Conceptualizing a Theoretical Model of Behavior Conditioning Theories

Dr. Dana Brooks Hart
Utica College
1600 Burrstone Road
Utica, NY 13502
USA

Abstract

The Health Professions and Education research is replete with diverse theories and methods for supporting behavior development and behavior change. While studies have alluded to predictive behavior conditioning characteristics, an understanding of the connections among the theories is absent. This research seeks to establish a framework of analysis that can enable health practitioners decode the underlying patterns of behavior that both empower and disenfranchise an individual from setting and reaching desired behaviors. The developmental research study reviewed 135 research articles in behavior change theories and methods found in 27 psychological journals. Through a Delphi analysis a process map was created to show the behavioral relationship constructs found in the empirical studies. Analysis of the authors' discussions further provided a foundation for discernment of linkages among studies. Practitioner inquiry methods will be required to test the model to determine the interrelatedness of one's perceptions of construct awareness to behavioral conditioning.

Keywords: Behavior conditioning, change, change interventions, psychological conditions, motivation.

1.0 Introduction

The purpose of this research is to study the current empirical research theories on personal behavior development and change to determine if linkage constructs exist that could be captured in a model of human behavior conditioning.

The health care practitioner is focused on increasing mandates to create performance based systems of care that are accountable to self, patient, family, and the health care organization. To achieve the aforementioned accountability, education in organizational system concepts and an understanding of interdisciplinary behavior conditioning is required. Decoding behavioral conditioning dimensions is the focus of this study.

A key outcome of the study was to provide a systematic approach and process for a practitioner to uncover some of the underlying assumptions that individuals make to guide their behaviors. A developmental research approach guided the extraction of meaning from empirical research on behavior change by first mapping research domains, second codifying the findings into cognitive constructs that guide awareness of factors influencing one's behaviors, and third creating a framework or model interlinking the constructs to test the assumptions with practitioners.

This manuscript describes the development of a theoretical behavioral conditioning model and suggests how a practitioner could use the model to explore one's behavior patterns leading to successful or unsuccessful behavior change.

2.0 Methodology

A preliminary investigation of over 200 psychological journal articles focused on behavioral change was conducted using databases ProQuest, HSRIC, ERIC, and Medline. A small research team selected 135 articles based on an initial screening of the article abstracts. Criteria of acceptance focused on articles related to health behavior change, particularly those articles where the findings suggest positive factors potentially leading to an individual's success in behavior change.

The 135 articles were read by a team of five professional health care faculty and practitioners with instructions of first capturing the author's perception of positive theories and models as key factors in behavior change and second creating constructs into which the theories and models could potentially be categorized.

Notes were also taken on the authors' cited manuscript limitations and recommendations that applied to the empirical value of the factors contributing to their studies.

A series of meetings were conducted to explore potential constructs that the team believed were key factors in determining an individual's behavior change success. A Nominal Group Technique (NGT) coding process was used to establish a consensus of key constructs. The top seven constructs determined were: Social Psychological Foundations, Self-Efficacy, Behavioral Sensitivity, Non-Initiated Event, Intended Intervention, Mental Processing, and Assimilation. Through a mind mapping process, subcategories emerged that provided a means to reference key notations from the articles to the constructs. These references were coded by alphabetical and numerical characters to verify linkages in future article references for citations and explanations.

For example, "Social Psychological Foundations" was the organizing construct for references to an individual's culture, community, family or group affecting their perceptions of the value of these social networks in impacting their behaviors. Further, the research team sought to understand the relationships among the constructs that were proposed by the journal authors in their study recommendations.

Each of the seven dimensions offers clues to how a person's conditioning or imprinting can affect their perceptions, realizations of their existing behaviors, and impeding forces to changing behaviors (Brinkman, 2008).

A reoccurring theme found throughout the literature is that behavioral conditioning evolves from mental and emotional processes in changing environmental contexts. As such the team sought to develop a framework that would link the constructs in a natural process flow. The process circle (Figure 1) depicts the construct variables that exist in an individual's human experience. While we believe individuals move through this process hundreds of times a day, the awareness of the value of each construct in forming behaviors is central to one's development.

The team postulated that a sequence of unconscious and conscious cognitive thought processes evolved from what we interpret to make sense of our world. Through the journal recommendations, constructs and representative descriptors were developed. Individuals make unconscious or conscious choices to process information that can be managed in a congruous manner (Leahey, 1994). It is this cycle that we envision leads individuals to assimilate predicable patterns of behavior. Hence, through exploring the constructs, individuals can become aware of the influences creating the behavioral conditions that help them be successful or unsuccessful in guiding their behaviors.

Behavior Conditioning Model

Social Psychological Foundations

Culture
Community
Family
Group

Lens:
Traditions   Expectations
Norms   Devotions

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Character/Soul/Spirit

Assimilation

Past
Reconciliation
Reinforcement

Present
Adaption/Adoption

Future
Initiation

Self-Efficacy

External	Internal
Openness	Values
Receptivity	Beliefs
Connections	Motives
Influence	Knowledge
	Feelings

Mental Processing

Introspection

Internal	External
Accomplishment	Sharing others
Feelings	Rationalization
Expectations	Meaning
Outcomes	

Behavioral Sensitivity

Conscious
Subconscious
Five Senses
Visual $^{E/I}$
Auditory $^{E/I}$
Kinesthetic $^{E/I}$
Olfactory ^{E}
Gustatory ^{E}

Non-Initiated Event

Process

Stimulus   Response

Intended Intervention

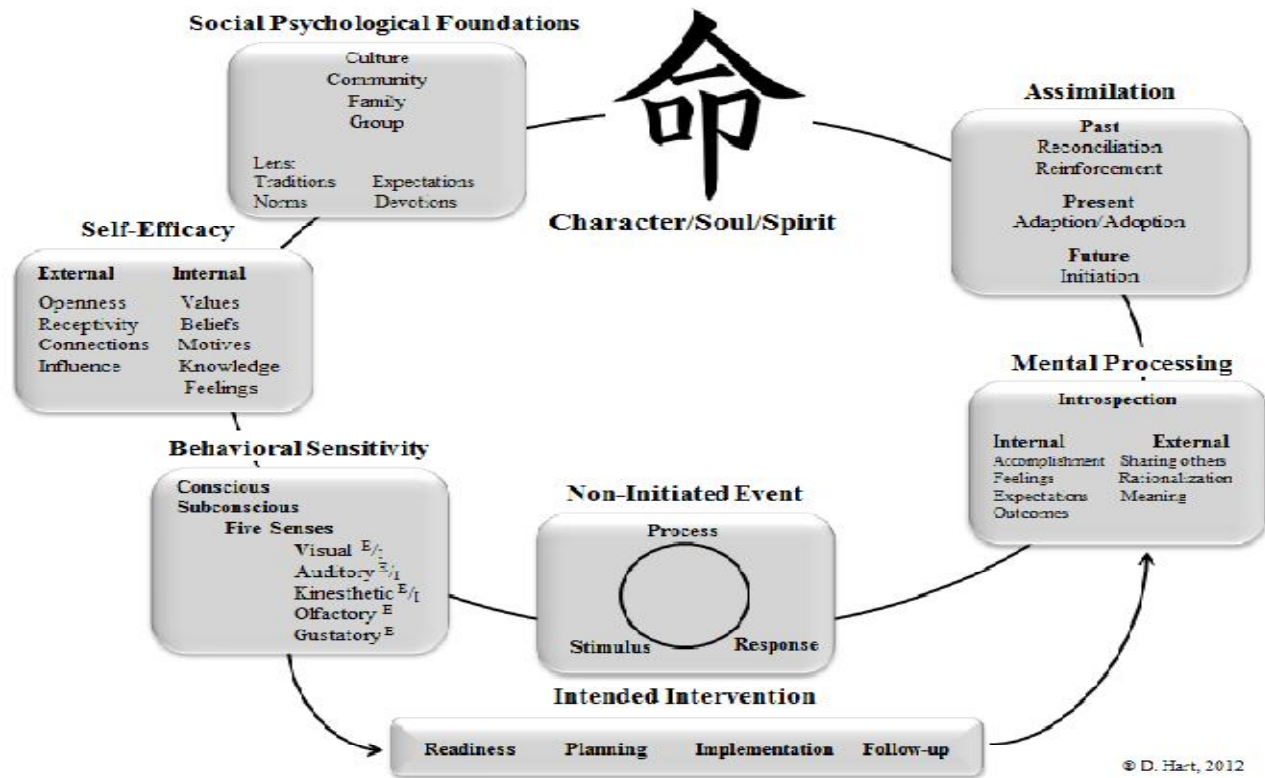| Readiness | Planning | Implementation | Follow-up |

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Figure 1: This is a conceptual model of the seven behavioral conditioning constructs leading one's development of character, soul, and spirit (depicted by the Asian hieroglyphic symbol). The counter clockwise inner circle flow represents the typical process of addressing routinized behaviors. The connection to the added "intended intervention" construct depicts the path of influence of the constructs to connect both the readiness for change (Social Psychological Foundations, Self Efficacy and Behavior Sensitivity) and post intervention phase (Mental Processing and Assimilation) to adopt or adapt to change. (Hart, 2012)

3.0 Theoretical Model Development

The seven constructs posed an interesting dilemma as another stage of developmental research evoked the notion of linkages in a system perspective. The literature generally concurred that behaviors in response to planned and unplanned events are the result of conscious and unconscious scripting or conditions that guide us in making sense in our world. We deduced that a process model could exist to integrate the constructs and assist practitioners in discovering the interrelated factors that could predict the success or failure of a change intervention.

As behavior practitioner counseling and guidance is a process toward an outcome, we adapted the concept of behavior activity for a purpose or outcome as a guiding factor in our model development. In review of the literature the notion of an output being "individual identity" seemed to consistently be discussed. That is, what does the individual seek as an outcome in attempting to change behavior? The notion of "identity" as a self proclaimed or actualized state depiction emerged as a key outcome of one's development. We surmised that this depiction was one factor, not the overarching ideal state.

While the literature focused primarily on "identity" development, the research team proposed ultimately that successful lives are set on "Character" development. Further review of 20 additional journal articles positioned character, soul, and spirit as qualifiers in ideal state personal development. For the purpose of this paper the concepts of character, soul, and spirit are defined as:

- **Character:** The demonstrable consistency of external behaviors recognized by self and others.
- **Soul**: The internal thought process consistently descriptive of one's introspective beliefs and values.
- **Spirit**: The energy emitted from the mind/body connection to the environment.

4.0 Behavior Conditioning Model

As shown in Figure 1, the model depicts the cyclical counter clockwise process an individual consciously or unconsciously follows in eliciting behaviors – impacting the development of one's character, soul, and spirit. The literature research suggests that the seven domains are critical components to how individuals process information regarding a non-intended stimulus, as well as an acceptance of an intended intervention.

Our presupposition is that understanding one's conditioning and nurturing one's character, soul, and spirit are critical dimensions of behavioral conditioning and change. "Character; an individual's core moral beliefs, intentions, and predispositions, is frequently mentioned by psychological researchers and practitioners as a distinguishing feature of outstanding leaders" (Hollenbeck, 2009, p. 136). The research team surmised that the concepts of leadership and self leadership were inherent in the study of personal development.

Literature analysis through the Delphi method with five health care practitioners yielded multiple conditioning factors that through a coding process were organized in seven constructs. The process model concept enabled logical connectivity of relationships and mental and emotional thought processes that practitioners could relate to dialogue with others.

The emergence of concepts of character, soul, and spirit reaffirmed our hypothesis that people are motivated to maximize their potential only if their self-awareness of behaviors and conditions scripted are understood.   Our ability to understand our self-interpretation of character would not be possible without, "a wider grasp of our whole predicament: how we stand to each other, how we got to where we are, how to relate to other groups, and so on" (Taylor, 2004, p. 25). The empirical theories and models found in the literature provide a foundation for the model.

5.0 Construct Theoretical Foundation

The constructs emerged from the journal authors' recommendations of their study limitations and suggested recommendations to future researchers. In review of the empirical theories and models, the team discussed common conditioning themes or constructs that could provide clues to potential factors in determining one's behavioral intervention success or lack of success. The seven constructs and referenced sample of theories and models are outlined in the following sections.

5.1 Social Psychological Foundations

The Social Psychological Foundations construct refers to an individual's relationships or association to one's culture, community, family, or group. Literature addressing the value of these "constructs" suggests the importance of understanding one's adherence to tradition, norms, and devotion to the values and beliefs espoused (Taylor, 1989). One of the key concepts of one's perceptions of social psychological conditioning is the notion of social imaginary.

Taylor, 2004 proposed that the application of the social imaginary concept is inherent in the concept that people's perceptions are limited be their awareness of their behaviors in response to an event or stimulus. Through questioning the what, how, and why of one's perceptions, practitioners have an opportunity to assist others in expanding their awareness of mental and emotional patterns of thought. Chart 1 displays selected examples of social psychological theories and models referenced in the articles.

Chart 1: Social Psychological References

Theories	Models
Bioecological System (Bronfenbrenner, 1992)	Adverse Childhood Experience ACE (Felitti, Anda, 2003)
Culture Competence (Harris-Davis, Haughton, 2000)	Community Coalition - Allies Model (Clark, Malubux, Friedman, 2006)
Cultural Relativism (Haviland, 1999)	Emotional Intelligence (Goldman, 1995)
Cultural Transmission (Berry, Poortings, Segall, Dasen, 1992)	Folk Model (Shore, 1996)
Media (Wilson, Gutierrez, Chao, 2003)	Health Belief Model (Janz, Becker, 1984) (Rosenstock et al, 1988)
Operant Conditioning (Skinner, 1953, 1969, 1983)	Health Literacy (IOM, 2004)
Social Class (Chamberlain, 1997)	Prototype Model (Rosch, Mervis, Gray, Johnson, 1976)
Social Cognitive (Bandura, 1986)	Social-Ecological Model (Stokols, 1996) (Spense, Lee, 2003)
Social Comparison Theory (Suls, Wills, 1991)	
Society, Behavior, Biology Nexus (Glass, McTee, 2006)	

Note. The Social Psychological Foundation theme emerged from the journal reviews of the theoretical models noted. Each established parameters and empirical guidelines that when coded and reviewed through Delphi process led to the Social Psychological Foundation construct. Of particular note is the heightened interest in the literature of the impact of one's identity as a perceived outgrowth of one's community and social networks. Theories and models (as cited in Williams et al., 2009).

5.2 Self-Efficacy

The Self Efficacy construct literature establishes the importance of both an internal dimension and an external dimension of openness, receptivity in making connections and growing in positive relationships in the environment. The concept of self-efficacy based on one's receptiveness to understand and learn has a direct correlation to positive value, belief development, and creation of a powerful knowledge and emotion building thinking process creating valued self-worth. (Proshansky, Ittelson, & Rivlin,1976)

The process of self efficacy building is noted through Bandura (1995) research. He stated:

"Developing a sense of efficacy through mastery experiences is not a matter of adopting ready-made habits. Rather it involves acquiring the cognitive, behavioral, and self regulatory tools for creating and executing appropriate course of action to manage ever-changing life circumstances "(p.3).

The concept of self-efficacy is outlined in multiple frameworks in Chart 2.

Chart 2: Self-Efficacy References

Theories	Models
Biochemical (Lustig, 2006)	ABCDE Model of Change (Ellis, 1993)
Natural Language (Amrhein, 1992)	A SPY Glass Self (Goldstein, Cialdini, 2007)
Self-Efficacy (Bandura, 1977, 1982, 1997)	Bio Medical Model (Waldstein, Elias, 2001)
Social Cognitive (Clark, 1988) (Janz, Champion, Stretcher, 2002)	Health Belief Model (Janz, Becker, 1984) (Rosenstock, Strecher, Becker, 1988)
Theory of Planned Behavior (Ajzen, 1991)	Health Decision Model (Eraker, Kirscht, Becker, 1984)
Theory of Reasoned Action (Ajzen, Fishbein, 1980)	Discovery Learning (Bruener, 1967)

Note. The literature review in the above theories and models consistently depicted self-efficacy as an understanding of one's internal beliefs and resultant motivation to exhibit the characteristics of one's identity in the external world. Theories and models (as cited in Rosal et al., 2009).

5.3 Behavioral Sensitivity

The Behavioral Sensitivity construct refers to first the conscious versus subconscious awareness of one's environment and second the relationship of one's behaviors in diverse settings. The literature generally concurs that as we mature our awareness and sensitivity to relationships in and around our surroundings expands.

This development and awareness has been posited as critical to conceptualizing a holistic depiction of an event or memory; one that can have lasting implications to our perception of future events.

In setting the stage for unplanned events as well as intended interventions, the cognitive understanding of the dynamic between goals and habits has been an eluding concept. In attempting to address positive behavior conditioning and change, Wood and Neal (2007) propose an understanding of readiness to change is a crucial aspect to assimilate the value of the event. They further submit that understanding of one's goals and habits through behavioral processing can increase sensitivity of one's readiness to act on a stimulus or an intended intervention in a meaningful way.

Samples of theories and models depicting conscious and subconscious states are outlined in Chart 3.

Chart 3: Behavioral Sensitivity References

Theories	Models
Attribution Theory (Heider, 1985) (Weiner et al, 1972)	Affective Neuroscience (Greenberg, 2002)
Cognitive Social Learning (Bandura, 1986)	Biopsychosocial Framework (Glasgow, Eakin, 1998)
Dimensions of Personality (Eysenck, 1991)	Chronic Care Model (Wagner, 1998)
Learning Theory (Skinner, 1953)	Motivational Interviewing (Miller, Rose, 2009) (Miller, Rollnick, 2002)
Neo Biological Process (AMA, 2000)	Health Locus of Control (Wallston, Wallston, 1982)
Social Cognitive (Bandura, 1986, 1997, 2004)	Self-Regulation Model (Levanthal, Contrada, 1980, 1998)
Self-Management (Glasgow, Funnell, Bonomi, Davis, Beckham, Wagner, 2002) Self-Regulation (Clark, Gong, Kaciroti, 2001)	Supportive Inquiry Based Learning (Loh et al., 2001)

Note. The theories and models focus on awareness, expression, and learning of the five senses (visual, auditory, kinesthetic, olfactory, and gustatory) in their application to how we process life events. A consensus of the researchers is that we are limited by our understanding of the holistic depiction and usage of the senses in expanding our sensitivity to others and events that occur. Theories and models (as cited in Clark et al., 2009).

5.4 Non-Initiated Event

The Non-Initiated Event is based on literature describing events as a cycle of stimulus- process- response. Based on Skinner (1953) foundational behavioral conditioning studies, the theories and models have been the roots of current day behavioral conditioning and awareness training in health care and educational organizations. Proshansky, Ittelson, & Rivlin (1976) comment: "… the individual's behavior is guided not only by the goals he seeks, but also by his cognitive processes, that is, by the way he reads and interprets or even images his environment. Each individual interprets and gives meaning to his environment and to this extent the real difference among individuals and groups lie not in how they behave, but in how they perceive" (p. 174).

It is this notion of perceptions that the research seeks to decode the literature into constructs that practitioners can use to inquire and explore of an individual's behavior. Samples of normal event processing theories and models are shown in Chart 4.

Chart 4: Non-Initiated Event References

Theories	Models
Acquired Motive Theory (D'Amato, 1970),	Principle of Immediacy and Contingency (Miltenberger, 2008)
Classical Conditioning (Pavlov, 1927)	Principle of Satiation (Huitt, 1994)
Contingency Theory (Woodward, 1958) (Mintzberg, 1979)	
Negative Law of Effect (Thorndike, 1929)	
Operant Conditioning (Thorndike, 1948) (Skinner, 1953)	
Statistical Theory of Learning (Estes, 1994)	
Two Factor Theory (Mowrer, 1947, 1956, 1960)	

Note. A non-initiated event is generally theorized as a cognitive or emotional internal or external stimulus that one responds to. Authors of these theories and models generally concurred that we routinize our approach and response to stimulus in predictable patterns based on how we input, process, and output information. Theories and models (as cited in Curry et al., 2009).

5.5 Intended Intervention

The Intended Intervention construct has many variances and context in the behavioral change literature. For our purposes, a generic adaptation of the five stage theory of Prochaska et al. (1992) has been presented as a common staged intervention model applicable to health and education professions. This model is purely representative of current literature on staged models. Future research could provide a more comprehensive framework for understanding the similarities and differences of intended behavior change typologies.

Our study focused on understanding the impact of the seven construct domain factors as well as the perception of the desired character, soul, and spirit of the individual. Through focusing on enhancing self awareness of one's behavior conditioning in a meaningful manner practitioners potentially can gain greater motivation and commitment of the individual to change behaviors. Further through such an integrated focus from both practitioners and researchers in guiding personal development, the potential exists to transition ineffective interventions into highly successful self-motivated initiatives. Samples of theories and models descriptive of intervention strategies and concepts are outlined in Chart 5.

Chart 5: Intended Intervention References

Theories	Models
Cognitive Social Learning (Bandura, 1986)	Biopsychosocial Model (Schwartz, 1982)
Complexity Theory (Eijatten, Putnik, 2004)	Cognitive-Behavioral Interventions (Morgenstein, Longabaugh, 2000)
Health Action Process Approach (Schwarzer, 1992)	Interventions (Gollwitzer, Sheeran, 2006)
Intentional Change Theory (Boyatzis, 2001, 2006)	New Model of Decision Making (Rothman et al, 2004)
Mindfulness-Based Stress Reduction (Germer, Siegel, Fulton, 2005)	Precaution Adoption Model (Weinstein, 1988)
Protection Motivation Theory (Maddux , Rogers, 1983) (Rogers, 1985)	Self regulation of Goal Attainment (Oettinger, Honig, Gollwitzer, 2002)
Social/Ecological Theory (Bronfenbrenner, 1979) (Booth et al., 2001)	Transtheoretical Model (Prochaska, DiClemente, Norcross, 1983, 1992)
Subjective Expected Utility Theory (Ronis, 1992)	Transtheoretical Model (Velicer, Prochaska, Redding, 2006)

Note. The intervention theories have evolved through extensive empirical studies on health care and education interventions. Through analysis of references, Prochaska's model development was the most cited intervention process. While the above theories and models can be applicable in varied context, the authors' generally concurred that understanding subtle individual perceptual variables could offer clues to determining intervention success. Theories and models (as cited in Prochaska et al., 2009).

5.6 Mental Processing

The Mental Processing construct emerged from the literature descriptive of the introspective reflections of a past event or a series of current events. Factors included internal introspection of accomplishment of a goal, understanding feelings, and expectations of outcomes. The external dimension of gaining meaning of a behavioral event was presented as sharing with others, rationalizing thought and action to reinforce one's understanding of a behavioral event. Both internal and external representations are based on how we process information, manipulate symbols, and construct new or affirm knowledge.

 "Introspection does not provide a direct pipeline to non-conscious mental processes. Instead it is best thought of as a process whereby people use the contents of consciousness to construct a personal narrative that may or may not correspond to their non-conscious states" (Wilson & Dunn, 2004, p. 507). Sample introspective cognitive processes found in the literature are included in Chart 6.

Chart 6: Mental Processing References

Theories	Models
Cognitive Control (Curtain, McCarthy, Piper, Baker, 2006)	Biopsychosocial Model (Schwartz, 1982)
Dynamic Integration Theory (Labourie, 2008)	Primal Leadership (Goleman, Boyatzis, McKee, 2001)
Mindfulness Based Relapse Prevention (Lau, Segal, 2007) (Marlatt, 2002)	Project Match (Witkiewitz, Marlatt, 2007)
Personality Theory- Longitudinal studies (Block, 1993)	Relapse Prevention (Marlatt, Gordon, 1980, 1985, 1998) (Marlatt, Donovan, 2005)
Selection, Optimization, Compensation Theory (Ziegelmann, Lippke, 2007)	
Self Management (Bodenheimer, Lorig et al., 2002)	
Social Emotional Selectivity Theory (Carstensen, 1979)	

Note. The theories and models describe how a person perceives the resulting intervention or non-intended intervention as a cognitive framework or a thoughtful understanding of an event value. Eluded to as a reflective process, the authors generally suggested a dynamic feedback process of the event to understand a person's mental processing. Theories and models (as cited in Prochaska et al., 2009).

5.7 Assimilation

Assimilation represents the final stage of deciding how to mentally process the behavioral event in a meaningful manner to modify or retain past beliefs, adapt or adopt learning into current understanding, and assimilate the knowledge into future applications. Numerous authors describe this process as "psyche" development. The psychoanalyst D.W. Winnicott points out the following:

"The development of the psyche depends on remembering the past, being aware of the present, anticipating the future, and tying them together. The psyche makes sense of our sense of self; it has the capacity to create, to choose, to refuse to adapt, to perceive external reality, and to go farther than environmental influences can explain" (Berghash & Jillson, 1998, p. 314).

Sample theories and models focused on retrospective thinking are outlined in Chart 7.

Chart 7: Assimilation References

Theories	Models
Cognitive Functioning (Baltes, Staudinger, Lindenberger, 1999) (Hultsch, Hammer, Small, 1993)	Behavior Traps (Baer, Wolf, 1970)
Contemplation Ladder (Herzog, Blagg, 2007)	Enright Forgiveness (Subkoviak, Enright, Wu, Gassin, 1995)
Health Literacy (Paasche-Orlow et al, 2006)	Model of Forgiveness (Hargrance, Sells, 1997)
Medical Adherence (Cavanaugh, Van Beck, Muir, Blackwood, 2002)	Schedules of Reinforcement (Skinner, Ferster, 1957)
Self Management Competence (Hibbard, Tuster, 2007)	Superimposed Schedules/Social Trap (Linder, 1981) (Brechner, 1987)
	Token Reinforcement Model (Aho, 1978)
	16PF (Cattell, 1993)

Note. The assimilation theories and models consistently indicate the importance of understanding the value of the impact of the conditions and behavior on one's character, soul, and spirit. While the above references are diverse in focus and intent, the construct created encompasses the importance of assimilating individuals' past, present, and future perspectives. Theories and models (as was cited in Hendershot et al., 2009).

6.0 Report on Results

This study provides a framework for model development as well as to guide practitioner and research experimentation. Continued integration of empirical research will add to the fine tuning of the behavioral conditioning constructs. The design research methodology created a value proposition for practitioners and researchers alike in that the dialogue of articulating development of constructs to theory and models found in the literature were enlightening and synthesizing.

The value proposition included:

- Practitioner and researcher agreement on findings and summary articulation of aggregated construct recommendations from the literature.
- A logical process of inquiry guiding awareness of conditioning factors potentially impacting one's behaviors.
- The articulation of the model and constructs in recognizable "modern day" language to enable practitioners to develop inquiry questions and methods common in their current practice.
- The testament of both practitioners and researchers of a renewed awareness of behavior conditioning in both their own personal lives and the early intervention applications with clients.

The strength and validity of this study through the noted perspectives can address the applicability to practitioners. "As others have pointed out, the strength comes from their explanatory power and their grounding in specific experiences" (Steffe & Thompson, 2000, p. 271).

7.0 Summary

The development study posed has found both valued findings and challenging future considerations. Of particular note is the applicability of the Design Research protocol as a method of exploring and codifying a large number of literature studies into a theoretical model. This creative process poses an opportunity for practitioners and researchers to further use existing inquiry processes to assist others in understanding their behavior conditioning. While further research is warranted this developmental research approach has provided the following unique attributes:

- Analysis of the success or failure of behavior change theories and methods through the authors' research recommendations led to the "behavior conditioning process" map and sequence.
- Through engagement of five practitioners, a descriptive 'character, soul, and spirit' emerged as a unifying concept to articulate a process model as an understanding of one's evolving self-actualization.
- A Delphi Method of analysis with five practitioners indicate the model could provide critical cognitive approaches to intercede in discovering an individual's behavior conditioning factors in character, soul, and spirit development.
- The application of the model is believed extendable from an individual perspective to defining the character, soul, and spirit of an organization. A pilot study was initiated in April 2013 to uncover stakeholders' perceptions of a non-profit residential facility's character, soul, and spirit as a means to attest to the value of the organization with clients served.
- The attributes of the model in an interdisciplinary practice may guide unique discussion and affirmation of an individual's unique qualities and attributes unfound in the current medical model.

While the attributes of the literature review and model development are promising, the team is challenged with ongoing development addressing the following questions:

- Does character, soul, and spirit define the characteristics of a self actualized journey? The preponderance of psychological research today focuses on the development of one's "identity" in society as the central motivating goal of human existence. We propose identity is a subset of character development. Further analysis of the literature as to what behavioral conditions support positive behavioral change interventions will attest to this issue.
- Can the Behavioral Conditioning Model guide practitioner tool and method development to support other's awareness and understanding of their limiting conditions of behavior? Behavior change models currently reviewed in the literature pose limited success rates as they are often founded on a singular theoretical model or postulate. Through first examining the behavioral conditioning of individuals entering an established intervention, an opportunity exists to empirically predict cause and effect performance attributes of the change programs on individual behavior.
- Is the Model able to predict behavior change success? Our goal was to understand how empirical research in behavior change could be codified into a process model easily used by health and education practitioners. While our application of the model usage is with graduate students, further exploration with other populations can enrich and expand the model development and application.

In summary, the evolution of the model through practitioner and academic dialogue has provided a rich experience for faculty, students, and practitioners.

While the initial focus was on discerning the variables predicting behavior change success or failure, the study found that an interdisciplinary approach through the Delphi technique consummated the process model into an applied research tool adaptable to individual and organization development.

References

Bandura, A. (Ed.) (1995). Exercise of personal and collective efficacy in changing societies. *Self Efficacy in Changing Societies*. (pp. 1-45) Cambridge, UK: Cambridge University Press.

Becker, H.S. (1964). Personal Change in Adult Life. *Sociometry.* 27(1); 40-53.

Berghash, R., & Jillson, K. (1998). Thoughts on Psyche, Soul, and Spirit. *Journal of Religion and Health* 37(4); 313-322.

Burley, T., & Freier, M.C. (2004). Character Structure: A Gestalt-Cognitive Theory. *Psychotherapy: Theory, Research, Practice, Training.*41(3): 321-331.

Clark, N.M., & Houle, C.R. (2009). Theoretical models and strategies for improving disease management by patients. In S.A. Shumaker, J.K. Ockene, & K.A. Riekert (Eds.), *The Handbook of Health Behavior Change* (pp.19-37)

Curry, S.J., & Fitzgibbon, M.L. (2009). Theories of Prevention. In S.A. Shumaker, J.K. Ockene, & K.A. Riekert (Eds.), *The Handbook of Health Behavior Change* (pp.3-17). NYC, NY: Springer Publishing Company.

Edelson, D. (2002). Design Research: What We Learn When We Engage in Design. *The Journal of the Learning Sciences.* 11 (1),105-121.

Fritz, R. (1989). *Path of Least Resistance*. NY, NY: Random House, Inc.

Hart, D. B. (2013, October). *Creating Leadership Character*. Symposium conducted at The CP of NYS 2013 Annual Conference, Saratoga, NY.

Hendershot, C.S., Marlatt, G.A., & George, W.H. (2009). Relapse prevention and the maintenance of optimal health. In S.A. Shumaker, J.K. Ockene, & K.A. Riekert (Eds.), *The Handbook of Health Behavior Change* (pp.127-149)

Hollenbeck, G.P. (2009). Executive Selection. *Industrial and Organizational Psychology.*2, 130-143.

Leahey, T. H. (1994). *A Modern History of Psychology*. (Second edition). Englewood Cliffs, NJ: Prentice-Hall.

National Advisory Mental Health Council (1995). *American Psychologist.* 50(10):838-845.

Prochaska, J. D., DiClemente,, C. & Norcross, J. C. (1992). In search of how people change: Applications to addictive behaviors. *American Psychologist*, 47, 1102-1114.

Prochaska, J.O., Johnson, S., Lee, P. (2009). The transtheoretical model of behavior change. In S.A. Shumaker, J.K. Ockene, & K.A. Riekert (Eds.), *The Handbook of Health Behavior Change* (pp. 59-83)

Proshansky, H.M.,Ittelson, W.,& Rivlin,L. (eds) (1976). Freedom of Choice and Behavior in a Physical Setting. *Environmental Psychology: Man and His Physical Setting*.(pp 173-183). NY.NY: Holt McDougal.

Rosal, M.C., & Bodenlos, J.S. (2009). Culture and health-related behavior. In S.A. Shumaker, J.K. Ockene, & K.A. Riekert (Eds.), *The Handbook of Health Behavior Change* (pp.39-58).

Rose, S. (1999). *Governing the Soul: The Shaping of the Private Self*. (2nd. ed.) London: Free Association Books.

Shumaker, S. A., Ockene, J. K., & Riekert, K. A. (2009). *The Handbook of Health Behavior Change* (3 ed.) NY, NY: Springer Publishing Company; LLC.

Steffe, L. P., & Thompson, P. W. (2000). Teaching experiment methodology: Underlying principles and essential elements. In R. Lesh & A. E. Kelly (Eds.), *Research design in mathematics and science education* (pp. 267-307). Hillsdale, NJ: Erlbaum.

Taylor, C. (2004). *Modern Social Imaginaries*. Durham, NC: Duke University Press.

Wang, F & Hannafin, M. (2005). Design-based research and technology-enhanced learning environments. *Educational Technology Research and Development*, 53 (4), 5-23.

Williams, S.L., DiMatteo, M.R. & Haskard, K.B. (2009) Psychosocial barriers to adherence and lifestyle change. In S.A. Shumaker, J.K. Ockene, & K.A. Riekert (Eds.), *The Handbook of Health Behavior Change* (pp. 445-461)

Wilson, T & Dunn, E. (2004). Self-knowledge: Its Limits Value, and Potential for Improvement. *Annual Review of Psychology*, 55(1): 493-518.

Wood, W. & Neal, D. (2007). 'A New Look at Habits and the Habit-Goal Interface'. *Psychological Review*, 114(4): 843-863