (Fraser et al., 1999). Collins (2007) describes that social workers not only help develop resilience in their client and client systems, should use their practice to increase their own ability to be resilient through positive appraisal, goal-directed problem-focused work, and infusing events with meaning.

Introduction to the Discipline of Psychology and its Intersection with Resilience

The American Psychological Assocation (2014, APA) defines psychology and the tasks that psychologists generally do as examining "the relationships between brain function and behavior, and the environment and behavior, applying what they learn to illuminate our understanding and improve the world around us" (para 1).

The practice of positive psychology has had a thriving connection with the topic of resilience. Psychologists focused on developmental psychology, have looked at theme such as adversity, positive adaptation, vulnerable and protective processes, individual attributes, related to understanding resilience (Luthar et al., 2014). The APA, after the September 11, 2001 terrorist attacks in the United States, launched "The Road to Resilience," a public education campaign (Newman, 2005).

Introduction to the Discipline of Ecology and its Intersection with Resilience

Ecology is a science that attempts to understand the relationship between living things and their environment. It includes a significant range of concepts and ideas from organizational, spatial, and temporal scales (Belovsky et al., 2004). It includes notable topics such as evolution and can look at individual animals or even how the landscape of various climates interacts. Its focus and methods are set apart from both

social work and psychology but are useful to understand how other fields view and understand resilience.

Ecology has its viewpoint and understanding of resilience. Zolli and Healy (2012) define resilience in ecology as an ecosystem's ability to keep from being degraded irrevocably. In their discussion of resilience, they examine ecological studies related to coral reefs and jungle forestation. From these examples, elaborate on common patterns for resilient systems from an environmental perspective. Resilient systems have some of these attributes or follow these patters: feedback mechanisms to understand the changes in the environment, the ability dynamically reorganizing within the system, and they will either de-intensify or decoupling the internal systems to bolster when needed. These systems have a more straightforward internal modular structure, where there is diversity at their edges but simple at their core. This modular design allows for these systems to flock or swarm when necessary and to use clustering to distribute resources.

Disciplinary Understanding of Social Work, Psychology, and Ecology

The integration of the information acquired from various disciplines is a complex and challenging process. It is one that requires processing and internalizing. In describing the integral method, Chaudhuri (1977) elaborates on the technique of integrating the diverse sets of data and information.

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"First of all, just hear it and listen, and then later on you have to think about it, you have to meditate on it. This is the procedure in our philosophical development. Never expect that as soon as you hear something you will fully understanding it" (p. 92).

Disciplines have elements that characterize it as a specific field of practice. To gain a transdisciplinary understanding of social work, psychology, and ecology identifying these elements is essential. Augsburg (2006, as cited in Martin, 2017) describes 15 aspects that can be considered¹.

- basic concepts
- · leading theories
- modes of inquiry (or research methods)

¹Martin's text describes this as 16 elements, but the list contained in the book only lists 15 elements. Due to time constraints related to authoring this essay and not having direct access to the original material, this has been adapted to describe it as 15 elements.

- what counts as a problem
- · observational categories
- · representational techniques
- types of explanation
- standards of proof
- general ideals of what constitutes the discipline
- · assumptions and world views
- disciplinary perspective
- seminal texts/books
- major thinkers
- major practitioners
- official professional/academic associations and leading academic journals

Developing an understanding of each of these elements within a given discipline helps to allow the transdisciplinarian to understand the particular field of study in broad strokes to assist in the integration of the knowledge between that field and other disciplines working on the same topic of inquiry. One of the complaints lodged against this list is the lack of inclusion of discipline-specific vocabulary (Martin, 2017).

To add further taxonomy to these components of disciplinary knowledge it they can be grouped into a description and understanding of the field (basic concepts, leading theories), research methods (modes of inquiry, what counts as a problem, observational categories, representational techniques, types of explanations, and standards of proof), the discipline paradigm (general ideals of what constitutes the discipline, assumptions and world views, disciplinary perspectives), and the academic landscape (seminal texts/books, major thinkers, major practitioners, official professional/academic associations and leading academic journals, and discipline-specific vocabulary).

Description and Basic Understanding of Related Fields

The fields of social work, psychology, and ecology all have basic concepts that make them distinct from other academic disciplines. Those basic concepts understood within their respective discipline and include theories that academics and practitioners follow and consider.

Description and Basic Understanding of Social Work

Social work textbooks frequently focus more on the conceptual framework related to social work practice versus looking at a list of specific theories within the practice. For example, Kirst-Ashman and Hull (2015) review the concepts related to social work as it applies to the generalist intervention model. They discuss skills and considerations connected to micro, mezzo, and macro practices (e.g., individuals, groups, and communities and organizations). The generalist intervention model looks at stages of practice and research, including engagement and assessment, planning, implementation, and evaluation, termination, and follow-up. In each of these stages, they review considerations related to specific needs such as ethics, cultural competence, and skills. Hepworth et al. (2017) take a slightly different approach to this in its consideration of direct social work practice. They divide up research related to phases of the helping process. The helping process includes phase one - exploration, engagement, assessment, and planning; phase two implementation and goal attainment; and phase three evaluation and termination. Both the general intervention model and the phases of the helping process provide social workers with evidence-based practices for clinical practice and research. The application is applied to working with a diverse set of clients and activities, including evaluation and research.

There are conventionally several theoretical frameworks considered within social work as a field. Those theoretical frameworks make social work distinct in its approach to other professions. The Council on Social Work Education (2015) describes throughout the competencies required to be demonstrated for both baccalaureate and masters social work students be able to assess, intervene and evaluate from knowledge related to human behavior and the social environment, person-in-environment, and other multidisciplinary theoretical frameworks. Setterlun (2013) lists theories such as systems theory, behaviorism & social learning theory, psychodynamic theory, psychosocial developmental theory, transpersonal theory, social exchange theory, social constructionism, symbolic interactionism, conflict theory, and contingency theory as all falling under this human behavior and the social environment. It should be noted that many of these theories also play a part in theories in psychology.

Description and Basic Understanding of Psychology

Brazier (2018) describes that there are many sub-branches of psychology, which include: clinical psychology, cognitive psychology, developmental psychology, evolutionary psychology, forensic psychology, health psychology, neuropsychology, occupational psychology, and social psychology. This extensive list is not a comprehensive of all the different directions that psychologists conduct research into.

Psychology as a field of study and area of interest for the human population has a rich history. Plato and Aristotle explored concepts of the brain and the heart as places where the mental processes take place. In medieval times, Islamic doctors set up hospitals treating residents with what we would now call psychiatric conditions. Seunagal (2020) describes six theoretical perspectives that are the foundation of modern psychology. These include the behaviorist theory, psychodynamic theory, humanistic theory, cognitive theory, and biological theory, all related to clinical practices in psychology.

Description and Basic Understanding of Ecology

The Encyclopedia of Science and Religion (n.d.) describes the breadth of ecology and the various subfields of practice. These include branches such as community ecology, population ecology, behavioral ecology, physiological ecology, ecosystem ecology, and the wide-ranging field of landscape ecology. These various divisions of ecology each have a significant breadth and depth within them. They can also have some interaction and connection with other fields of study. For example, concepts related to behavioral ecology can connect with the animal studies done in psychology.

Several theories and principles are useful for discussion when considering ecology as an academic field. Dodds (2009) describes that some theories go across various fields of practice and describes them as cross-cutting theories. He also enumerates on the many theories related to areas of study such as physiological theories, populations and community theories, and ecosystems. Because ecologists are highly focused on empirical data to understand the world, it is also helpful to consider the various laws and properties of nature.

Description of Research Methods and Related Fields

The fields of social work, psychology, and ecology all have their specific methodologies for research. There are differences and similarities within their modes of inquiry. They have unique set of standards in how they define what a problem is. To gather data on those problems for the purpose of research, they have different observational categories and representational techniques used within their research methods. While it might not be universal in any of these fields, they all have tendencies towards specific types of explanations they are looking to provide and standards of proof.

Description of Research Methods in Social Work

Social work has a strong research component, and even therapists and direct service workers are encouraged through the code of ethics to use evaluation within their practice. It also directs social workers to give back to the professional knowledge based the practice-informed knowledge they gain. Social work researchers will use both qualitative and quantitative research methodologies. They incorporate a broad range of theoretical frameworks to their approach.

Social work researchers can approach problems from a more positivistic or post-positivist approach, but they might also take a post-modern or constructionist methodology to their research Decarlo (2018).

DeCarlo (2018) describes that critical theory and participatory research methods most clearly align with social work values. They are likely to use unobtrusive research data when able and focus on real-world research methods such as evaluation research, single-subject design, and action research. They are unique due to their orientation towards interdisciplinary knowledge, multiple theories and paradigms, and action on behalf of their clients.

Description of Research Methods in Psychology

The hallmark of research design for psychology is through experimental design. There are specific design practices related to content areas such as clinical forensic psychology, psychotherapy outcome research, health psychology, animal learning, neuropsychology, and program evaluation used throughout psychology (Weiner et al., 2003).

Psychologists will use both qualitative and quantitative data but have a stronger inclination towards empirical and quantitative methodologies. Within a psychological framework (unless somebody is practicing social psychology), the focus of the problem is based on the individual. The study is of their internal and external communication of their internal processes. As Brazier (2018) describes, it is the investigation of the mind, the way it works, and its intersection with behavior.

Due to the higher focus on quantitative data, psychologists will use data analysis and representational techniques such as multiple linear regression, logistic regression, time series analysis, structural equation modeling, and latent class and latent transitional analysis methods (Weiner et al., 2003). Frequently psychologists are attempting to explain what they might call the truth. Much of the research that they conduct might fall under a more positivist or post-positivist approach.

Description of Research Methods in Ecology

Ecologists primarily research through observation and fieldwork. In these processes they collect both qualitative data and quantitative data. The fieldwork includes both direct survey and indirect survey. Indirect survey examines what living beings leave behind (e.g., excrement's, trails, etc.). The data collected is both quantitative and qualitative, it is generally focused on empirical information. Researchers will perform ecological experiments that might include manipulative experiments, natural experiments, observational experiments, modeling, and statistical analysis (Dotson, 2019).

The areas of research that ecologists are tasks with are some of humanity's greatest challenges. Dodds (2019) describes that ecologists are looking to "finding a way to live

on Earth without destroying the capacity of ecosystems to support us. My hope is that young scientists will turn a critical eye toward their research and that of others with respect to its contribution to a predictive science" (Dodds, 2019, p. xi). Ecologists mostly fit within a positivist framework for their research, as they are trying to detail the environment through observable means. Much of the findings that they are looking at are concrete and do not often stray into theoretical considerations.

Description of the Related Fields Discipline Paradigm

Each discipline has its paradigm or way of looking at and understanding their world. This disciplinary perspective includes general ideas that are described by social work, psychology, and ecology. That paradigm includes assumptions that might be held within their world view. Social work and ecology both tend to view the world pragmatically. Social work looks at how it can make a specific impact or change for its clients or constituents. Ecology is looking to physical aspects of the world, and its interactions with living beings. Psychology evaluates these practical aspects as well, but it can also be more theoretical and get into very intangible topics such as consciousness. All three of the disciplines have rigorous scientific methods for understanding problems and are focused on making the world a better place.

Description of the Academic Landscape within the Related Fields

Social work, psychology, and ecology all have a rich set of academic rigor and authorship that has been additive to the general knowledgebase within the scientific community. They have a distinct landscape that can be understood by know what some of the seminal articles and books are within their field. These seminal books and much other writing has been put forth by these fields, major thinkers, and practitioners. Each of them has their own set of leading academic journals and academic and professional associations along with discipline-specific vocabulary.

Description of the Academic Landscape within Social Work

Thyer (2002) argues for social workers to move away from trying to survey the social work literature accurately and comprehensively. He promotes focusing on developing problem-specific knowledge, and having social workers contribute through interdisciplinary developments. Some of the challenges in defining social work knowledge as a distinct field is related to the identification of journals, along with difficulties if we only review social work specific journal versus reviewing non-social work journals. There are many journals focused on social work, but social workers do not only publish in discipline-specific journals. It is limiting only to include social work focused journals, and the non-social

work journals can be an exacting task to determine who is social workers in other publications. Many journals, especially those that follow guidelines set out by the American Psychological Association, do not include the researchers' credentials or disciplinary affiliations. Even looking at the author's university affiliations, does not accurately provide information if the author is a social worker, as many social work programs have non-social work faculty. Hodge et al. (2012) list some of the most influential publications within social work specific journals.

Some of the prominent social work journals include *Child & Family Social Work*², *Clinical Social Work Journal*³, *International Social Work*⁴, the *Journal of Social Work*⁵, *Journal of Social Work Values and Ethics*⁶, *Qualitative Social Work*⁷, *Social Work & Society*⁸, *Social Work Today*⁹, *The British Journal of Social Work*¹⁰, and *The New Social Worker*¹¹.

Jane Addams is often described as the "mother" of social work. Social work as a profession came out of her work with the Hull House, which was founded in 1889. Mary Ellen Richmond pushed for professionalization and standardization of social work. Ida B. Wells was an important part of the progressive movement and focused on social justice. Some other significant figures in the history of social work include Edith Abbott was an American economist, education, author, and social worker. Jeannette Rankin was a politician and was the first woman to hold federal office in the United States ("50 notable social workers in US history," n.d.)

Description of the Academic Landscape within Psychology

Psychology has a rich history and context within the academic landscape. In looking at prominent journals within the field, "List of Psychology Journals" (2020) provides a list of 141 different journals that fall under the category psychology. Both the Annual Review of Psychology and Psychological Bulletin are highly ranked journals. There have been many influential thinkers and seminal texts. Notably, Wilhelm Wundt in 1879 in Germany founded psychology as an independent experimental field of study. He is sometimes referred to as the father of psychology (Brazier, 2018). Sigmund Freud introduced the field of psychoanalysis to psychology. Published in 1900, Freud's seminal text was *The Interpretation of Dreams*. In 1890 William James published

²https://onlinelibrary.wiley.com/journal/13652206

³https://www.springer.com/psychology/journal/10615

⁴http://isw.sagepub.com/

⁵http://jsw.sagepub.com/

⁶http://www.socialworker.com/jswve/

⁷http://qsw.sagepub.com/

⁸http://www.socwork.net/sws

⁹http://www.socialworktoday.com/

¹⁰https://bjsw.oxfordjournals.org/

¹¹http://www.socialworker.com/home/index.php

The Principles of Psychology: Vol. Volume 1. John Watson's 1913 article "Psychology as the Behaviorist Views It" is known for founding the movement of behaviorism within psychology. Skinner's (1965) Science and Human Behavior, along with Pavlov's experiments round classical conditioning, are also foundational to behavioral psychology. Maslow's (1943) article, "A Theory of Human Motivation," was highly influential.

Psychology also looks to developmental theorists such as Jean Piaget and Erik Ericson in understanding human progression and development. Albert Bandura described concepts such as observational learning and social learning theory. Therapeutic interventions leaped forward in supporting clients through Carl Rodgers and his humanist thinking and the introduction of client-centered therapy (Cherry, 2020). The American Psychological Association¹² is the most influential of the societies and groups of psychologists. The "List of Psychology Organizations" (2020) lists 93 different professional organizations within psychology.

Description of the Academic Landscape within Ecology

Dykstra (2012) described Silent Spring by Carson in 1962 describes as one of the essential environmental books of all time. Gibson (n.d.) describes that Carson as having been a driving force in starting the ecological movement. Gore (1993), although not an ecologist through education, has been credited with also promoting conservation efforts. Notably, his book *Earth in the Balance: Ecology and the Human Spirit* has been impactful for ecologists.

A Sand County Almanac: With Essays on Conservation from Round River by Leopold (1990) and Thoreau's Walden are both frequently described as profoundly influential books focused on ecology (Dykstra, 2012). Charles Darwin is thought to have opened the door to ecology as a field of study through his theory of natural selection and evolution. Haeckel coined the term ecology in 1866, who was a follower of Darwin. In 1935 Arthur Tansley used the term eco-system, and in 1986 Amos Hawley used the term ecology in connection with the social community and starting the relationship between ecology and the social sciences (Encyclopedia of Science and Religion, n.d.).

Ecologists have many reputable professional organizations where they collaborate and connect. These include *The Ecological Society of America*¹³, the *British Ecological Society*¹⁴, the *Ecological Society*¹⁵, and the *Sustainable Development Ecological Society*¹⁶. Within the scientific community at large, *Nature*¹⁷ is one of the most prestigious journals, and it frequently features ecologists. Other journals that are focused on ecologists include *Advances in Ecological Research*¹⁸, *Annual Review of Ecology, Evolution, and Systematics*¹⁹, *Ecology*²⁰, *Ecology Letters*²¹, the *Journal of Ecology*²², and *Trends in Ecology & Evolution*²³. Along with the various locations to be able to publish articles, Fill and Penz

(2018) provide a handbook detailing the topic of ecolinguistics, which is based on the language and understanding with ecology at its foundation.

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¹²https://www.apa.org

¹³https://www.esa.org

¹⁴https://www.britishecologicalsociety.org

¹⁵http://ecological-society.org

¹⁶https://www.ecological-society.com

¹⁷https://www.nature.com/

¹⁸https://www.sciencedirect.com/journal/advances-inenvironmental-research

¹⁹https://www.annualreviews.org/journal/ecolsys

²⁰https://esajournals.onlinelibrary.wiley.com/journal/19399170

²¹https://onlinelibrary.wiley.com/journal/14610248

²²https://besjournals.onlinelibrary.wiley.com/journal/13652745

²³https://www.sciencedirect.com/journal/trends-in-ecology-and-evolution

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